ATP 6-02.62

Expeditionary Mission Partner Network Techniques for Joining, Membership, and Exiting Instructions

DECEMBER 2023

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Expeditionary Mission Partner Network Techniques for Joining, Membership, and Exiting Instructions

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Preface

ATP 6-02.62 provides formats to Soldiers so they can plan, develop, employ, and operate expeditionary mission partner networks in support of multinational operations. This publication includes joining, membership, and exiting instructions formats and configuration requirements of subordinate units and other mission partners when connecting to a single security classification level expeditionary mission partner network.

The intended audience for ATP 6-02.62 is Army professionals who plan, install, operate, maintain, and secure tactical networks and work with mission partners. Commanders and staffs of Army headquarters serving as joint task force or multinational headquarters should also refer to applicable joint or multinational doctrine concerning the range of military operations and joint or multinational forces. Trainers and educators throughout the Army will also use this publication.

Commanders, staffs, and subordinates ensure that their decisions and actions comply with applicable United States, international, and in some cases host-nation laws and regulations. Commanders at all levels ensure that their Soldiers operate in accordance with the law of armed conflict and the rules of engagement. Refer to FM 6-27.

ATP 6-02.62 implements American, British, Canadian, Australian, and New Zealand Standard 2105(R) Edition 4.

ATP 6-02.62 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. For terms and definitions shown in the text, the term is italicized, and the number of the proponent publication follows the definition.

ATP 6-02.62 applies to the Active Army, Army National Guard/Army National Guard of the United States and United States Army Reserve unless otherwise stated.

The proponent of ATP 6-02.62 is the United States Army Combined Arms Center. The preparing agency is the Combined Arms Doctrine Directorate, United States Army Combined Arms Center. Send comments and recommendations on DA Form 2028 (*Recommended Changes to Publications and Blank Forms*) to Commander, United States Army Combined Arms Center and Fort Leavenworth, ATZL-MCD (ATP 6-02.62), 300 McPherson Avenue, Fort Leavenworth, KS 66027-2337; by email to usarmy.leavenworth.mccoe.mbx.cadd-org-mailbox@army.mil; or submit an electronic DA Form 2028.

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Introduction

The future of Army warfare will consist of joint, interorganizational, and multinational operations with multiple mission partners. Requirements for combined multinational formations has intensified since America's entry into the First World War and, complied with shrinking defense budgets and growing or competing requirements, have resulted in multiple levels of strategic goals, operational needs, and doctrinal shifts that drive permissive information sharing.

Past operations display a trend of stovepiping information that hinders permissive sharing of operational information with multinational mission partners. Throughout the Army, interoperability is viewed by the institutional force and operating forces as a purely technical problem. The level or degree of interoperability to succeed at the tactical edge requires equal emphasis on human and procedural aspects of interoperability. This publication provides the technical, human, and procedural integration planning for corps and below multinational command post network joining, membership, and exiting instructions.

ATP 6-02.62 provides formats for implementing a standardized approach to plan for and manage the integration of multinational partners onto a secret releasable expeditionary mission partner network that enables a mission partner environment. These formats are based on requirements to join a network, to be a member approved to share information on a network, and to follow instructions to leave a network. These formats are named network joining, membership, and exiting instructions. Joining, membership, and exiting instructions support network management on an expeditionary mission partner network. Units assigned as a multinational force headquarters use instructions from which to write when preparing for multinational operations. This information is also beneficial in developing joining, membership, and exiting instructions for multinational program of instruction products.

Joining, membership, and exiting instructions are a series of steps issued from a multinational force headquarters. Any subordinate units wishing to join an expeditionary mission partner network follow these steps to connect their systems or national extension successfully at the correct security level and data exchange interoperability. Joining, membership, and exiting instructions should be a signed agreement with all subordinate units and maintained by a multinational force headquarters. The agreement establishes and grants the authority to mission partners to connect and operate on the network.

To apply the techniques contained in this publication, readers should be familiar with ADP 1, ADP 3-0, FM 3-0, and FM 3-16 to understand how Army forces conduct operations as part of a multinational force. Commanders and network planners should also be familiar with FM 6-02, ATP 6-02.12, ATP 6-02.60, and ATP 6-02.61 to understand the role of signal formations and staffs in support of Army and multinational operations.

This publication contains two chapters and five appendixes:

- **Chapter 1** introduces joining, membership, and exiting instructions and an expeditionary mission partner network they support.
- **Chapter 2** discusses how to use this publication to develop joining, membership, and exiting instructions.
- **Appendix A** provides formats and guidelines for developing joining, membership, and exiting instructions.
- **Appendix B** provides a format and instructions for mission partners to request access to an expeditionary mission partner network. It also contains a format and instructions for granting permission to connect to an expeditionary mission partner network.
- **Appendix C** provides a format and instructions for the expeditionary mission partner network configuration sheet used to gather configuration information from mission partners.

- **Appendix D** provides a format and instructions for a validation test serial to validate the operational readiness of an expeditionary mission partner network.
- **Appendix E** is a list of technical references cross-referenced by the format to which a reference applies.

Chapter 1
Introduction to Joining, Membership, and Exiting Instructions

This chapter introduces the joining, membership, and exiting instructions (JMEI) that a corps or division, assigned as a multinational force headquarters, develops to allow unified action partners to enter, operate on, and exit an expeditionary mission partner network (MPN).

INTRODUCTION

1-1. Army forces must integrate, both operationally and organizationally, with mission partners who are joint, interorganizational, and multinational. Traditionally, each mission partner operates in a separate area of operations and maintains separate national classified networks. This traditional model hinders information sharing and unity of effort. To enhance interoperability and facilitate multinational cooperation, a tailored mission network is required so unified action partners can share classified information and operate as equals. Refer to FM 6-02 for more information on mission networks.

1-2. A mission partner differs from a unified action partner. A mission partner is a broader term for partners in all uses whereas unified action partners is an Army term for groups who work together during the conduct of operations. A mission partner is a Department of Defense term for partners from various agencies and organizations such as—

- Other Federal departments and agencies.
- State, local, and tribal governments and agencies.
- Nongovernmental organizations.
- Private sector organizations.
- Allies, coalition members, host nations, and other nations.

A unified action partner is a collective Army term for military forces, organizations, and private elements that work with Army forces during operations. Refer to DODI 8110.01 for details of mission partner and ADP 3-0 for more on unified action partners.

1-3. Figure 1-1, on page 1-2, illustrates information sharing from a coalition joint forces land component command through the corps, division, and brigade to the battalion. Specifically, Figure 1-1 shows a typical command and control information flow of the information exchange requirements (IERs) that support the common operational picture (known as COP) for the commander.

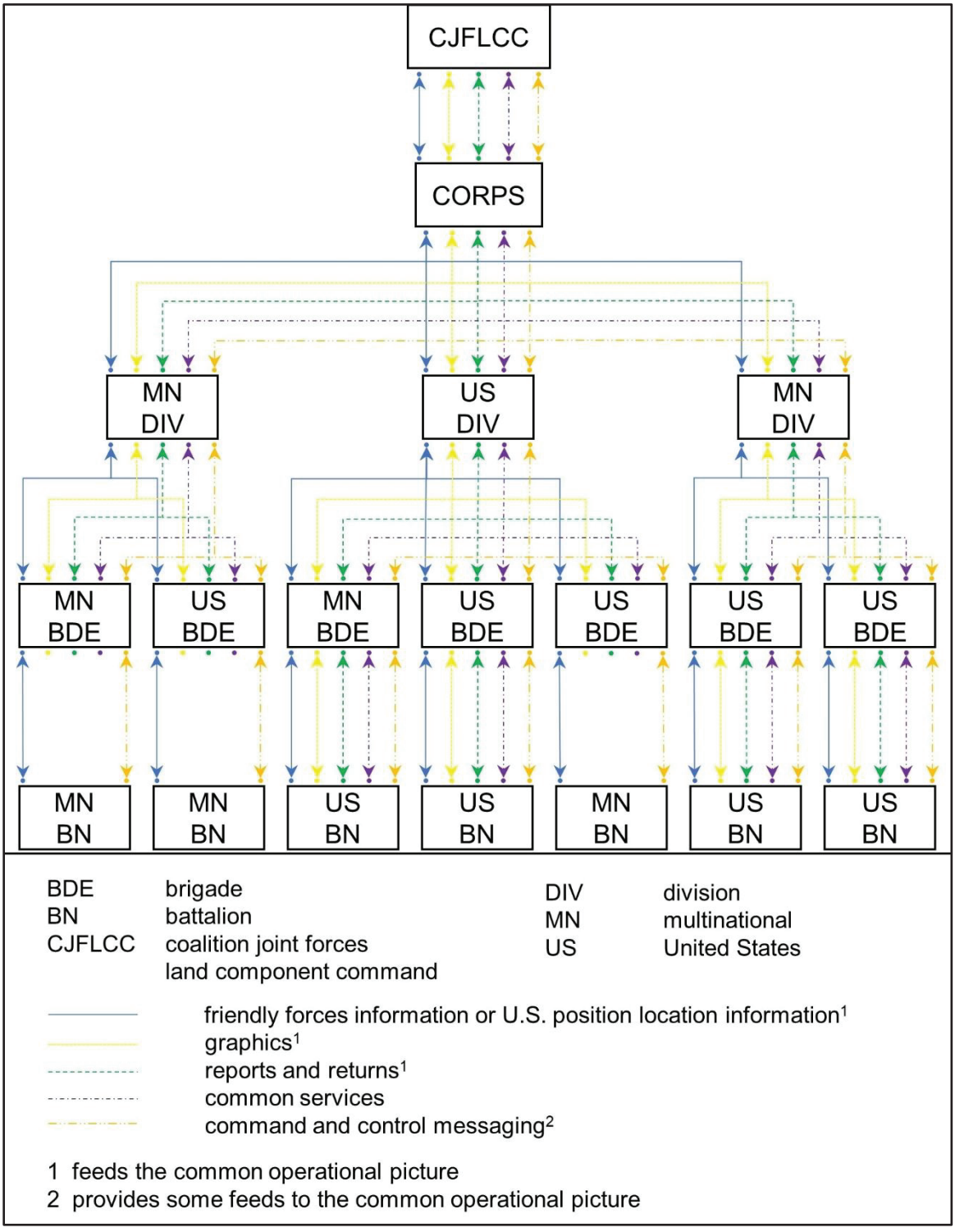


Figure 1-1. Information flow

1-4. To integrate and share information with mission partners, Army forces use a shared network and services, allowing the mutual use of information services and communications capabilities at all echelons. Shared networks enable collaboration, rapid dissemination of intelligence and information, and an ability to project decisions based on common situational understanding. In multinational operations, signal elements

provide shared networking capabilities by implementing a mission partner environment (MPE). Refer to FM 6-02 for more on signal elements.

1-5. An MPE is an operating framework enabling command and control and information sharing for planning and execution across the range of military operations at a single security level with a common language. An MPE provides the ability for a multinational force to exchange information with all participants within a specific partnership or coalition. An effective MPE includes technical, procedural, and human dimensions of interoperability to enable timely, complete, and accurate information sharing, process execution, and unit of effort between mission partners. Refer to DODI 8110.01 for more information on MPE.

MISSION PARTNER NETWORK

1-6. An MPN is the network portion of the MPE and is a specific partnership or coalition wide area network, planned and implemented using standards and protocols agreed to by participants. The MPN is tasked with operational requirements to enable a robust network transmission capability, an execution of tactical Department of Defense information network (DODIN) operations. It enables the display and sharing of relevant, collaborative information between mission partners. This MPN provides the backbone or end-to-end capabilities used for acquiring, processing, storing, transporting, controlling, and presenting information on demand to multinational forces. It is managed using relevant processes and qualified personnel. The MPN is a closed network facilitating information exchange using common protocols and standards. This publication focuses on an expeditionary MPN that enables an expeditionary MPE and the capabilities to support deployed forces in the conduct of a regionally focused mission.

1-7. Figure 1-2, on page 1-4, shows a generic expeditionary MPN logic diagram overlaid on a generic coalition joint forces land component command organization. It illustrates the interconnectivity of the mission network from the enterprise level through the expeditionary level. The firewalls between each of the routers are not depicted (but are needed to ensure connections remain secure) and can be established and terminated as required based on permissions and cybersecurity profiles. The dark purple illustrates the expeditionary MPN and common services hubs (CSHubs). The CSHub consists of two server stacks. The commercial coalition equipment server stack enables transport and DODIN operations. The tactical server infrastructure hosts critical command and control common services—such as voice, email, web services, and chat. These services are federated at the corps and division CSHubs. As illustrated in Figure 1-2 on page 1-4, U.S. battalions have more capability than multinational battalions because U.S. battalions are fielded servers providing greater interconnectivity down to the battalion echelon. Most multinational partners only field servers down to the brigade echelon, limiting the interconnectivity at the battalion echelon.

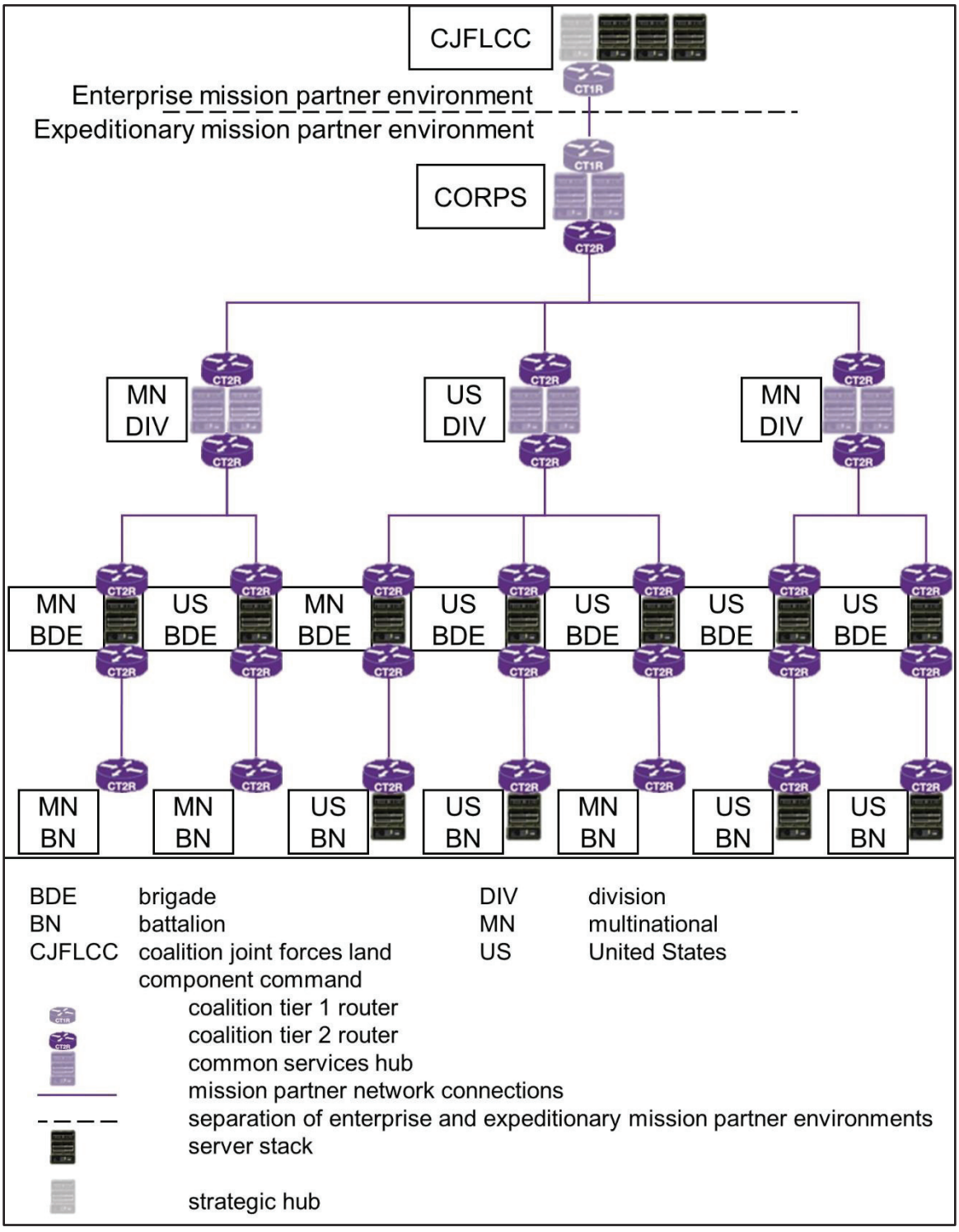


Figure 1-2. Expeditionary mission partner network logic diagram

DEPARTMENT OF DEFENSE INFORMATION NETWORK OPERATIONS OVERVIEW

1-8. *Department of Defense information network operations* are operations to secure, configure, operate, extend, maintain, and sustain Department of Defense cyberspace to create and preserve the confidentiality, availability, and integrity of the Department of Defense information network (JP 3-12). Units use DODIN operations to operate, manage, and defend the expeditionary MPN to support the commander's situational awareness and enable command and control. At the corps and division levels, DODIN operations are operations led by the signal staff, applied across all warfighting functions, and supported by technical specialists. DODIN operations are essential in providing the process, roles and responsibilities, technical standards, and management of accessing and operating on the network.

1-9. DODIN operations enable units to effectively and efficiently execute the warfighting functions and to achieve information superiority. DODIN operations are required to ensure the successful exchange of information across the expeditionary MPN on U.S. communications and information systems or networks. Effective DODIN operations culminate in ensured service to the multinational force and facilitate network-enabled information exchange. All signal echelons in a multinational force participate in the DODIN operations planning process. The staff performs mission planning as a continual process to align with the operations planning process to enable access to or use of U.S. communications and information systems or networks.

1-10. DODIN operations provide staffs the means to operate and defend the expeditionary MPN to meet the commander's IERs. An *information exchange requirement* is a set of characteristics that define who exchanges what information with whom, why the information exchange is necessary, and how the information exchange must occur to support an operational process or function (JP 3-33). Multinational force planners use IERs to identify the communications network and information service resources. They use these identified resources to exchange information, so staffs disseminate the right information to the right place at the right time and in the right format. The IERs help signal planners to plan for and provide efficient system support by giving them a detailed understanding of the user and staff command and control information requirements. Refer to ATP 6-02.61 for further information on DODIN operations in an expeditionary MPN.

JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS

1-11. JMEI enable DODIN operations by providing instructions to all participants on entering, operating, and exiting the network. The signal staff develops and publishes JMEI as part of the operation order as a tab to Appendix 2 (Information Network Operations) to Annex H (Signal).

1-12. JMEI are instructions that build upon one another to enable trusted, secure, and ensured information sharing among mission partners. Figure 1-3, on page 1-6, depicts the JMEI build methodology and dependencies. Four methodologies exist: personnel JMEI, administrative JMEI, core networking JMEI, and functional services JMEI. The personnel JMEI provide the oversight instructions that enable the coalition network operations and security center (CNOSC) to manage U.S. and multinational partners forming the expeditionary MPN. The administrative JMEI provide administrative instructions that enable U.S., joint, and multinational partners to join and operate on the expeditionary MPN. The core networking JMEI provide instructions for network practitioners to configure the expeditionary MPN. The functional services JMEI support the management of the network and enable the other warfighting functions.

1-13. In Figure 1-3 on page 1-6, the letter-number combination in parentheses references this publication's appendix and paragraph in which instructions are provided. For example, Appendix A paragraph 1 (denoted as A-1) contains the CNOSC JMEI, and Appendix C (denoted as C) contains the instructions for the expeditionary MPN configuration sheets.

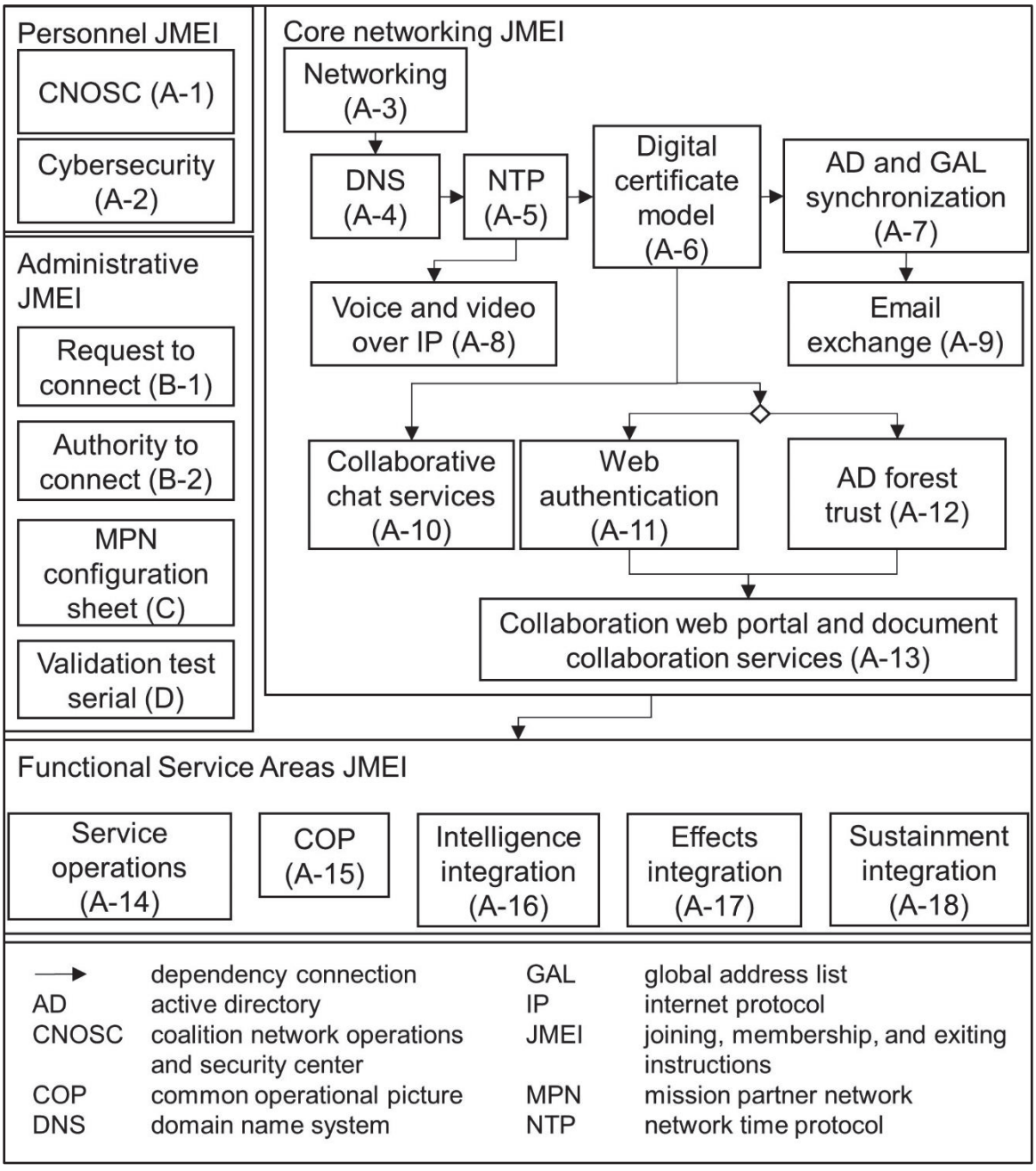


Figure 1-3. Joining, membership, and exiting instructions dependencies

1-14. When operating as a multinational force headquarters, the U.S. corps or division signal staff is responsible for developing the JMEI. The development starts with identifying the high-priority interoperability requirements for the mission. Signal staffs tailor these requirements specifically for an expeditionary tactical network for the multinational force. Commanders use JMEI for integration during mission planning and issue JMEI to subordinate units and other mission partners to enter, operate on, and exit the network.

Chapter 2
How to Use This Publication

This chapter discusses how to use this publication to develop JMEI. The chapter covers the JMEI formats and the organization of the instructions in those formats. The chapter ends by describing the layout of the appendixes.

JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMATS

2-1. Formats for JMEI enable the signal staff to prepare and publish instructions for joining, membership, and exiting as part of an operation order for an operation conducted with mission partners. These instructions ensure all partners know how to enter, operate on, and exit the expeditionary MPN.

2-2. Following these JMEI formats enables standardization of JMEI from corps to battalion levels of command, and throughout different types of units. Standardized JMEI formats allow any unit to know where to look to find the appropriate instructions for entering, operating on, and exiting any expeditionary MPN.

INSTRUCTION ORGANIZATION

2-3. The JMEI format is organized with a header, paragraphs, joining instructions, membership instructions, and exiting instructions. Figure 2-1 on pages 2-2 to 2-4 shows a sample instruction format.

HEADER

2-4. The header contains background information on the joining, membership, and exiting instruction. It consists of a detailed instruction title that aligns with the operation order titles addressed in FM 5-0. The header informs readers of what the instructions pertain to. For example, an instruction titled *Networking for Operation Name* is instructions on how networking will be handled for a given operation. If the situation requires an additional attachment not provided in FM 5-0, leaders add to this format using the JMEI listed in this publication's Appendix A. For example, if there is a requirement to add a Web Authentication Joining, Membership, and Exiting Instructions tab to Appendix 2 (Information Network Operations) to Annex H (Signal), then the order writer would label that additional attachment as Tab E (Web Authentication Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).

2-5. At a minimum, the header for a JMEI tab includes the following:

- Tab.
- Appendix.
- Annex.
- Operation or plan order.

PARAGRAPHS

2-6. At a minimum, the paragraphs for a JMEI tab include the following:

- Purpose—a brief paragraph describing the purpose of the instructions.
- Prerequisites—a list of other JMEI needed to execute the instructions.
- Definitions and standards—a list of definitions and standards needed to execute the instructions.

- Systems description—an explanation of the systems to which the instructions pertain, including any recommended applications.
- Roles and responsibilities—a list of tasks and requirements for personnel involved in executing the JMEI.

JOINING INSTRUCTIONS

2-7. The joining instructions contain information for signal staffs to join the expeditionary MPN and, at a minimum, consist of the following:

- Joining tasks—a list of tasks a unit must conduct successfully to gain approval to join the expeditionary MPN.
- Coordinating instructions—a list of joining tasks that apply to more than one unit.
- Configuration instructions—instructions on how to configure systems to gain approval to join the expeditionary MPN. Where appropriate, these instructions include a configuration cut-sheet containing important information from all mission partners joining the expeditionary MPN.

Some JMEI contain validation procedures and descriptions of the process to validate that the joining instructions are executed properly.

MEMBERSHIP INSTRUCTIONS

2-8. Membership instructions contain information for signal staffs to operate on the expeditionary MPN. At a minimum, they consist of a list of membership tasks a unit must conduct successfully to operate on the expeditionary MPN and coordination instructions.

EXITING INSTRUCTIONS

2-9. Exiting instructions contain information for signal staffs to exit the expeditionary MPN. At a minimum, they consist of a list of tasks a unit must successfully conduct to exit the expeditionary MPN as well as coordinating and configuration instructions.

[CLASSIFICATION]

Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

Copy ## of ## copies
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Message reference number

Include the full heading if attachment is distributed separately from the base order or higher-level attachment.

TAB [letter] ([instruction name] JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)]—[issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI).*

[page number]
[CLASSIFICATION]

Figure 2-1. Sample instruction format

[CLASSIFICATION]

TAB [letter] ([instruction name] JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)]—[issuing headquarters] [(classification of title)]

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs.*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required.*

4. (U) System description. *Describe the system(s) to which the instructions apply. Provide a list of recommended applications in subparagraphs as required.*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe how to configure appropriate systems to join the network. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. See sample cut sheet.*

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner***
List type of information provided. (Add rows as needed.)	*List required configuration information for the CSHub.*	*List required configuration information for subordinate units.*	*List required configuration information for subordinate units.*	*List required configuration information for subordinate units.*	*List required configuration information for other mission partners. (Add columns as needed.)*

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment.*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

[page number]
[CLASSIFICATION]

Figure 2-1. Sample instruction format, cont.

[CLASSIFICATION]

TAB [letter] ([instruction name] JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)]—[issuing headquarters] [(classification of title)]

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

[page number]
[CLASSIFICATION]

Figure 2-1. Sample instruction format, cont.

PUBLICATION ORGANIZATION

2-10. Appendix A contains sample formats and instructions listed in the order mission partners should develop them to enable the expeditionary MPN.

2-11. Appendix B provides instructions for mission partners to request access to the expeditionary MPN and a sample format and instructions for the corps or division signal officer to provide authority to connect.

2-12. Appendix C provides instructions for gathering configuration information.

2-13. Appendix D provides a sample format and instructions for validation test serials to validate network configuration.

2-14. Appendix E provides a list of technical references used throughout the JMEI formats.

Appendix A

Joining, Membership, and Exiting Instructions Formats

This appendix provides formats and guidance to signal planners to build JMEI. This appendix provides 18 formats. Signal planners use these JMEI as required. The formats, guidance, and instructions are organized in the order mission partners should develop them.

COALITION NETWORK OPERATIONS AND SECURITY CENTER JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTION

A-1. The CNOSC JMEI is used by signal planners to plan, establish, operate, and shut down the CNOSC for a mission. The CNOSC performs the same functions as the network operations and security center described in FM 6-02, except the CNOSC operates for the multinational force being supported. Signal planners develop the CNOSC JMEI using the format shown in Figure A-1. Like an operation order, signal planners write instructions by adding the information needed in brackets ([]) and following the instructions in italics.

[CLASSIFICATION]

Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

Copy ## of ## copies
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Message reference number

Include the full heading if attachment is distributed separately from the base order or higher-level attachment.

TAB [letter] (COALITION NETWORK OPERATIONS AND SECURITY CENTER JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidance and a framework for planning, coordinating, and establishing the coalition network operations and security center (CNOSC) for operation order [(code name)]."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) Commander's critical information requirements (CCIRs). *List CCIRs. Refer to the base order as required.*

b. (U) Staff information exchange requirements (IERs). *List IERs. Refer to Annex Q (Knowledge Management) as required.*

[page number]
[CLASSIFICATION]

Figure A-1. Coalition network operations and security center instruction sample format

[CLASSIFICATION]

TAB [letter] (COALITION NETWORK OPERATIONS AND SECURITY CENTER JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

c. (U) Task organization. *List task organization. Refer to Annex A (Task Organization) as required.*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Department of Defense information network operations standard operating procedures (SOPs)."*

4. (U) System description. *Not used.*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Provide a graphical representation of the CNOSC task organization as depicted in figure on page A-3 as required.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units*.

c. (U) Configuration instructions. *Not used*.

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "The validation of the CNOSC concept is under the authority of the network operational authority and additional requirements are identified as the mission evolves and disseminated as required. The validation of the CNOSC capabilities is in accordance with the roles and responsibilities outlined by the G-6. The figure on page A-3 depicts the CNOSC task organization to be used during operation [(code name)]."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units*.

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

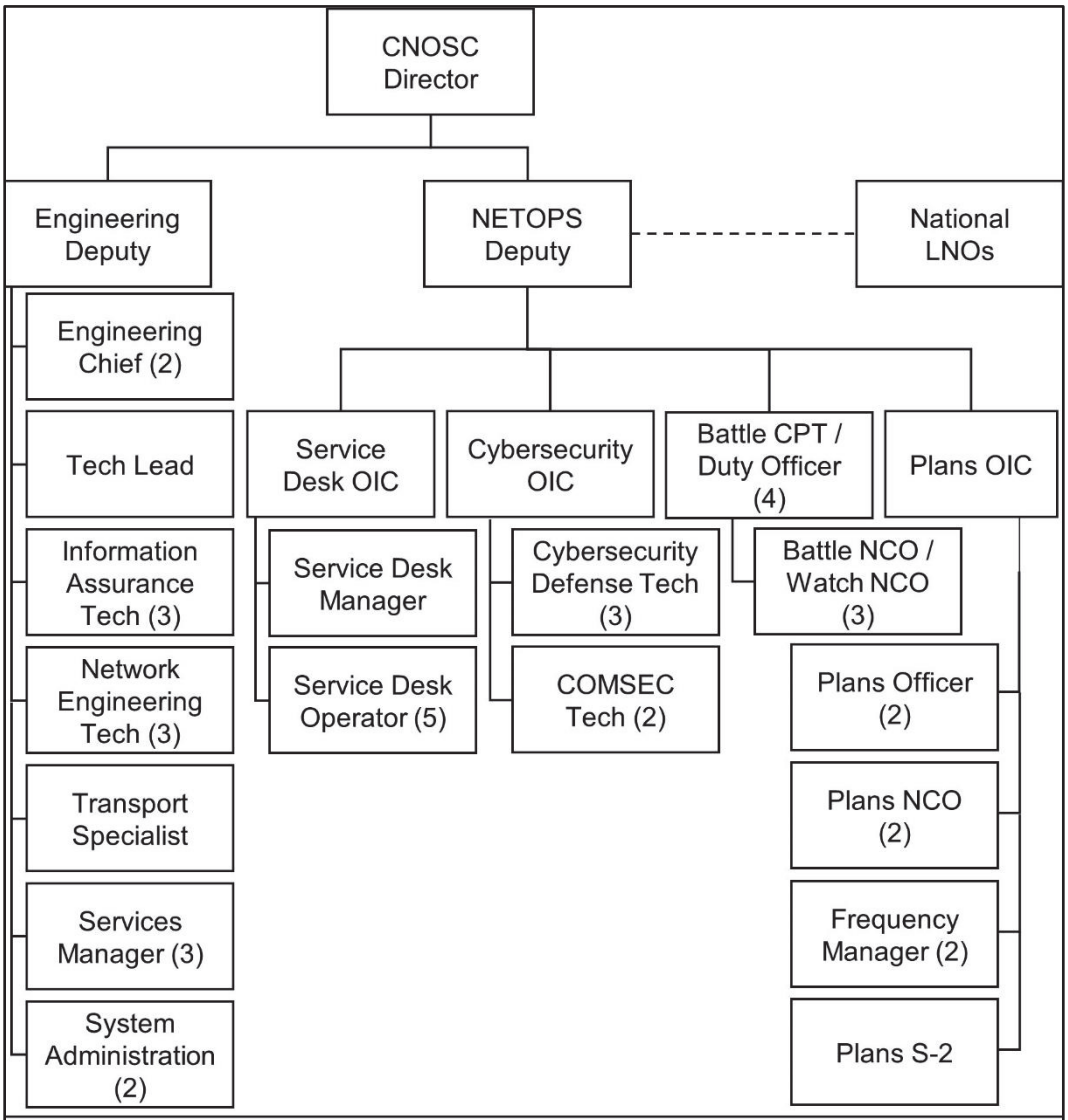
b. (U) Coordinating instructions. *List only instructions applicable to two or more units*.

[page number]
[CLASSIFICATION]

Figure A-1. Coalition network operations and security center instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COALITION NETWORK OPERATIONS AND SECURITY CENTER JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]



[page number]
[CLASSIFICATION]

Figure A-1. Coalition network operations and security center instruction sample format, cont.

CYBERSECURITY JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-2. Signal planners develop and manage the cybersecurity on the expeditionary MPN using the cybersecurity JMEI developed using the format shown in Figure A-2. Like an operation order, signal planners write instructions by adding the information needed in brackets ([]) and following the instructions in italics.

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1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for conducting cybersecurity on the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs.*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

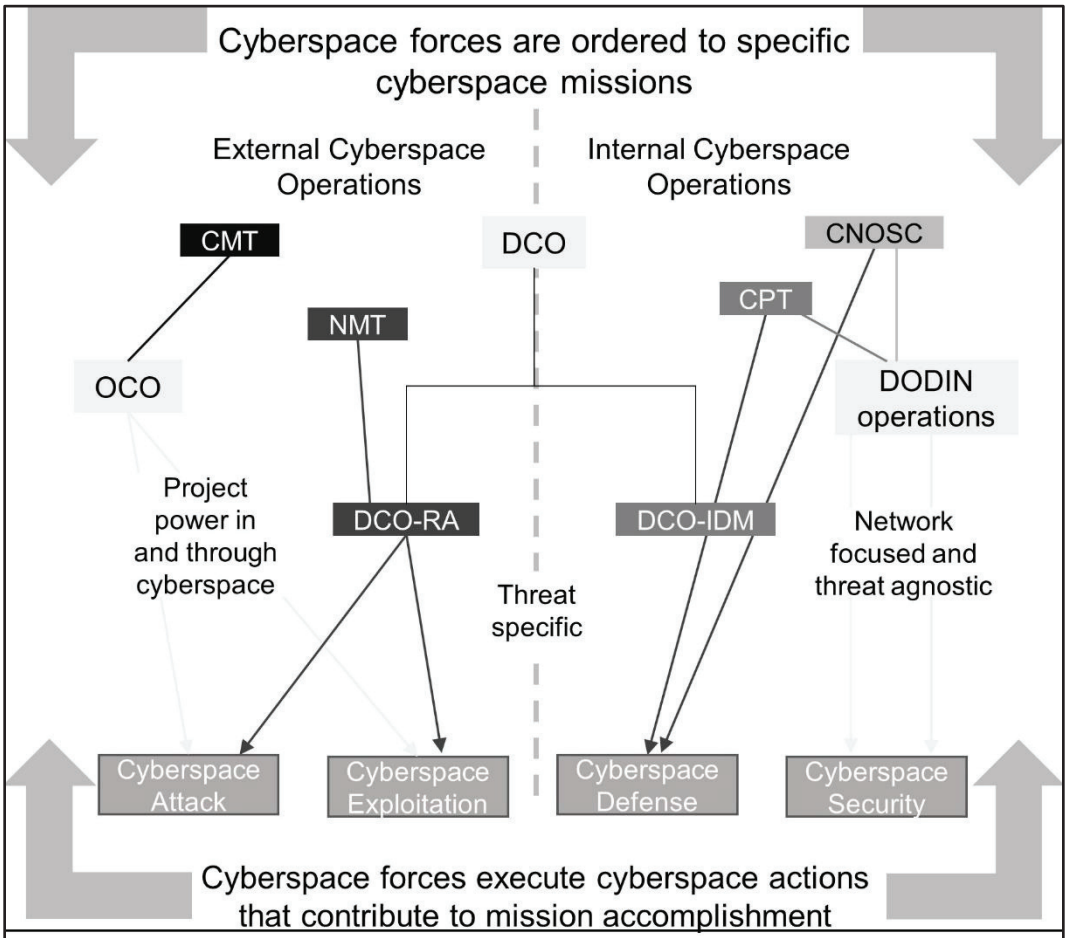
4. (U) System description. *Describe the system(s) the instructions apply to. Provide a list of recommended application in subparagraphs as required. For example, write "The G-6 and security authority develop processes and procedures to manage cybersecurity risk to systems, assets, data, and capabilities, known as the foundation security document set. The G-6 and security authority develop the foundation security document set as early as possible in the planning process. The figure below illustrates the coalition network operations and security center's (CNOSC's) area of responsibility within cyberspace operations."*

[page number]
[CLASSIFICATION]

Figure A-2. Cybersecurity instruction sample format

[CLASSIFICATION]

TAB [letter] (CYBERSECURITY JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]



[page number]
[CLASSIFICATION]

Figure A-2. Cybersecurity instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (CYBERSECURITY JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Not used.*

d. (U) Validation Procedures. *Not used.*

e. (U) Security Considerations. *Describe the cybersecurity considerations in the following subparagraphs within the context of the mission.*

(1) (U) Information classification. *Describe the classification level of the expeditionary MPN. For example, write "The classification level of Operation Warfighter is SECRET RELEASABLE NORTH ATLANTIC TREATY ORGANIZATION (NATO). Mission partners require an accredited level of classification for their mission stack to operate at SECRET RELEASABLE NATO."*

(2) (U) Threat environment of operation. *Describe how the threat environment affects security controls. Refer to Annex B (Intelligence) as required.*

(3) (U) Information sharing policy. *Describe the information sharing policy to ensure all mission partners understand what data is made available on the common services hub (CSHub) for sharing versus data that mission partners may wish to keep within their own network.*

(4) (U) Information storage and archiving policy. *Describe the information storage and archiving policy for information generated during the operation. Consider the different storage and archiving requirements for each mission partner.*

(5) (U) User community. *Describe who is operating on the expeditionary MPN.*

(6) (U) Security incident reporting. *Describe the cybersecurity incident reporting requirements and procedures.*

f. (U) Foundation document set. *Enclosures to this JMEI contain the cybersecurity foundation document set. Provide security risk management plan and system security plan as enclosures to this JMEI format.*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

[page number]
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Figure A-2. Cybersecurity instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (CYBERSECURITY JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

b. (U) Coordinating instructions. *List only instructions applicable to two or more units. For example, write "Advise all members of the expeditionary MPN of major changes to system configurations."*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units*.

[page number]
[CLASSIFICATION]

Figure A-2. Cybersecurity instruction sample format, cont.

NETWORKING JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-3. The networking JMEI is used by signal planners and operators to plan and manage internet protocol (IP) addresses, IP routing, and multicasting for the transport network and mission partner enclave as part of the expeditionary MPN in support of a multinational operations. Signal planners develop the networking JMEI using the format shown in Figure A-3. Like an operation order, signal planners write instructions by adding the information needed in brackets ([]) and following the instructions in italics.

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1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instruction for implementing internet protocol (IP) addressing, IP routing, and multicasting on the transport network and the mission partner enclave as part of the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs.*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe the IP addressing and routing scheme for the transport network, mission partner enclave, and multicast.*

a. (U) Transport network. *Describe the IP addressing and routing schemes for the transport network.*

b. (U) Mission partner enclave. *Describe the IP addressing and routing schemes for the mission partner enclave.*

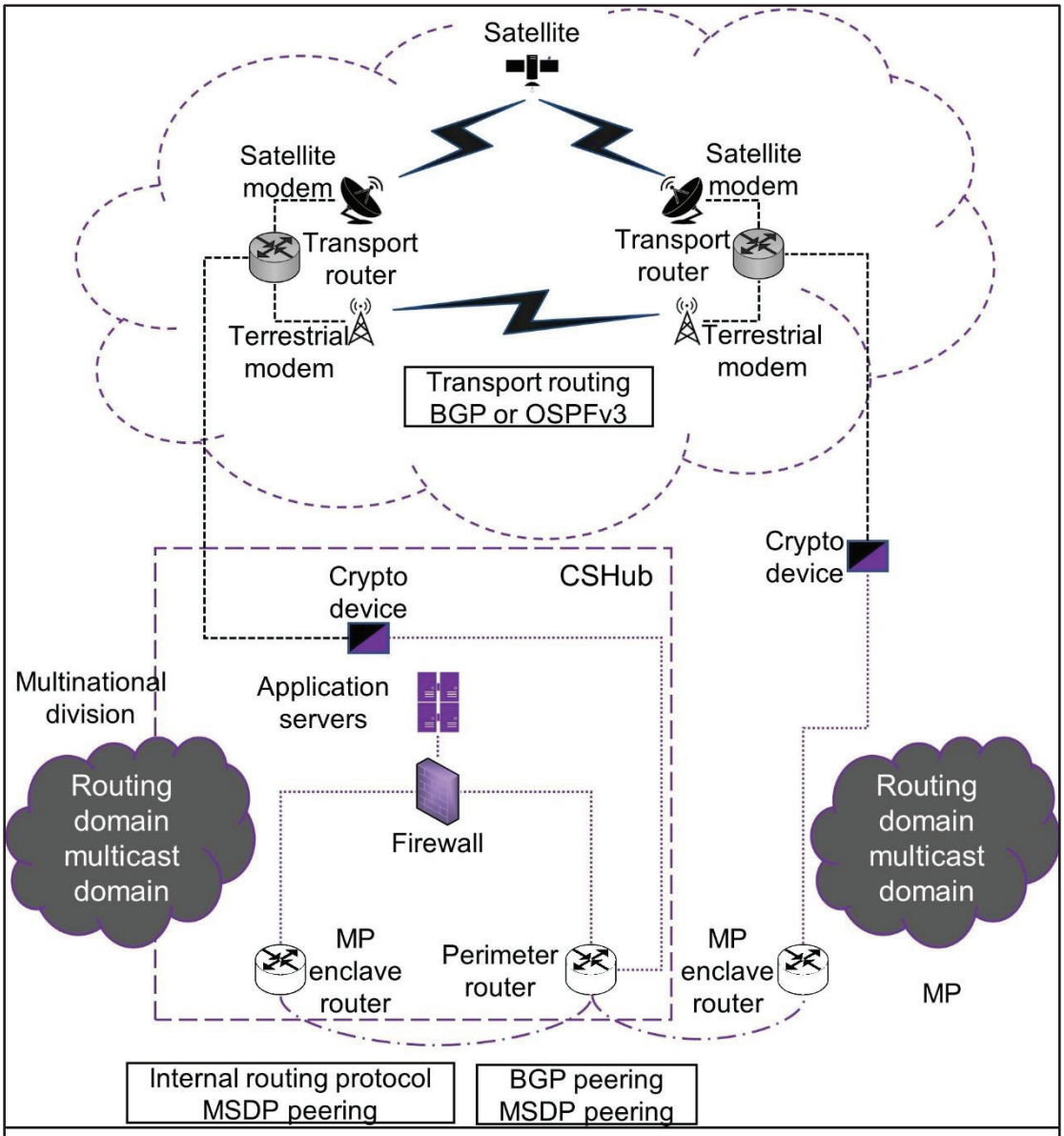
c. (U) Multicast. *Describe the multicast services in the expeditionary MPN. For example, write "Multicast allows mission partners to connect to multiple point to multipoint streaming services. Multicast routing uses protocol independent multicast – sparse mode (PIM-SM)."*

[page number]
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Figure A-3. Networking instruction sample format

[CLASSIFICATION]

TAB [letter] (NETWORKING JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]



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[CLASSIFICATION]

Figure A-3. Networking instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (NETWORKING JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe how to configure IP addressing to join the network. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network.*

(1) (U) IP addressing. *Describe how to configure IP addressing to join the network.*

(a) (U) Internet Protocol version 4 (IPv4) addressing. *List instructions for addressing IPv4. For example, write "Request for Comment (RFC) 1918 private IPv4 address ranges are not used unless allowed by the network operational authority on a case-by-case basis. The multinational force G-6 removes private addressing from the network advertisements at the point of demarcation of network boundaries."*

(b) (U) Expeditionary MPN core side addressing. *Describe the expeditionary MPN core IP addressing scheme.*

(c) (U) Wide area network addressing. *Describe the wide area network (WAN) addressing scheme. For example, write "The WAN IP addressing scheme is designed to remain flexible to support the mission partner 'come as you are' or 'fight tonight' configuration. It is expected that each partner arrives with a preconfigured mission network using nationally allocated IP address schemes. Partners requiring WAN side IP ranges must place a request through the multinational force headquarters."*

(2) (U) Internet Protocol version 6 (IPv6) addressing. *List instructions for addressing IPv6. For example, write IPv6 address assignments are only allowed from official internet registries. The coalition network operations and security center (CNOSC) fulfills the role of a local internet registry and assigns address space to subordinate units as required for their network extension."*

(3) (U) IP network address translation. *List instructions for network address translation (NAT). For example, write "The use of NAT is authorized by exception only."*

(4) (U) IP routing. *Describe how to configure the IP addressing and IP routing on the transport network.*

(5) (U) Multicast. *Describe the configuration requirements for multicast services on the expeditionary MPN. List the services delivered via multicast in subparagraphs.*

(a) (U) Multicast addressing. *Describe the multicast addressing scheme. For example, write "Multicast addressing conforms to either RFC 2365,* Administratively Scoped IP Multicast*, or RFC 3180,* GLOP Addressing*, as outlined in Table A-1."*

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Figure A-3. Networking instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (NETWORKING JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-1. Example multicast addressing scheme

Scope	*Multicast address*	*Comment*
Mission partner multicast services	xxx.xxx.x.x/xx	Managed and allocated by each partner but not routable outside the mission partner border router. Internet protocol version 4 local scope.
Expeditionary mission partner network (MPN) multicast services	xxx.xxx.x.x/xx	Managed and allocated by the coalition network operations and security center (CNOSC) and routable across the expeditionary MPN. Organizational-local scope.
Expeditionary MPN GLOP	xxx.xxx.x.x/xx	Managed and allocated by the CNOSC and routable across the expeditionary MPN. Refer to Request for Comment (RFC) 3180 for autonomous system number.

(b) (U) Full motion video (FMV). *List configuration requirements to connect to FMV.*

1. (U) Sensor name. *Provide name of the system providing the FMV feed.*

2. (U) Connection description. *Describe the area of operations, hours of operation, classification, and dissemination limiting markers for the sensor and FMV feed.*

3. (U) Source multicast address and port. *List the source address and port.*

4. (U) Video codec. *List the video codec used.*

5. (U) Common services hub (CSHub) multicast source discovery protocol (MSDP) peer address. *List the CSHub MSDP peer address.*

6. (U) CSHub MSDP password. *List the CSHub MSDP password.*

(c) (U) Commander's update brief (CUB). *List the scheduled time, classification, and dissemination limiting markers for the CUB.*

1. (U) Connection description. *List the scheduled time, classification, and dissemination limiting markers for the CUB.*

2. (U) Source multicast address and port. *List the source address and port.*

3. (U) Video codec. *List the video codec used.*

4. (U) CSHub MSDP peer address. *List the CSHub MSDP peer address.*

5. (U) CSHub MSDP password. *List the CSHub MSDP password.*

(4) (U) Configuration cut-sheet. *Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. See Table A-2 (on page A-12) for an example cut-sheet. Add rows and columns as required. See figure on page A-9 for depiction of areas requested in the configuration cut-sheet as required.*

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Figure A-3. Networking instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (NETWORKING JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-2. Sample internet protocol addressing configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partners (MPs)***
Mission partner enclave					
Supernet classless inter-domain routing (CIDR)	*List the CSHub supernet CIDR*	*List the unit's supernet CIDR*	*List the unit's supernet CIDR*	*List the unit's supernet CIDR*	*List other MP supernet CIDR*
Crypto device plain text subnet	*List the CSHub crypto device plain text subnet*	*List the unit's crypto device plain text subnet*	*List the unit's crypto device plain text subnet*	*List the unit's crypto device plain text subnet*	*List other MP crypto device plain text subnet*
Crypto device cypher text internet protocol (IP)	*List the CSHub crypto device cypher text IP*	*List the unit's crypto device cypher text IP*	*List the unit's crypto device cypher text IP*	*List the unit's crypto device cypher text IP*	*List other MP crypto device cypher text IP*
Crypto device plain text IP	*List the CSHub crypto device plain text IP*	*List the unit's crypto device plain text IP*	*List the unit's crypto device plain text IP*	*List the unit's crypto device plain text IP*	*List other MP crypto device plain text IP*
Router plain text interface IP	*List the CSHub router plain text interface IP*	*List the unit's router plain text interface IP*	*List the unit's router plain text interface IP*	*List the unit's router plain text interface IP*	*List other MP router plain text interface IP*
Tunnel IP address	*List the CSHub tunnel IP address*	*List the unit's tunnel IP address*	*List the unit's tunnel IP address*	*List the unit's tunnel IP address*	*List other MP tunnel IP address*
Tunnel subnet mask	*List CSHub tunnel subnet mask*	*List the unit's tunnel subnet mask*	*List the unit's tunnel subnet mask*	*List the unit's tunnel subnet mask*	*List other MP tunnel subnet mask*
Border gateway protocol (BGP) autonomous system number (ASN)	*List the CSHub BGP ASN*	*List the unit's BGP ASN*	*List the unit's BGP ASN*	*List the unit's BGP ASN*	*List other MP BGP ASN*
BGP authentication	*List the CSHub BGP authentication*	*List the unit's BGP authentication*	*List the unit's BGP authentication*	*List the unit's BGP authentication*	*List other MP BGP authentication*
Multicast source discovery protocol (MSDP) peer address	*List the CSHub MSDP peer address*	*List the unit's MSDP peer address*	*List the unit's MSDP peer address*	*List the unit's MSDP peer address*	*List other MP MSDP address*

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Figure A-3. Networking instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (NETWORKING JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-2. Sample internet protocol addressing configuration cut-sheet, cont.

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partners (MPs)***
Mission partner enclave continued					
MSDP authentication	*List the CSHub MSDP authentication*	*List the unit's MSDP authentication*	*List the unit's MSDP authentication*	*List the unit's MSDP authentication*	*List other MP MSDP authentication*
Transport network					
Modem subnet	*List the CSHub modem subnet*	*List the unit's modem subnet*	*List the unit's modem subnet*	*List the unit's modem subnet*	*List other MP modem subnet*
Modem IP	*List the CSHub modem IP*	*List the unit's modem IP*	*List the unit's modem IP*	*List the unit's modem IP*	*List other MP modem IP*
Router modem interface IP	*List the CSHub router modem interface IP*	*List the unit's router modem interface IP*	*List the unit's router modem interface IP*	*List the unit's router modem interface IP*	*List other MP router modem interface IP*
BGP ASN (if BGP is routing protocol)	*List the CSHub BGP ASN*	*List the unit's BGP ASN*	*List the unit's BGP ASN*	*List the unit's BGP ASN*	*List other MP BGP ASN*
BGP or open shortest path first (OSPF) authentication	*List the CSHub BGP or OSPF authentication*	*List the unit's BGP or OSPF authentication*	*List the unit's BGP or OSPF authentication*	*List the unit's BGP or OSPF authentication*	*List other MP BGP or OSPF authentication*
Tunnel IP address	*List the CSHub tunnel IP address*	*List the unit's tunnel IP address*	*List the unit's tunnel IP address*	*List the unit's tunnel IP address*	*List other MP tunnel IP address*
Tunnel subnet mask	*List the CSHub tunnel subnet mask*	*List the unit's tunnel subnet mask*	*List the unit's tunnel subnet mask*	*List the unit's tunnel subnet mask*	*List other MP tunnel subnet mask*
Tunnel authentication	*List the CSHub tunnel authentication*	*List the unit's tunnel authentication*	*List the unit's tunnel authentication*	*List the unit's tunnel authentication*	*List other MP tunnel authentication*

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the CNOSC is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

[page number]
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Figure A-3. Networking instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (NETWORKING JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) IP quality of service. *Describe the IP quality of service policy. For example, write "The IP differentiated services (DiffServ) quality of service policy is from RFC 4594 as per Table A-3."*

Table A-3. Example internet quality of service policy

Service Class	*Differentiated Services Code Point (DSCP) name*	*DSCP Value*	*Application Example*
Network control	CS6	110 000	Network routing
Telephony	EF	101 110	Internet protocol (IP) telephony data
Signaling	CS5	101 000	IP telephony signaling
Multimedia conferencing	AF41	100 010	H.323/Session initiation protocol (SIP) video conferencing
	AF42	100 100	Commander's update brief (CUB)
	AF43	100 110	
Real-time interactive	CS4	100 000	Video conferencing
Multimedia streaming	AF31	011 010	Audio on-demand (known as AoD) and video on-demand (known as VoD)
	AF32	011 100	
	AF33	011 110	
Broadcast video	CS3	011 000	Broadcast television, theater broadcast
Low-latency data	AF21	010 010	Web, collaboration, client/server, chat, common operational picture (COP)
	AF22	010 100	
	AF23	010 110	
Operations, administration, and maintenance (OAM)	CS2	010 000	Operations, administration, maintenance, and provisioning (OAM&P)
High throughput data	AF11	001 010	Store and forward applications
	AF12	001 100	SharePoint replication
	AF13	001 110	
Low priority data	CS1	001 000	Flows that do not require bandwidth assurance
Default/scavenger	CS0	000 000	

[page number]
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Figure A-3. Networking instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (NETWORKING JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

[page number]
[CLASSIFICATION]

Figure A-3. Networking instruction sample format, cont.

DOMAIN NAME SYSTEM JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-4. The domain name system (DNS) JMEI developed by signal planners and operators is used for planning and managing the expeditionary MPN DNS in support of a multinational operation. Signal planners develop the DNS JMEI using the format shown in Figure A-4. Like an operation order, signal planners write instructions by adding the information needed in brackets ([]) and following the instructions in italics.

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TAB [letter] (DOMAIN NAME SYSTEM JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing the domain name system (DNS) for connecting to the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown. For example, write "Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe the DNS. For example, write "DNS is designed to remain flexible to support mission partners 'come as you are' or 'fight tonight' configurations. Each mission partner arrives with a preconfigured expeditionary MPN using nationally allocated domain names."*

a. (U) Recommended application. *List the recommended applications for the DNS Server. For example, write "Microsoft DNS as part of Server 2012R2 or later."*

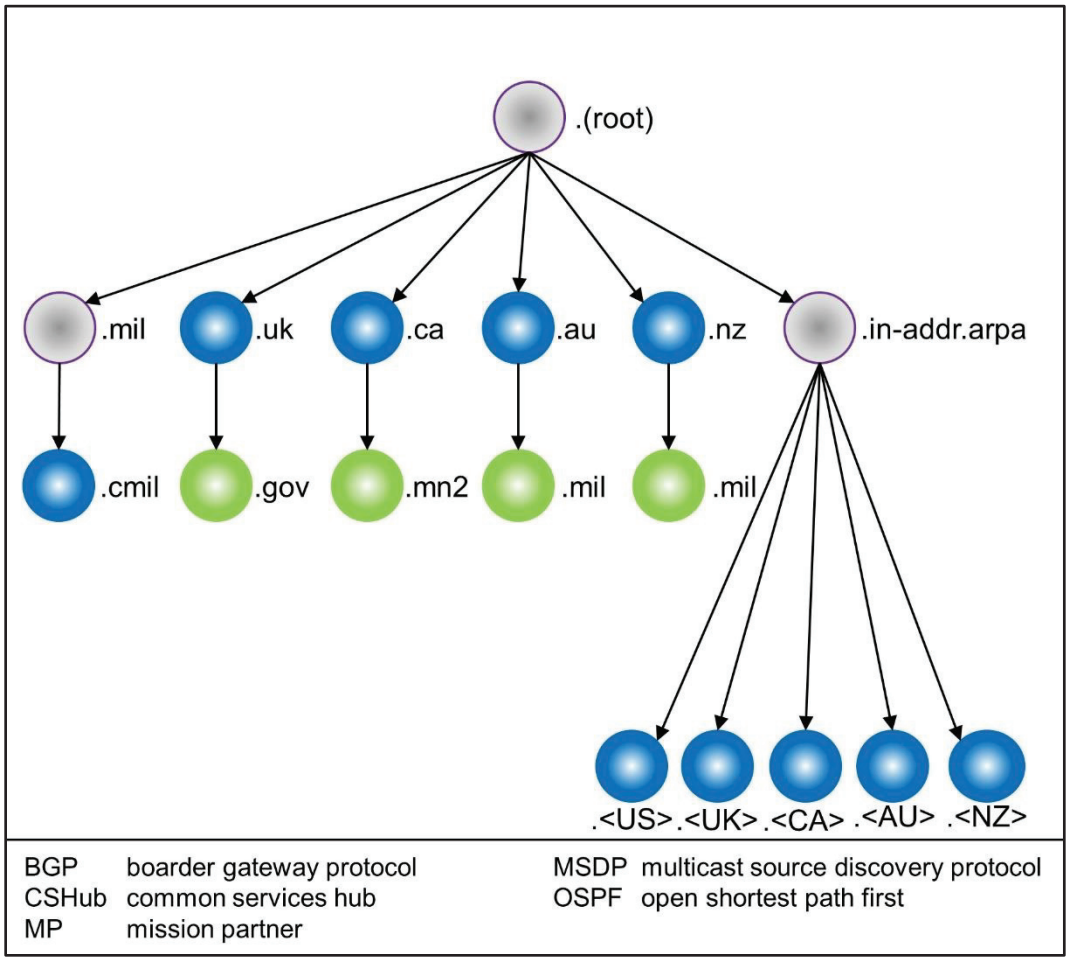
5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

[page number]
[CLASSIFICATION]

Figure A-4. Domain name system instruction sample format

[CLASSIFICATION]

TAB [letter] (DOMAIN NAME SYSTEM JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]



6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe how to configure the DNS. For example, write "The common services hub (CSHub) DNS server is configured on the Tactical Server Infrastructure version 2 (known as TSIv2) server which is not acting as a domain controller." Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-4 (on page A-18) for a sample cut-sheet.*

[page number]
[CLASSIFICATION]

Figure A-4. Domain name system instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (DOMAIN NAME SYSTEM JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-4. Sample domain name system configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Domain name system (DNS) domain(s)	List CSHub DNS domain	List unit's DNS domain	List unit's DNS domain	List unit's DNS domain	List other MP DNS domain
DNS fully qualified domain name (FQDN)	List CSHub DNS FQDN	List unit's DNS FQDN	List unit's DNS FQDN	List unit's DNS FQDN	List other MP DNS FQDN
DNS primary server internet protocol (IP) address	List CSHub DNS primary server IP address	List unit's DNS primary server IP address	List unit's DNS primary server IP address	List unit's DNS primary server IP address	List other MP DNS primary server IP address
DNS primary server FQDN	List CSHub DNS primary server FQDN	List unit's DNS primary server FQDN	List unit's DNS primary server FQDN	List unit's DNS primary server FQDN	List other MP DNS primary server FQDN
DNS secondary server internet protocol (IP) address	List CSHub DNS secondary server IP address	List unit's DNS secondary server IP address	List unit's DNS secondary server IP address	List unit's DNS secondary server IP address	List other MP DNS secondary server IP address
DNS secondary server FQDN	List CSHub DNS secondary server FQDN	List unit's DNS secondary server FQDN	List unit's DNS secondary server FQDN	List unit's DNS secondary server FQDN	List other MP DNS secondary server FQDN

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units. For example, write "Advise all members of the expeditionary MPN of major changes to system configurations."*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

[page number]
[CLASSIFICATION]

Figure A-4. Domain name system instruction sample format, cont.

NETWORK TIME PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-5. The network time protocol JMEI is used by signal planners and operators to plan and manage the network time protocol for the expeditionary MPN in support of a multinational operation. Signal planners develop the network time protocol JMEI using the format shown in Figure A-5. Like an operation order, signal planners write instructions by adding the information needed in the brackets ([]) and following the instructions in italics.

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TAB [letter] (NETWORK TIME PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing the network time protocol (NTP) for connecting to the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites and dependencies in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe the NTP.*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

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[CLASSIFICATION]

Figure A-5. Network time protocol instruction sample format

[CLASSIFICATION]

TAB [letter] (NETWORK TIME PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe how to configure the NTP. For example, write "The primary NTP server's corresponding domain name system (DNS) entry and internet protocol (IP) address is NTP1.TIME.CSHub." Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-5 for a sample cut-sheet.*

Table A-5. Sample network time protocol configuration cut-sheet

	Common services hub (CSHub)
Network time protocol (NTP) primary internet protocol (IP) address	List CSHub NTP primary IP address
NTP server secondary IP address	List CSHub NTP server secondary IP address
NTP server fully qualified domain name (FQDN)	List CSHub NTP server FQDN
NTP authentication password	List CSHub NTP authentication password
Time zone	List CSHub time zone
NTP source IP address	List the CSHub NTP source IP address
NTP Stratum	State the CSHub NTP stratum

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units. For example, write "Advise all members of the expeditionary MPN of major changes to system configurations."*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

[page number]
[CLASSIFICATION]

Figure A-5. Network time protocol instruction sample format, cont.

DIGITAL CERTIFICATE MODEL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-6. The digital certificate model JMEI is used by signal planners and operators to plan and manage a digital certificate model for authentication for the expeditionary MPN in support of a multinational operation. Signal planners develop the digital certificate model JMEI using the format shown in Figure A-6. Like an operation order, signal planners write instructions by adding the information needed in the brackets ([]) and following the instructions in italics.

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TAB [letter] (DIGITAL CERTIFICATE MODEL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing a digital certificate model for access to the common services hub (CSHub)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

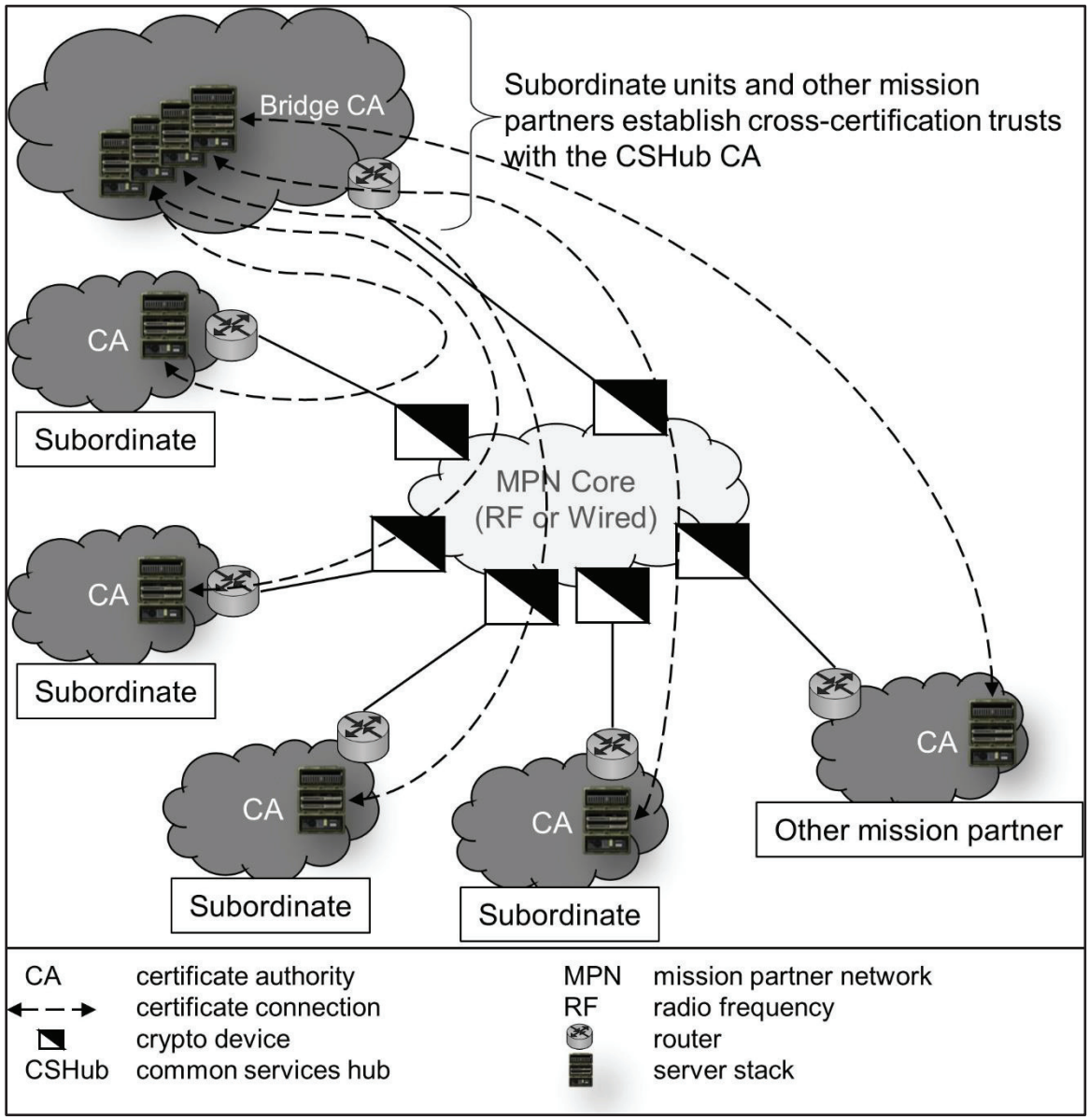
4. (U) System description. *Describe the digital certificate model. For example, write "A bridged certificate authority model, or public key infrastructure (PKI) trust model, is used for PKI services. In this model, a certificate authority (CA) is established on the common services hub (CSHub) acting as a bridge between PKI domains. It only requires one pair of cross-certifications for each mission partner CA to the CSHub." Another example is "A trust-list model, or trusted anchors, consists of collecting the trusted root certificates from every mission partner and redistributing them for each domain controller. This process requires the distribution of trusted root certificates to every end device." See figure on page A-22 for the bridged certificate authority model and figure on page A-23 for the list-trust model in which the green arrows are the collection of trusted root certificates, and the blue arrows are the redistribution of the list.*

[page number]
[CLASSIFICATION]

Figure A-6. Digital certificate model domain trust instruction sample format

[CLASSIFICATION]

TAB [letter] (DIGITAL CERTIFICATE MODEL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

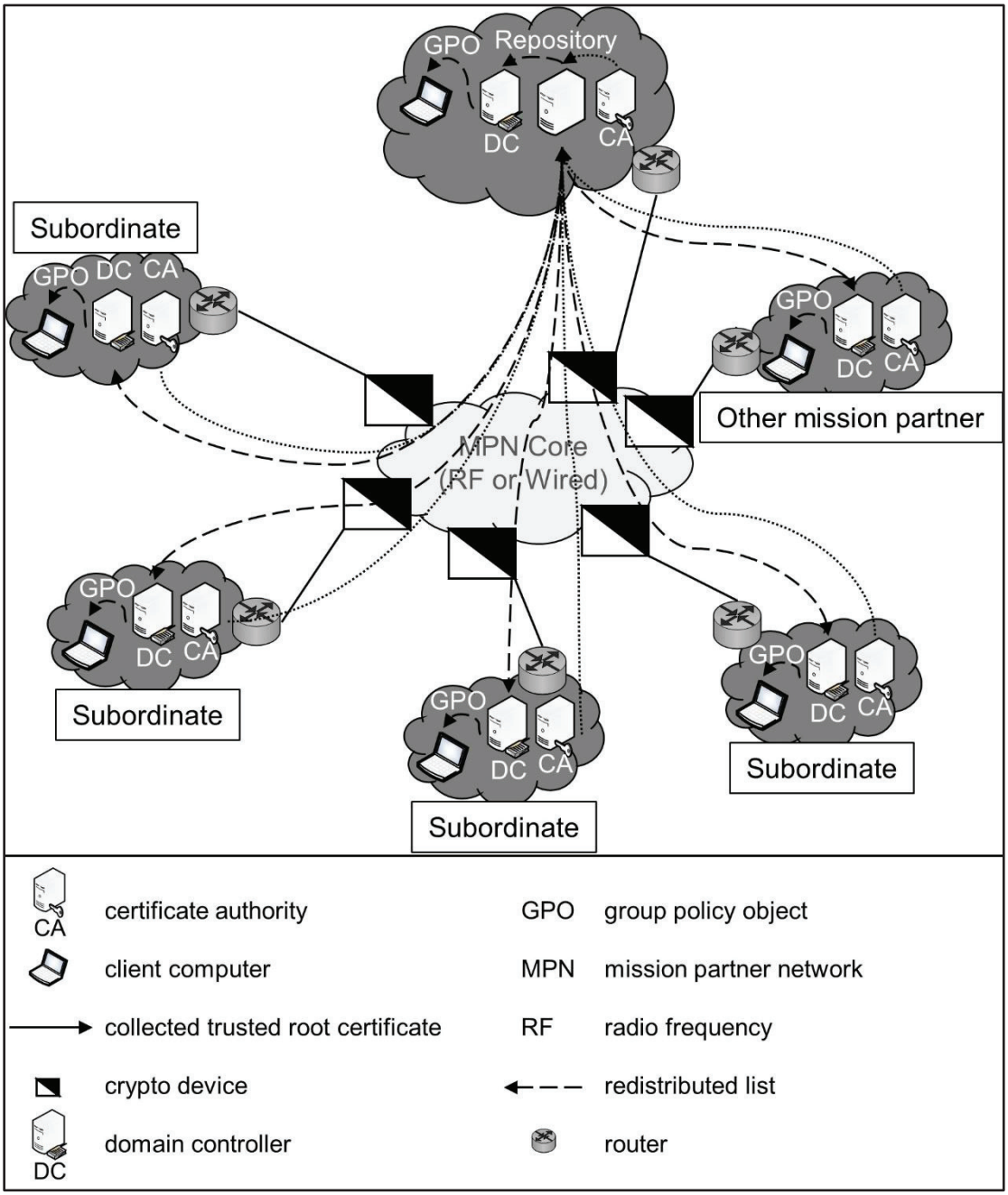


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[CLASSIFICATION]

Figure A-6. Digital certificate model domain trust instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (DIGITAL CERTIFICATE MODEL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]



[page number]
[CLASSIFICATION]

Figure A-6. Digital certificate model domain trust instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (DIGITAL CERTIFICATE MODEL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

a. (U) Recommended application. *List recommended digital certificate applications. For example, write "Microsoft certificate authority as part of server 2012R2 or later."*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe how to configure the digital certificate model. For example, write "The CSHub CA is not used as the trust anchor CA in any mission partner PKI domain." Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-6 for a sample cut-sheet.*

Table A-6. Sample Kerberos federation configuration cut-sheet

	Common services hub (CSHub)
Certificate authority (CA) server primary internet protocol (IP) address	List the CSHub CA server primary IP address
CA server secondary IP address	List the CSHub CA server secondary IP address
CA server fully qualified domain name (FQDN)	List the CSHub CA server FQDN
CA public key uniform resource locator (URL)	List the CSHub CA public key URL
Certificate revocation list (CRL) URL	List the CSHub CRL URL
Online certificate status protocol (OCSP) host	List the CSHub OCSP host
Public key signing URL	List the CSHub public key signing URL
Public key encryption URL	List the CSHub public key encryption URL

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

[page number]
[CLASSIFICATION]

Figure A-6. Digital certificate model domain trust instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (DIGITAL CERTIFICATE MODEL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units. For example, write "Inform the G-6 before removing the trust to the CSHub."*

[page number]
[CLASSIFICATION]

Figure A-6. Digital certificate model domain trust instruction sample format, cont.

ACTIVE DIRECTORY AND GLOBAL ADDRESS LIST SYNCHRONIZATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-7. The active directory (AD) and global address list synchronization JMEI is used by signal planners and operators to plan and manage the AD and global address list synchronization for the expeditionary MPN in support of a multinational operation. Signal planners develop the AD and global address list synchronization JMEI using the format shown in Figure A-7. Like an operation order, signal planners write instructions by adding the information needed in the brackets ([]) and following the instructions in italics.

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Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

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TAB [letter] (ACTIVE DIRECTORY AND GLOBAL ADDRESS LIST SYNCHRONIZATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing active directory (AD) and global address list (GAL) synchronization to maintain a common GAL on the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Digital Certificate Model Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe how GAL synchronization is achieved. For example, write "GAL synchronization is achieved using both automatic tools and a manual export and import process. Mission partners may use either method."*

[page number]
[CLASSIFICATION]

Figure A-7. Active directory and global address list synchronization instruction sample format

[CLASSIFICATION]

TAB [letter] (ACTIVE DIRECTORY AND GLOBAL ADDRESS LIST SYNCHRONIZATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

a. Recommended application. *List recommended GAL applications. For example, write "PowerShell scripts, Unity Sync."*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe the information required for GAL synchronization.*

(1) (U) GAL required information. *Describe the required information fields exported as part of the GAL synchronization. See Table A-7 for a sample of required information for GAL synchronization. The AD and lightweight directory access protocol columns are presented in the directory input format. Include commander's requirements for mandatory and optional field. Refer to Annex Q (Knowledge Management) as required.*

Table A-7. Sample required information for global address list synchronization

Description (usage)	***Active directory*** ***User or contact***	***Lightweight directory access protocol*** ***Object class: inetOrgPerson***	***Mandatory / Optional***
Logon name	cn userPrincipalName	cn	Mandatory
Last name (or role)	sn	sn	Mandatory
First name	givenName	givenName	Optional
Initials	Initials	Initials	Optional
Display name	displayName	displayName	Mandatory
Description	description	description	Optional
Office (sub-unit or section)	physicalDeliveryOfficeName	physicalDeliveryOfficeName	Optional
Telephone number	telephoneNumber	telephoneNumber	Optional
Cell phone number	mobile	mobile	optional
Fax number	facsimileTelephoneNumber	facsimileTelephoneNumber	Optional
Notes	info	info	Optional
Email	mail	mail	Mandatory

[page number]
[CLASSIFICATION]

Figure A-7. Active directory and global address list synchronization instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (ACTIVE DIRECTORY AND GLOBAL ADDRESS LIST SYNCHRONIZATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-7. Sample required information for global address list synchronization, cont.

Description (usage)	*Active directory* *User or contact*	*Lightweight directory access protocol* *Object class: inetOrgPerson*	*Mandatory / Optional*
Email (for exchange)	proxyAddress mailNickName	mail	Mandatory
Calendar universal reference locator (URL)	labeledURL	labeledURL	Optional
Street	streetAddress	streetAddress	Optional
Post office box	postOfficeBox	postOfficeBox	Optional
City (location)	l	l	Optional
State/Province	st	st	Optional
Zip/postal code	postalCode	postalCode	Optional
Country/region	Co	C	Optional
Job title (rank)	title	title	Optional
Company (unit name)	company	o	Optional
Department	department	ou	optional

(2) (U) Configuration cut-sheet. *Where appropriate, include a configuration cut-sheet containing important information from mission partners joining the network. Add rows and columns as required. See Table A-8 for a sample cut-sheet.*

Table A-8. Sample global address list synchronization configuration cut-sheet

	Common services hub (CSHub)	*Subordinate*	*Subordinate*	*Subordinate*	*Other mission partner (MP)*
Global address list (GAL) synchronization supported applications		*List the unit's GAL synchronization supported application*	*List the unit's GAL synchronization supported application*	*List the unit's GAL synchronization supported application*	*List other MP GAL synchronization supported application*
Active directory (AD) attribute: Surname		*List the unit's AD attribute: Surname*	*List the unit's AD attribute: Surname*	*List the unit's AD attribute: Surname*	*List other MP AD attribute: Surname*
AD attribute: First name		*List the unit's AD attribute: First name*	*List the unit's AD attribute: First name*	*List the unit's AD attribute: First name*	*List other MP AD attribute: First name*

[page number]
[CLASSIFICATION]

Figure A-7. Active directory and global address list synchronization instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (ACTIVE DIRECTORY AND GLOBAL ADDRESS LIST SYNCHRONIZATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-8. Sample global address list synchronization configuration cut-sheet, cont.

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
AD attribute: Rank		*List the unit's AD attribute: Rank*	*List the unit's AD attribute: Rank*	*List the unit's AD attribute: Rank*	*List other MP AD attribute: Rank*
AD attribute: Role		*List the unit's AD attribute: Role*	*List the unit's AD attribute: Role*	*List the unit's AD attribute: Role*	*List other MP AD attribute: Role*
AD attribute: Telephone		*List the unit's AD attribute: Telephone*	*List the unit's AD attribute: Telephone*	*List the unit's AD attribute: Telephone*	*List other MP AD attribute: Telephone*
AD attribute: Email		*List the unit's AD attribute: Email*	*List the unit's AD attribute: Email*	*List the unit's AD attribute: Email*	*List other MP AD attribute: Email*
AD attribute: Name email		*List the unit's AD attribute: Name email*	*List the unit's AD attribute: Name email*	*List the unit's AD attribute: Name email*	*List other MP AD attribute: Name email*
AD attribute: Nation		*List the unit's AD attribute: Nation*	*List the unit's AD attribute: Nation*	*List the unit's AD attribute: Nation*	*List other MP AD attribute: Nation*
AD attribute: Nationality		*List the unit's AD attribute: Nationality*	*List the unit's AD attribute: Nationality*	*List the unit's AD attribute: Nationality*	*List other MP AD attribute: Nationality*
Distinguished name of Push organizational unit (OU) (destination)	*List the CSHub push OU*				
Distinguished name of Pull OU (source)	*List the CSHub pull OU*				
Synchronization preference (Push, Pull, Push and Pull)		*List the unit's synchronization preference*	*List the unit's synchronization preference*	*List the unit's synchronization preference*	*List other MP synchronization preference*

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Figure A-7. Active directory and global address list synchronization instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (ACTIVE DIRECTORY AND GLOBAL ADDRESS LIST SYNCHRONIZATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units. For example, write "Inform the G-6 before removing the GAL synchronization."*

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Figure A-7. Active directory and global address list synchronization instruction sample format, cont.

VOICE AND VIDEO OVER INTERNET PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-8. The voice and video over internet protocol JMEI is used by signal planners and operators to plan and manage voice and video services for the expeditionary MPN in support of a multinational operation. Signal planners develop the voice and video over internet protocol JMEI using the format shown in Figure A-8. Like an operation order, signal planners write instructions by adding the information needed in the brackets ([]) and following the instructions in italics.

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Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

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TAB [letter] (VOICE AND VIDEO OVER INTERNET PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing the voice and video over internet protocol (VoIP) services on the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe the voice and video teleconference numbering plan on the expeditionary MPN. For example, write "The voice and video teleconference numbering plan is provided by the coalition operations and security center (CNOSC) in accordance with Annex Q (Knowledge Management)." Refer to Annex Q as required.*

a. Recommended application. *List recommended call control server and voice and video client applications.*

(1) (U) Call control server. *List recommended call control server applications. For example, write "Cisco Unified Call Manager 9.0 or later, or Cube."*

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Figure A-8. Voice and video over internet protocol instruction sample format

[CLASSIFICATION]

TAB [letter] (VOICE AND VIDEO OVER INTERNET PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

(2) (U) Voice and video client. *List recommended voice and video client applications. For example, write "Cisco Jabber."*

b. (U) Numbering structure. *Describe the numbering structure and dialing plan used on the network. For example, write "Number covered by this document consist of 13 digits, a six-digit prefix and a seven-digit subscriber number." Refer to Annex Q as required.*

(1) (U) Dialing plan. *Describe the dialing plan.*

(2) (U) Abbreviated dialing plan. *Describe the abbreviated dialing plan.*

(3) (U) Universal resource identifier. *Describe the universal resource identifier dialing plan.*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units. For example, write "Configure call agents to route voice and video calls to the common services hub (CSHub) using the full 13-digit number structure."*

c. (U) Configuration instructions. *Describe the configuration requirements for VoIP services on the expeditionary MPN. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-9 for a sample cut-sheet.*

Table A-9. Sample voice and video over internet protocol configuration cut-sheet

	Common services hub (CSHub)	Subordinate	Subordinate	Subordinate	Other mission partner (MP)
Multipoint conference unit (MCU) or call management server (CMS) internet protocol (IP) address and port	List the CSHub MCU or CMS IP address and port				

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Figure A-8. Voice and video over internet protocol instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (VOICE AND VIDEO OVER INTERNET PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-9. Sample voice and video over internet protocol configuration cut-sheet, cont.

	Common services hub (CSHub)	Subordinate	Subordinate	Subordinate	Other mission partner (MP)
Ad-hoc conference number and personal identification number (PIN)	List the CSHub ad-hoc conference number and PIN				
Scheduled conference number and PIN	List the CSHub scheduled conference number and PIN				
Conference capacity at endpoint	List the CSHub conference capacity at endpoint				
Theater prefix	List the CSHub theater prefix				
Session initiation protocol (SIP) authentication key	List the CSHub SIP authentication key				
Voice over internet protocol (VoIP) call agent hardware (HW) and software (SW)		List the unit's VoIP call agent HW and SW	List the unit's VoIP call agent HW and SW	List the unit's VoIP call agent HW and SW	List other MP VoIP call agent HW and SW
Session border controller (SBC) IP address and port		List the units SBC IP address and port	List the units SBC IP address and port	List the units SBC IP address and port	List other MP SBC IP address and port
Call agent source IP		List the unit's call agent source IP	List the unit's call agent source IP	List the unit's call agent source IP	List other MP call agent source IP

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Figure A-8. Voice and video over internet protocol instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (VOICE AND VIDEO OVER INTERNET PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-9. Sample voice and video over internet protocol configuration cut-sheet, cont.

	Common services hub (CSHub)	Subordinate	Subordinate	Subordinate	Other mission partner (MP)
Call agent supported audio codecs		List the unit's call agent supported audio codecs	List the unit's call agent supported audio codecs	List the unit's call agent supported audio codecs	List other MP call agent supported audio codecs
Call agent supported video codecs		List the unit's call agent supported video codecs	List the unit's call agent supported video codecs	List the unit's call agent supported video codecs	List other MP call agent supported video codecs
Call agent signaling		List the unit's call agent signaling	List the unit's call agent signaling	List the unit's call agent signaling	List other MP call agent signaling
Video end point HW and model		List the unit's video end point HW and model	List the unit's video end point HW and model	List the unit's video end point HW and model	List other MP video end point HW and model
Country code (E-164)		List the unit's country code	List the unit's country code	List the unit's country code	List other MP country code
Subscriber dial plan (13 digits)		List the unit's subscriber dial plan	List the unit's subscriber dial plan	List the unit's subscriber dial plan	List other MP subscriber dial plan
Universal resource identifier (URI) dialing supported		State if the unit supports URI dialing	State if the unit supports URI dialing	State if the unit supports URI dialing	State if other MP supports URI dialing

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

e. (U) Telephone directory. *Describe the telephone directory. For example, write "The telephone directory exists in the active directory and as a CSHub SharePoint page."*

f. (U) Video dialing. *Describe the video dialing process and format.*

g. (U) Conferencing. *Describe the conferencing services provided.*

(1) (U) Ad-hoc conference. *Describe the process for establishing an ad-hoc conference.*

(2) (U) Scheduled conference. *Describe the process for establishing a scheduled conference.*

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Figure A-8. Voice and video over internet protocol instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (VOICE AND VIDEO OVER INTERNET PROTOCOL JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

h. (U) Call routing. *Describe the call routing process. For example, write "Voice and video routing between mission partners is performed through the CSHub. Each mission partner configures a suitable session initiation protocol between their session border controller and the CSHub session border controller."*

i. (U) Radio over internet protocol (RoIP). *List configuration requirements to connect to RoIP.*

(1) (U) Connection description. *Describe the radio network and list the radio frequency, classification, dissemination limiting markers, and net control station call sign for the RoIP.*

(2) (U) Source multicast address and port. *List the source address and port.*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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Figure A-8. Voice and video over internet protocol instruction sample format, cont.

EMAIL EXCHANGE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-9. The email exchange JMEI is used by signal planners and operators to plan and manage email exchanges for the expeditionary MPN in support of a multinational operation. Signal planners develop the email exchange JMEI using the format shown in Figure A-9. Like an operation order, signal planners write instructions by adding the information needed in the brackets ([]) and following the instructions in italics.

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TAB [letter] (EMAIL EXCHANGE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing the email exchange for the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Digital Certificate Model Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

e. (U) *Tab [letter] (Active Directory and Global Address List Synchronization Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe the email exchange model(s) being used in the expeditionary MPN. For example, write "There are three email exchange models supported: Smart Host Relay, Peer to Peer, and Hybrid."*

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Figure A-9. Email exchange instruction sample format

[CLASSIFICATION]

TAB [letter] (EMAIL EXCHANGE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

a. (U) Smart Host Relay. *Describe the smart host relay model. For example, write "This model requires each partner to set up a single smart host connection to the common services hub (CSHub) message transfer agent (MTA). The CSHub MTA performs tasks such as relaying, mail header rewriting, malware scanning, and policy enforcement."*

b. (U) Peer to peer. *Describe the peer-to-peer model. For example, write "This model relies on email delivery through domain name system (DNS) resolution of domain mail exchange (MX) entries. This model uses standard simple mail transfer protocol (SMTP) mail delivery; however, it requires each partner to provide a SMTP connection and firewall rule to every mission partner."*

c. (U) Hybrid. *Describe the hybrid model. For example, write "This model relies on email delivery either through DNS resolution of domain MX entries or through a single smart host connection to the CSHub MTA. This model uses standard SMTP mail delivery and requires that each partner publish primary and secondary MX records for the MTA pointing to their own MTA and the CSHub smart host in the order preferred by the partner."*

d. (U) Recommended application. *List recommended email exchange and client applications.*

(1) (U) Email exchange server. *List recommended email exchange server applications. For example, write "Microsoft Exchange 2016 CU 19 or later."*

(2) (U) Email exchange client. *List recommended email exchange client applications. For example, write "Microsoft Outlook 2016 CU 19 or later."*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe the configuration requirements for email exchange on the expeditionary MPN. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-10 (on page A-38) for a sample cut-sheet.*

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Figure A-9. Email exchange instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (EMAIL EXCHANGE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-10. Sample email exchange configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Simple mail transfer protocol (SMTP) and message transfer agent (MTA) internet protocol (IP) address and port	List the CSHub SMTP and MTA IP address and port	List the unit's SMTP and MTA IP address and port	List the unit's SMTP and MTA IP address and port	List the unit's SMTP and MTA IP address and port	List other MP SMTP and MTA IP address and port
SMTP and MTA fully qualified domain name (FQDN)	List the CSHub SMTP and MTA FQDN	List the unit's SMTP and MTA FQDN	List the unit's SMTP and MTA FQDN	List the unit's SMTP and MTA FQDN N	List other MP SMTP and MTA FQDN
Smart host or email exchange	List the CSHub Smart host or email exchange	List the unit's Smart host or email exchange	List the unit's Smart host or email exchange	List the unit's Smart host or email exchange	List other MP Smart host or email exchange
Service desk email address	List the CSHub service desk email address	List the unit's service desk email address	List the unit's service email address	List the unit's service email address	List other MP service email address

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

e. (U) Account types and naming conventions. *List account types and naming conventions in subparagraphs in accordance with Annex Q (Knowledge Management)."*

(1) (U) Role based accounts. *Describe the use of role-based accounts.*

(2) (U) Name based accounts. *Describe the use of name-based accounts.*

(3) (U) Group mailboxes. *Describe the use of group mailboxes.*

(4) (U) Resource accounts. *Describe the use of resource accounts.*

f. (U) Display name. *Describe the minimum display name requirements.*

g. (U) Attachment size limit. *Describe the maximum message size limit.*

h. (U) Message delay notifications. *Describe the use of message delay notifications. For example, write "Configure email services to automatically send an email notification to users when delivery of an email message is delayed for delivery for more than two hours."*

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Figure A-9. Email exchange instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (EMAIL EXCHANGE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

i. (U) Message delivery timeout. *Describe the use of message delivery timeout. For example, write "Configure email services to consider an email message undeliverable after failed attempts for delivery for more than six hours."*

j. (U) Message subject field. *Describe the required message subject field, classification, and releasability to send a message. For example, write "Configure email services to prevent an email being sent when the subject field is left empty. Classification and releasability indicators must be included in the subject field."*

k. (U) Message classification and dissemination limiting markers. *Describe how message classification and dissemination limiting marks are used.*

(1) (U) Message classification. *List the minimum classification marking required. For example, write "The minimum email classification marking is CONTROLLED UNCLASSIFIED INFORMATION (CUI)."*

(2) (U) Dissemination limiting markers. *List required dissemination limiting markers used in conjunction with classification markings.*

l. (U) Malware scan. *Describe the malware scan requirement. For example, write "Configure email exchange so all email sent or received is scanned for malware by the local email server."*

m. (U) Global distribution lists. *Describe the global distribution lists policy. For example, write "Distribution lists are permitted."*

n. (U) Global address list. *Describe the global address list. Refer to Tab [letter] (Active Directory and Global Address List Synchronization Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal) as required.*

o. (U) Security configuration. *List the security configuration requirements. For example, write "Configure transport layer security secured communications channels to provide confidentiality at the transport level."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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Figure A-9. Email exchange instruction sample format, cont.

COLLABORATIVE CHAT SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-10. The collaborative chat services JMEI is used to plan and manage collaborative chat services for the expeditionary MPN in support of a multinational operation. Using the format shown in Figure A-10, signal planners develop the collaborative chat services JMEI like an operation order. Planners write instructions by adding the information needed in the brackets ([]) and following the instructions in italics.

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TAB [letter] (COLLABORATIVE CHAT SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing collaborative chat services on the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Digital Certificate Model Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe the collaborative chat services in the expeditionary MPN. For example, write "The chat server instance is provided as part of the common services hub (CSHub). Chat rooms on the CSHub are configured and managed by the knowledge management officer. All mission partners must operate their own internal chat instance within their own domain and perform a server-to-server connection to the CSHub."*

a. (U) Recommended application. *List recommended chat server and chat client applications.*

(1) (U) Chat server. *List recommended chat server. For example, write "OpenFire Chat server."*

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Figure A-10. Collaborative chat services instruction sample format

[CLASSIFICATION]

TAB [letter] (COLLABORATIVE CHAT SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

(2) (U) Chat client. *List recommended chat clients. For example, write "Transvers 1.7 or later."*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe the configuration requirements for collaborative chat services on the expeditionary MPN. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-11 for a sample cut-sheet.*

Table A-11. Sample collaborative chat services configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Chat server internet protocol (IP) address and port	*List the CSHub chat server IP address and port*	*List the unit's chat server IP address and port*	*List the unit's chat server IP address and port*	*List the unit's chat server IP address and port*	*List other MP chat server IP address and port*
Chat server fully qualified domain name (FQDN)	*List the CSHub chat server FQDN*	*List the unit's chat server FQDN*	*List the unit's chat server FQDN*	*List the unit's chat server FQDN*	*List other MP chat server FQDN*
Chat server software (SW) and version	*List the CSHub chat server SW and version*	*List the unit's chat server SW and version*	*List the unit's chat server SW and version*	*List the unit's chat server SW and version*	*List other MP chat server SW and version*
Chat client SW and version	*List the CSHub chat client SW and version*	*List the unit's chat client SW and version*	*List the unit's chat client SW and version*	*List the unit's chat client SW and version*	*List other MP chat client SW and version*

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

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Figure A-10. Collaborative chat services instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COLLABORATIVE CHAT SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

e. (U) Chat usernames. *Describe chat usernames. For example, write "The chat username is the user's role-based email address in accordance with Annex Q (Knowledge Management)."*

f. (U) Chat room names. *Describe chat room names. For example, write "Chat room names are in accordance with Annex Q (Knowledge Management)."*

g (U) Chat room management. *Describe how chat rooms are managed. For example, write "Chat rooms are managed in accordance with Annex Q (Knowledge Management)."*

h. (U) Chat communication conventions. *Describe the chat communication conventions. For example, write "Chat communications are in accordance with Annex Q (Knowledge Management)."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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Figure A-10. Collaborative chat services instruction sample format, cont.

WEB AUTHENTICATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-11. Signal planners and operators plan and manage the web authentication services JMEI and web authentication services for expeditionary MPNs supporting multinational operations by developing the JMEI using the format in Figure A-11. Like an operation order, signal planners write instructions by adding the information needed in the brackets ([]) and following the instructions in italics.

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TAB [letter] (WEB AUTHENTICATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing web authentication services for the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Digital Certificate Model Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

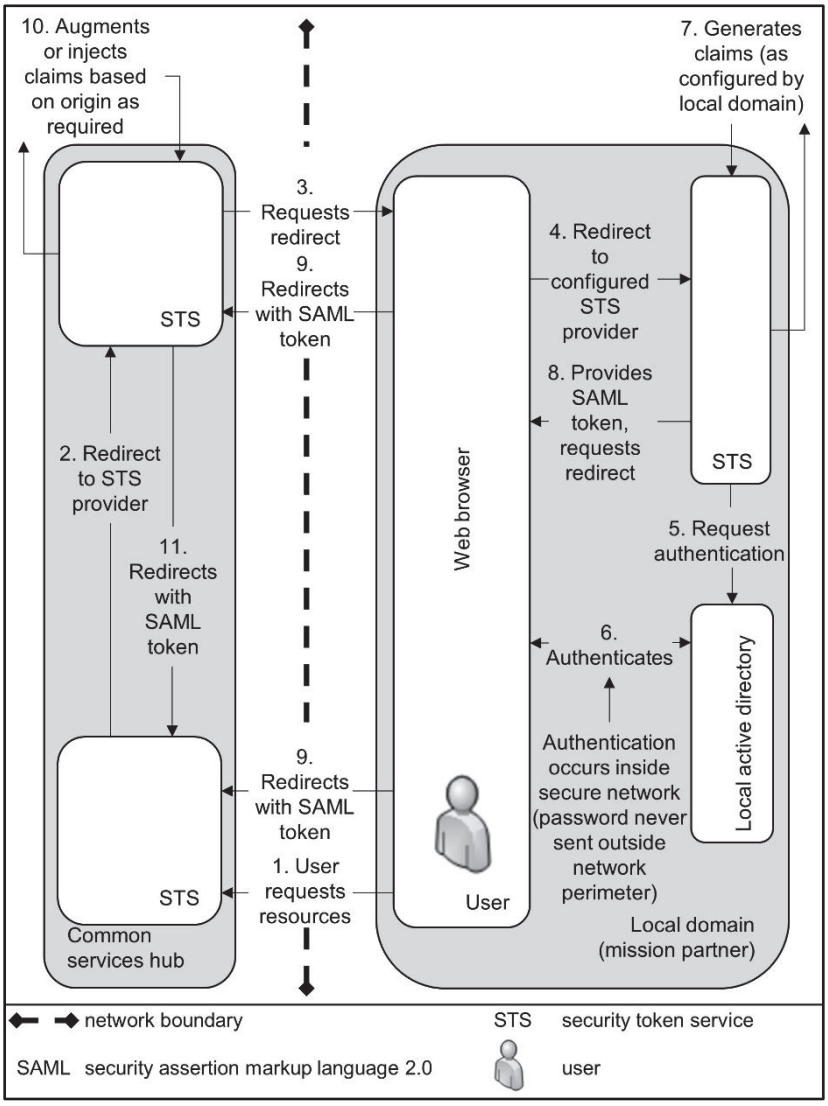
4. (U) System description. *Describe the web authentication services in the expeditionary MPN. For example, write "Authentication between mission partners is provided through active directory federation services (known as ADFS) with security assertion markup language (SAML) 2.0 tokens." See figure on page A-44 as required.*

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Figure A-11. Web authentication services instruction sample format

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TAB [letter] (WEB AUTHENTICATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]



a. (U) Recommended application. *List recommended web server and web client applications.*

(1) (U) Web servers. *List recommended web server applications. For example, write "Microsoft IIS 2010 or later."*

(2) (U) Web client. *List recommended web client applications. For example, write "Mozilla Firefox v33 or later."*

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Figure A-11. Web authentication services instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (WEB AUTHENTICATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe the configuration requirements for web authentication services on the expeditionary MPN. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-12 for a sample cut-sheet.*

Table A-12. Sample web authentication services configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Identification provider fully qualified domain name (FQDN)	List CSHub identification provider FQDN	List unit's identification provider FQDN	List unit's identification provider FQDN	List unit's identification provider FQDN	List other MP identification provider FQDN
Identification provider universal resource identifier (URI)	List CSHub identification provider URI	List unit's identification provider URI	List unit's identification provider URI	List unit's identification provider URI	List other MP identification provider URI
Identification provider product and version	List CSHub identification provider product and version	List unit's identification provider product and version	List unit's identification provider product and version	List unit's identification provider product and version	List other MP identification provider product and version
Security assertion markup language (SAML) 2.0 supported versions	List CSHub SAML 2.0 supported versions	List unit's SAML 2.0 supported versions	List unit's SAML 2.0 supported versions	List unit's SAML 2.0 supported versions	List other MP SAML 2.0 supported versions
Identification provider claims name and value	List CSHub identification provider claims name and value	List unit's identification provider claims name and value	List unit's identification provider claims name and value	List unit's identification provider claims name and value	List other MP identification provider claims name and value

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Figure A-11. Web authentication services instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (WEB AUTHENTICATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

e. (U) Identity claims schemas. *Describe the identity claims schemas. See Table A-13 for a sample identity claims schemas. (***Note***. The sample hyperlinks are purely for example and do not work.)*

Table A-13. Sample identity claims schemas

Display Name	***Claim type expressed as a uniform resource identifier*** ***Claim type description***	***Optional or Mandatory***
Email Address	http://schemas.xmlsoap.org/ws/2005/05/identity/emailaddress This claim is configured as the identity claim when consuming active directory federation services as a trusted token supplier in SharePoint. This must be unique across the mission network.	Mandatory
Given Name	http://schemas.xmlsoap.org/ws/2005/05/identity/claims/givenname The first name of the user consuming the service.	Optional
Surname	http://schemas.xmlsoap.org/ws/2005/05/identity/claims/surname The last name of the user consuming the service.	Optional
Name	http://schemas.xmlsoap.org/ws/2005/05/identity/claims/name The display name of the user consuming the service.	Optional
Role	http://schemas.microsoft.com/ws/2008/06/identity/claims/role A role the user has within the organization. This is generally used as a multi-value claim (a single user may be issued with multiple role claims each representing a role). This is typically used to enumerate AD group membership.	Optional
Windows account name	http://schemas.microsoft.com/ws/2008/06/identity/claims/windowsaccountname The domain account name of the user in the form of domain\user	Optional
Unique Identifier	http://schemas.microsoft.com/ws/2008/06/identity/claims/primarysid The primary security identifier (SID) of the user.	Optional
Deny-only primary SID	http://schemas.microsoft.com/ws/2008/06/identity/claims/denyprimarysid The deny-only primary SID of the user.	Optional
Role	http://schemas.microsoft.com/ws/2008/06/identity/claims/role The role the user has.	Optional

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Figure A-11. Web authentication services instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (WEB AUTHENTICATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-13. Sample identity claims schemas, cont.

Display Name	***Claim type expressed as a uniform resource identifier*** ***Claim type description***	***Optional or Mandatory***
Nationality	http://schemas.microsoft.com/ws/2008/06/identity/claims/country The Nationality of the user.	Optional
User Certificate	http://schemas.microsoft.com/ws/2008/06/identity/claims/thumbprint User X.509 certificate.	Optional

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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Figure A-11. Web authentication services instruction sample format, cont.

ACTIVE DIRECTORY FOREST TRUST JOINING, MEMBERSHIP, AND EXITING INSTRUCTION FORMAT AND INSTRUCTIONS

A-12. The AD forest trust JMEI is used by signal planners and operators to plan and manage an AD forest trust of authentication for the expeditionary MPN in support of a multinational operation. Signal planners develop the AD forest trust JMEI using the format shown in Figure A-12. Like an operation order, signal planners write instructions by adding the needed information in the brackets ([]) and following the instructions in italics.

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TAB [letter] (ACTIVE DIRECTORY FOREST TRUST JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing a federated active directory (AD) forest trust for access to the common services hub (CSHub)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Digital Certificate Model Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe the federation trust.*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

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Figure A-12. Active directory forest trust instruction sample format

[CLASSIFICATION]

TAB [letter] (ACTIVE DIRECTORY FOREST TRUST JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe how to configure for a federation trust model. For example, write "AD administrators complete a cross-forest trust with the CSHub AD under the direction of the G-6 acting under the network operational authority. AD administrators initially configure for a one-way trust. The G-6 advises if a two-way trust is required." Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-14 for a sample configuration cut-sheet.*

Table A-14. Sample active directory forest trust configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Active directory (AD) server primary internet protocol (IP) address	List the CSHub AD server primary IP address				
AD server secondary IP address	List the CSHub AD server secondary IP address				
AD server fully qualified domain name (FQDN)	List the CSHub AD server FQDN				
AD credentials share with CSHub		List the unit's AD credentials shared with the CSHub	List the unit's AD credentials shared with the CSHub	List the unit's AD credentials shared with the CSHub	List other MP AD credentials shared with the CSHub

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

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Figure A-12. Active directory forest trust instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (ACTIVE DIRECTORY FOREST TRUST JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units. For example, write "Inform the G-6 before removing the trust to the CSHub."*

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Figure A-12. Active directory forest trust instruction sample format, cont.

COLLABORATIVE WEB PORTAL AND DOCUMENT COLLABORATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-13. Signal planners and operators use the collaborative web portal and document collaboration services JMEI to plan and manage the collaborative web portal and document collaboration services on the expeditionary MPN to support multinational operations. Signal planners develop the collaborative web portal and document collaboration services JMEI using the format shown in Figure A-13. Signal planners write instructions by adding the information in the brackets ([]) and following the instructions in italics.

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Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

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TAB [letter] (COLLABORATIVE WEB PORTAL AND DOCUMENT COLLABORATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing collaborative web portal and document collaboration services for the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal)*.

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Digital Certificate Model Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

e. (U) *Tab [letter] (Web Authentication Services Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

f. (U) *Tab [letter] (Active Directory Forest Trust Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

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Figure A-13. Collaborative web portal and document collaboration services instruction sample format

[CLASSIFICATION]

TAB [letter] (COLLABORATIVE WEB PORTAL AND DOCUMENT COLLABORATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe the collaborative web portal and document collaboration services in the expeditionary MPN. For example, write "The collaborative web portal and document collaboration services are provided as part of the common services hub (CSHub). Information posted to the CSHub collaborative we portal is considered releasable to mission partners."*

a. (U) Recommended application. *List recommended web server and web client applications. For example, write "SharePoint 2013 or later."*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe the configuration requirements for collaborative web portal and document collaboration services on the expeditionary MPN. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-15 for a sample cut-sheet.*

Table A-15. Sample collaborative web portal and document collaboration services configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Collaborative web portal mission site universal resource locator (URL)	*List the CSHub collaborative web portal mission site URL*				
Collaborative web portal version	*List the CSHub collaborative web portal version*				

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Figure A-13. Collaborative web portal and document collaboration services instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COLLABORATIVE WEB PORTAL AND DOCUMENT COLLABORATION SERVICES JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-15. Sample collaborative web portal and document collaboration services configuration cut-sheet, cont.

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Collaborative web portal local zones	*List the CSHub collaborative web portal local zones*				
Web browser and version		*List the unit's web browser and version*	*List the unit's web browser and version*	*List the unit's web browser and version*	*List other MP web browser and version*

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

[page number]
[CLASSIFICATION]

Figure A-13. Collaborative web portal and document collaboration services instruction sample format, cont.

SERVICE OPERATIONS JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-14. The service operations JMEI is used by signal planners and operators to plan and manage service operations supporting the expeditionary MPN. Signal planners develop the service operations JMEI using the format shown in Figure A-14. Like an operation order, signal planners write instructions by adding the information in the brackets ([]) and following the instructions in italics.

[CLASSIFICATION]

Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

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TAB [letter] (SERVICE OPERATIONS JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for implementing and managing user service operations for the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Digital Certificate Model Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

e. (U) *Tab [letter] (Active Directory and Global Address List Synchronization Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

f. (U) *Tab [letter] (Voice and Video Over Internet Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

g. (U) *Tab [letter] (Email Exchange Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

h. (U) *Tab [letter] (Collaborative Chat Services Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

i. (U) *Tab [letter] (Web Authentication Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

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Figure A-14. Service operations instruction sample format

[CLASSIFICATION]

TAB [letter] (SERVICE OPERATIONS JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

j. (U) *Tab [letter] (Active Directory Forest Trust Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

k. (U) *Tab [letter] (Collaborative Web Portal and Document Collaboration Services Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references attachment as required. For example, write "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)."*

4. (U) System description. *Describe service operations on the expeditionary MPN.*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe the information required for contact information and trouble tickets from mission partner service desk. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-16 for a sample cut sheet.*

Table A-16. Sample service operations configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Service desk email	*List CSHub service desk email*	*List unit's service desk email*	*List unit's service desk email*	*List unit's service desk email*	*List other MP service desk email*
Service desk phone number	*List CSHub service desk phone number*	*List unit's service desk phone number*	*List unit's service desk phone number*	*List unit's service desk phone number*	*List other MP service desk phone number*
Service desk chat room name	*List CSHub service desk chat room name*	*List unit's service desk chat room name*	*List unit's service desk chat room name*	*List unit's service desk chat room name*	*List other MP service desk chat room name*

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Figure A-14. Service operations instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (SERVICE OPERATIONS JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

e. (U) Trouble ticket. *Describe the trouble ticket procedure and list the minimum information requirements for submitting trouble tickets.*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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Figure A-14. Service operations instruction sample format, cont.

COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-15. The common operational picture (known as COP) JMEI is used to generate and exchange a common operational picture on expeditionary MPNs. Signal planners develop the common operational picture JMEI using the format shown in Figure A-15. Like an operation order, signal planners write instructions by adding the information in the brackets ([]) and following the instructions in italics.

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Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

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TAB [letter] (COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for generating and exchanging a common operational picture (COP)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs. Refer to the technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal) as required.*

4. (U) System description. *Describe how the COP is generated and displayed. For example, write "The COP is a hub and spoke configuration requiring mission partners to have one connection to the headquarters to allow for easy configuration and troubleshooting."*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

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Figure A-15. Common operational picture instruction sample format

[CLASSIFICATION]

TAB [letter] (COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe the configuration requirements required to generate a COP. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-17 for a sample cut-sheet.*

Table A-17. Sample common operational picture configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Multilateral interoperability programme (MIP)					
MIP supported		*State if MIP is supported by the unit*	*State if MIP is supported by the unit*	*State if MIP is supported by the unit*	*State if MIP is supported by the other MP*
MIP node identification	*List CSHub MIP node identification*	*List unit's MIP node identification*	*List unit's MIP node identification*	*List unit's MIP node identification*	*List other MP MIP node identification*
MIP node name	*List CSHub MIP node name*	*List unit's MIP node name*	*List unit's MIP node name*	*List unit's MIP node name*	*List other MP MIP node name*
MIP host fully qualified domain name (FQDN)	*List CSHub MIP host FQDN*	*List unit's MIP host FQDN*	*List unit's MIP host FQDN*	*List unit's MIP host FQDN*	*List other MP MIP host FQDN*
MIP server internet protocol (IP) address and port	*List CSHub MIP server IP address and port*	*List unit's MIP server IP address and port*	*List unit's MIP server IP address and port*	*List unit's MIP server IP address and port*	*List other MP MIP server IP address and port*
MIP country prefix	*List CSHub MIP country prefix*	*List unit's MIP country prefix*	*List unit's MIP country prefix*	*List unit's MIP country prefix*	*List other MP MIP country prefix*
MIP organization name	*List the CSHub MIP organization name*	*List the unit's MIP country prefix*	*List the unit's MIP country prefix*	*List the unit's MIP country prefix*	*List the other MP MIP country prefix*
MIP role name	*List CSHub MIP role name*	*List unit's MIP role name*	*List unit's MIP role name*	*List unit's MIP role name*	*List other MP MIP role name*

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Figure A-15. Common operational picture instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-17. Sample common operational picture configuration cut-sheet, cont.

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
MIP continued					
MIP structured query language (SQL) instance name	*List CSHub MIP SQL instance name*	*List unit's MIP SQL instance name*	*List unit's MIP SQL instance name*	*List unit's MIP SQL instance name*	*List other MP MIP SQL instance name*
Variable message format (VMF)					
VMF supported		*State if VMF is supported by the unit*	*State if VMF is supported by the unit*	*State if VMF is supported by the unit*	*State if VMF is supported by the other MP*
VMF body version	*List CSHub body version*	*List unit's VMF body version*	*List unit's VMF body version*	*List unit's VMF body version*	*List other MP VMF body version*
VMF header version	*List CSHub header version*	*List unit's VMF header version*	*List unit's VMF header version*	*List unit's VMF header version*	*List other MP VMF header version*
VMF multicast address – command and control (C2)	*List CSHub VMF multicast address – C2*	*List unit's VMF multicast address – C2*	*List unit's VMF multicast address – C2*	*List unit's VMF multicast address – C2*	*List other MP VMF multicast address – C2*
VMF server unicast IP address and port	*List CSHub VMF server unicast IP address and port*	*List unit's VMF server unicast IP address and port*	*List unit's VMF server unicast IP address and port*	*List unit's VMF server unicast IP address and port*	*List other MP VMF server unicast IP address and port*
VMF gateway classification	*List CSHub VMF gateway classification*	*List unit's VMF gateway classification*	*List unit's VMF gateway classification*	*List unit's VMF gateway classification*	*List other MP VMF gateway classification*
North Atlantic Treaty Organization (NATO) friendly forces information (NFFI) / friendly forces information (FFI)					
NFFI/FFI supported		*State if NFFI/FFI is supported by the unit*	*State if NFFI/FFI is supported by the unit*	*State if NFFI/FFI is supported by the unit*	*State if NFFI/FFI is supported by other MP*
NFFI/FFI IP address and port	*List CSHub NFFI/FFI IP address and port*	*List unit's NFFI/FFI IP address and port*	*List unit's NFFI/FFI IP address and port*	*List unit's NFFI/FFI IP address and port*	*List other MP NFFI/FFI IP address and port*

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Figure A-15. Common operational picture instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-17. Sample common operational picture configuration cut-sheet, cont.

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Information exchange requirements (IERs) and protocol					
Unit location protocol in		*List unit's location protocol in*	*List unit's location protocol in*	*List unit's location protocol in*	*List other MP location protocol in*
Unit location protocol out		*List unit's location protocol out*	*List unit's location protocol out*	*List unit's location protocol out*	*List other MP location protocol out*
Track protocol in		*List unit's track protocol in*	*List unit's track protocol in*	*List unit's track protocol in*	*List other MP track protocol in*
Track protocol out		*List unit's track protocol out*	*List unit's track protocol out*	*List unit's track protocol out*	*List other MP track protocol out*
Significant actions (SIGACTS) protocol in		*List unit's SIGACTS protocol in*	*List unit's SIGACTS protocol in*	*List unit's SIGACTS protocol in*	*List other MP SIGACTS protocol in*
SIGACTS protocol out		*List unit's SIGACTS protocol out*	*List unit's SIGACTS protocol out*	*List unit's SIGACTS protocol out*	*List other MP SIGACTS protocol out*
Enemy location protocol in		*List unit's enemy location protocol in*	*List unit's enemy location protocol in*	*List unit's enemy location protocol in*	*List other MP enemy location protocol in*
Enemy location protocol out		*List unit's enemy location protocol out*	*List unit's enemy location protocol out*	*List unit's enemy location protocol out*	*List other MP enemy location protocol out*
Enemy situation protocol in		*List unit's enemy situation protocol in*	*List unit's enemy situation protocol in*	*List unit's enemy situation protocol in*	*List other MP enemy situation protocol in*
Enemy situation protocol out		*List unit's enemy situation protocol out*	*List unit's enemy situation protocol out*	*List unit's enemy situation protocol out*	*List other MP enemy situation protocol out*
Neutral location protocol in		*List unit's neutral location protocol in*	*List unit's neutral location protocol in*	*List unit's neutral location protocol in*	*List other MP neutral location protocol in*
Neutral location protocol out		*List unit's neutral location protocol out*	*List unit's neutral location protocol out*	*List unit's neutral location protocol out*	*List other MP neutral location protocol out*

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Figure A-15. Common operational picture instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-17. Sample common operational picture configuration cut-sheet, cont.

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
IERs and protocol continued					
Graphic protocol out		*List unit's graphic protocol out*	*List unit's graphic protocol out*	*List unit's graphic protocol out*	*List other MP graphic protocol out*
Graphic protocol in		*List unit's graphic protocol in*	*List unit's graphic protocol in*	*List unit's graphic protocol in*	*List other MP graphic protocol in*
System metrics					
Maximum object exchange rate per minute in		*List unit's maximum object exchange rate per minute in*	*List unit's maximum object exchange rate per minute in*	*List unit's maximum object exchange rate per minute in*	*List other MP maximum object exchange rate per minute in*
Maximum object exchange rate per minute out		*List unit's maximum object exchange rate per minute out*	*List unit's maximum object exchange rate per minute out*	*List unit's maximum object exchange rate per minute out*	*List other MP maximum object exchange rate per minute out*
Maximum objects held in databases		*List unit's maximum objects held in databases*	*List unit's maximum objects held in databases*	*List unit's maximum objects held in databases*	*List other MP maximum objects held in databases*

(1) (U) COP exchange standards. *List the COP exchange standards used.*

(2) (U) Track exchange standards. *List track exchange standards used.*

(3) (U) Minimum COP information exchange requirements (IERs). *List the COP minimum IERs.*

(4) (U) Exchange mechanism. *Describe the exchange mechanisms. See Table A-18 (on page A-62) for a sample exchange mechanism.*

[page number]
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Figure A-15. Common operational picture instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-18. Sample exchange mechanism

Information	*Standard Areas*	*Layer Name (warfighting function layer)*
Command and Control		
Unit location	*North Atlantic Treaty Organization friendly forces information (NFFI) / friendly forces information (FFI)* *Multilateral interoperability programme (MIP) (operational information group [OIG]: friendly-neutral organizational)* *Variable message format (VMF)*	*MC_CP*
Track management	*NFFI / FFI* *VMF message and header* *DO NOT USE MIP*	
Electromagnetic spectrum (EMS) occupancy	*MIP (OIG: Friendly-neutral organizational)*	*MC_EMS*
Joint spectrum interference resolution (JSIR)	*MIP (OIG: Friendly-neutral organizational)*	*MC_JSIR*
Cyberspace electromagnetic activities (CEMA)	*MIP (OIG: Friendly-neutral organizational)*	*MC_CEMA*
Movement and Maneuver		
Significant activities	*MIP (OIG: Globally significant)*	*SIGACTS*
Aviation	*MIP (OIG: Friendly-neutral organizational)*	*AIR_AVN*
Neutral locations	*MIP (OIG: Friendly-neutral organizational)*	*M&M_NEUTRAL*
Operational Graphics	*MIP (OIG: Friendly-neutral organizational)*	*M&M_OPFRAPH*
Intelligence		
Enemy locations	*MIP (OIG: Uncorrelated)*	*INTEL_OBSPOS*
Enemy situation	*MIP (OIG: Correlated enemy)*	*INTEL_ENSIT*
Collection	*MIP (OIG: Friendly-neutral organizational)*	*INTEL_COLL*
Intelligence, reconnaissance, and surveillance	*MIP (OIG: Friendly-neutral organizational)*	*INTEL_ISR*
Enemy fires	*MIP (OIG: Uncorrelated)*	*INTEL_ENFIRE*
Anti-access and area denial	*MIP (OIG: Friendly-neutral organizational)*	*INTEL_A2AD*

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Figure A-15. Common operational picture instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-18. Sample exchange mechanism, cont.

Information	*Standard Areas*	*Layer Name (warfighting function layer)*
Fires		
Fire support control measures	*MIP (OIG: Friendly-neutral organizational)*	*FIRES_FSCM*
Restricted target list / no-strike list	*MIP (OIG: Friendly-neutral organizational)*	*FIRES_RTL*
Position area for artillery / range fans	*MIP (OIG: Friendly-neutral organizational)*	*FIRES_PAAS*
Targets	*MIP (OIG: Friendly-neutral organizational)*	*FIRES_TGTS*
Counterfire	*MIP (OIG: Friendly-neutral organizational)*	*FIRES_CF*
Nonlethal	*MIP (OIG: Friendly-neutral organizational)*	*FIRES_NL*
Protection		
Air defense artillery	MIP (OIG: Friendly-neutral organizational)	PROT_ADA
Obstacles	MIP (OIG: Friendly-neutral organizational)	PROT_OBS
Civil military	MIP (OIG: Friendly-neutral organizational)	PROT_CIVMIL
Mobility	MIP (OIG: Friendly-neutral organizational)	PROT_MOB
Critical asset list / defended asset list	MIP (OIG: Friendly-neutral organizational)	PROT_CAL
Chemical, biological, radiological, and nuclear	*MIP (OIG: Friendly-neutral organizational)*	*PROT_CBRN*
Sustainment		
Routes	MIP (OIG: Friendly-neutral organizational)	SUST_ROUTES
Medical operations	MIP (OIG: Friendly-neutral organizational)	SUST_MEDOPS
Medical evacuation	MIP (OIG: Friendly-neutral organizational)	SUST_MEDEVAC
Support area / forward area rearm or refuel point	MIP (OIG: Friendly-neutral organizational)	SUST_SPTAREA

(5) (U) Information types and formats. *Describe the information types and formats used.*

(a) (U) Unit reference number (URN). *List URN blocks by unit. For example, write "The United Kingdom URN block is [URN block]. Australia URN block is [URN block]. Canada URN block is [URN block]. New Zealand URN block is [URN block]."*

(b) (U) URN and/or North Atlantic Treaty Organization (NATO) friendly forces information (NFFI)/friendly forces information (FFI) transponder database exchange. *Describe how URN and NFFI/FFI transponder databases are exchanged and ingested.*

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[CLASSIFICATION]

Figure A-15. Common operational picture instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (COMMON OPERATIONAL PICTURE JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

(c) (U) Standards version. *Describe what version of standards are used.*

(d) (U) Unit long name and unit short names. *State the common naming standard used.*

(e) (U) Frequency of updates. *State the frequency of updates.*

(f) (U) Symbology. *State the symbology standard used.*

(g) (U) System capacity. *List the number of artefacts supported by each mission partner.*

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

e. (U) COP as a service. *Describe how the COP is provided as a service to mission partners.*

f. (U) Geospatial requirements. *Describe the geospatial requirements. List the managed geospatial content supported.*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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[CLASSIFICATION]

Figure A-15. Common operational picture instruction sample format, cont.

INTELLIGENCE INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-16. Signal planners develop, plan, and manage intelligence integration on expeditionary MPNs using the intelligence integration JMEI. Signal planners develop the intelligence integration JMEI using the format shown in Figure A-16. Like an operation order, signal planners author instructions by adding the needed information in the brackets ([]) and following the instructions in italics.

[CLASSIFICATION]

Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

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TAB [letter] (INTELLIGENCE INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for planning and managing integration of intelligence on the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs.*

4. (U) System description. *Describe how intelligence is integrated into the expeditionary MPN. For example, write "The all-source analysis cell and the collection management cell require access to multiple networks to collect, collaborate, and disseminate information and finished intelligence products."*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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Figure A-16. Intelligence integration instruction sample format

[CLASSIFICATION]

TAB [letter] (INTELLIGENCE INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

c. (U) Configuration instructions. *Describe how intelligence is integrated on the expeditionary MPN. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-19 for a sample cut-sheet.*

Table A-19. Sample intelligence integration configuration cut-sheet

	Multinational force headquarters	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Coalition shared database (CSD) fully qualified domain name (FQDN)	*List the multinational force headquarters CSD FQDN*	*List the unit's CSD FQDN*	*List the unit's CSD FQDN*	*List the unit's CSD FQDN*	*List other MP CSD FQDN*
CSD primary internet protocol (IP) address	*List the multinational force headquarters CSD primary IP address*	*List the unit's CSD primary IP address*	*List the unit's CSD primary IP address*	*List the unit's CSD primary IP address*	*List other MP CSD primary IP address*
CSD ports and protocol	*List the multinational force headquarters CSD ports and protocol*	*List the unit's CSD ports and protocol*	*List the unit's CSD ports and protocol*	*List the unit's CSD ports and protocol*	*List other MP CSD ports and protocol*
CSD product and version	*List the multinational force headquarters CSD product and version*	*List the unit's CSD product and version*	*List the unit's CSD product and version*	*List the unit's CSD product and version*	*List other MP CSD product and version*
CSD universal resource locator (URL)	*List the multinational force headquarters CSD URL*	*List the unit's CSD URL*	*List the unit's CSD URL*	*List the unit's CSD URL*	*List other MP CSD URL*

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

e. (U) Command and control information systems requirements. *Command and control information systems (C2IS) information exchange requirements (IERs) are annotated in Table A-20.*

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Figure A-16. Intelligence integration instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (INTELLIGENCE INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-20. Sample network exchange requirements matrix

	To: Top secret	***To: Secret***	***To: Secret releasable***	***To: Sensitive but unclassified***	***To: Unclassified***
From: Top secret	Local storage of mission data-imagery and backup. Long local function (email portal, chat) local printer.	Email down, chat browser down	N/A	N/A	N/A
From: Secret	Email and attachment up	Local storage of mission data-imagery and backup. Long local function (email, portal, chat) local printer.	Email and attachments, browsing down, chat	N/A	N/A
From: Secret releasable	N/A	Email and attachments, chat	Local storage of mission data-imagery and backup. Long local function (email, portal, chat) local printer.	Voice and chat	N/A
From: Sensitive but unclassified	N/A	N/A	Voice and chat	Long local function (voice and chat)	Voice and chat
From: Unclassified	N/A	Email and attachments up	Email and attachments up	Voice and chat	Local storage of mission data-imagery and backup. Long local function (email portal, chat) local printer.

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

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Figure A-16. Intelligence integration instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (INTELLIGENCE INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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[CLASSIFICATION]

Figure A-16. Intelligence integration instruction sample format, cont.

EFFECTS INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-17. Signal planners and operators develop the effects integration JMEI to plan and manage effects integration on expeditionary MPNs. Using the format shown in Figure A-17, signal planners write instructions for the JMEI much like an operation order. Planners fill out the needed information in the brackets ([]) and follow the instructions in italics.

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Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

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TAB [letter] (EFFECTS INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for planning and managing integration of effects on the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Common Operational Picture Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs.*

4. (U) System description. *Describe how effects are integrated into the expeditionary MPN.*

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

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Figure A-17. Effects integration instruction sample format

[CLASSIFICATION]

TAB [letter] (EFFECTS INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe how effects are integrated on the expeditionary MPN. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-21 for a sample cut-sheet.*

Table A-21. Sample effects integration configuration cut-sheet

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Operational identification	*List the CSHub operational identification*	*List the unit's operational identification*	*List the unit's operational identification*	*List the unit's operational identification*	*List other MP operational identification*
Variable message format (VMF) unit reference number (URN)	*List the CSHub VMF URN*	*List the unit's VMF URN*	*List the unit's VMF URN*	*List the unit's VMF URN*	*List other MP VMF URN*
Organization identification	*List the CSHub organization identification*	*List the unit's organization identification*	*List the unit's organization identification*	*List the unit's organization identification*	*List other MP organization identification*
End system name	*List the CSHub end system name*	*List the unit's end system name*	*List the unit's end system name*	*List the unit's end system name*	*List other MP end system name*
End system type	*List the CSHub end system type*	*List the unit's end system type*	*List the unit's end system type*	*List the unit's end system type*	*List other MP end system type*
North Atlantic Treaty Organization (NATO) alias	*List the CSHub NATO alias*	*List the unit's NATO alias*	*List the unit's NATO alias*	*List the unit's NATO alias*	*List other MP NATO alias*
Send messages unclassified (Y/N)	*List if the CSHub sends messages unclassified*	*List if the unit's sends messages unclassified*	*List if the unit's sends messages unclassified*	*List if the unit's sends messages unclassified*	*List if other MP sends messages unclassified*
N-layer bypass capability	*List if CSHub has N-layer bypass capability*	*List if the unit has N-layer bypass capability*	*List if the unit has N-layer bypass capability*	*List if the unit has N-layer bypass capability*	*List if the other MP has N-layer bypass capability*
Short name	*List the CSHub short name*	*List the unit's short name*	*List the unit's short name*	*List the unit's short name*	*List other MP short name*

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Figure A-17. Effects integration instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (EFFECTS INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

Table A-21. Sample effects integration configuration cut-sheet, cont.

	Common services hub (CSHub)	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
Organic parent	*List the CSHub organic parent*	*List the unit's organic parent*	*List the unit's organic parent*	*List the unit's organic parent*	*List other MP organic parent*
Operational controller	*List the CSHub operational controller*	*List the unit's operational controller*	*List the unit's operational controller*	*List the unit's operational controller*	*List other MP operational controller*
Administrative controller	*List the CSHub administrative controller*	*List the unit's administrative controller*	*List the unit's administrative controller*	*List the unit's administrative controller*	*List other MP administrative controller*
United States message text format (USMTF) body baseline	*List the CSHub USMTF body baseline*	*List the unit's USMTF body baseline*	*List the unit's USMTF body baseline*	*List the unit's USMTF body baseline*	*List other MP USMTF body baseline*
VMF body base line	*List the CSHub VMF body base line*	*List the unit's VMF body base line*	*List the unit's VMF body base line*	*List the unit's VMF body base line*	*List other MP VMF body base line*

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

[page number]
[CLASSIFICATION]

Figure A-17. Effects integration instruction sample format, cont.

SUSTAINMENT INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS FORMAT AND INSTRUCTIONS

A-18. The sustainment integration JMEI is used by signal planners and operators to plan and manage sustainment integration on expeditionary MPNs. Signal planners develop the sustainment integration JMEI using the format shown in Figure A-18. Like an operation order, signal planners write instructions by adding the needed information in the brackets ([]) and following the instructions in italics.

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Place the classification at the top and bottom of every page of the OPLAN or OPORD. Place the classification marking at the front of each paragraph and subparagraph in parentheses. Refer to AR 380-5 for classification and release marking instructions.

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TAB [letter] (SUSTAINMENT INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

1. (U) Purpose. *Describe the purpose of the joining, membership, and exiting instructions (JMEI). For example, write "The purpose of this tab is to provide guidelines and instructions for planning and managing integration of sustainment on the expeditionary mission partner network (MPN)."*

2. (U) Prerequisites. *List the JMEI and other elements that are prerequisites in subparagraphs as shown.*

a. (U) *Tab [letter] (Networking Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

b. (U) *Tab [letter] (Domain Name System Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

c. (U) *Tab [letter] (Network Time Protocol Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

d. (U) *Tab [letter] (Common Operational Picture Joining, Membership, and Exiting Instructions) to Appendix 2 (Information Network Operations) to Annex H (Signal).*

3. (U) Definitions and standards. *List definitions and standards required for the instructions in subparagraphs.*

4. (U) System description. *Describe how effects are integrated into the expeditionary MPN. For example, write "Sustainment integration is designed to provide automated logistics data transfer to allow 'come as you are' or 'fight tonight' configuration."*

a. (U) Recommended Applications. *List recommended applications for sustainment integration. For example, write "LOGFAS 6.5."*

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Figure A-18. Sustainment integration instruction sample format

[CLASSIFICATION]

TAB [letter] (SUSTAINMENT INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

5. (U) Roles and responsibilities. *List the roles and responsibilities assigned to personnel to execute the instructions for joining, operating, and exiting the network. Each role and responsibility must include who, what, when, where, and why. Include roles and responsibilities for interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence.*

6. (U) Joining Instructions. *Describe how units join the network.*

a. (U) Joining task. *List joining tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 6b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

c. (U) Configuration instructions. *Describe how sustainment is integrated on the expeditionary MPN. Where appropriate, include a configuration cut-sheet containing important information from all mission partners joining the network. Add rows and columns as required. See Table A-22 for a sample cut-sheet.*

Table A-22. Sample sustainment integration configuration cut-sheet

	Multinational force headquarters	***Subordinate***	***Subordinate***	***Subordinate***	***Other mission partner (MP)***
System primary internet protocol (IP) address	List the multinational force headquarters system primary IP address	List the unit's system primary IP address	List the unit's system primary IP address	List the unit's system primary IP address	List other MP system primary IP address
System secondary IP address	List the multinational force headquarters system secondary IP address	List the unit's system secondary IP address	List the unit's system secondary IP address	List the unit's system secondary IP address	List other MP system secondary IP address
System fully qualified domain name (FQDN)	List the multinational force headquarters system FQDN	List the unit's system FQDN	List the unit's system FQDN	List the unit's system FQDN	List other MP system FQDN

d. (U) Validation Procedures. *Describe the validation procedures conducted to verify configuration was completed correctly prior to joining the network. Refer to validation test serials attachment. For example, write "Technical validation and certification under the authority of the coalition network operations and security center (CNOSC) is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."*

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Figure A-18. Sustainment integration instruction sample format, cont.

[CLASSIFICATION]

TAB [letter] (SUSTAINMENT INTEGRATION JOINING, MEMBERSHIP, AND EXITING INSTRUCTIONS) TO APPENDIX 2 (INFORMATION NETWORK OPERATIONS) TO ANNEX H (SIGNAL) TO OPERATION PLAN/ORDER [number] [(code name)] – [issuing headquarters] [(classification of title)]

7. (U) Membership Instructions. *Describe how units operate as members of the network.*

a. (U) Membership task. *List membership tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 7b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

8. (U) Exiting Instructions. *Describe how units exit the network.*

a. (U) Exiting tasks. *List exiting tasks. Each task must include who, what, when, where, and why. Include tasks for supporting interagency, intergovernmental, and nongovernmental organizations. Use a separate subparagraph for each unit. List units in task organization sequence. Place tasks that affect two or more units in paragraph 8b (Coordinating instructions).*

b. (U) Coordinating instructions. *List only instructions applicable to two or more units.*

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Figure A-18. Sustainment integration instruction sample format, cont.

Appendix B

Request for Access and Authority to Connect Formats and Instructions

This appendix provides sample formats and instructions for requesting access and granting authority to connect to an expeditionary MPN. Signal planners use the request for access format to request access to the network. The corps or division signal staff use the authority to connect format to grant access to the network.

REQUEST FOR ACCESS

B-1. Units and mission partners use the request for access format to request access for their systems to the expeditionary MPN from the corps or division signal staff. Signal planners make the request by developing a request for access. The request for access is a document containing, at a minimum, items listed in Table B-1. Planners use the items included in Table B-1 and follow the given instructions in italics. The unit or mission partner submits a completed request for access—along with any appropriate cybersecurity paperwork (such as a system security plan or antivirus definitions)—to the corps or division signal staff for review and approval to connect.

Table B-1. Request for access minimal items and directions

Item	***Directions***
System name	*Provide the name of the system being connected to the network.*
Sponsoring agency	*Provide the agency sponsoring the system being connected.*
System owner	*Provide the owner of the system being connected.*
Country	*Provide the country of the system being connected.*
Planned location	*Provide the planned location of the system being connected.*
Request for access statement	*Provide a written statement requesting access to connect to the expeditionary mission partner network.*
Compliance statement	*Provide a written statement stating the system(s) being connected are current with—* • *Antivirus definitions.* • *Information assurance vulnerability alert requirements.* • *Current program management office supported release for United States systems or current operating system.* • *Software security patches.* • *Antivirus definitions for mission partner systems.*
Monitoring statement	*Provide a written statement acknowledging consent to the systems being monitored while connect to the network.*
Government sponsor	*Provide the name and organization of the government sponsor.*
System owner signature	*Provide the signature of the system's owner.*
Contact information	*Provide the phone number and email address of the owner of the system.*

AUTHORITY TO CONNECT

B-2. The corps or division signal staff reviews the request for access and accompanying cybersecurity paperwork submitted by the unit or mission partner. If the request is incorrect or incomplete, the corps or division signal staff coordinates with the unit or mission partner to correct or complete it. When the request for access is complete, the corps or division signal staff develops the authority to connect. The authority to connect is a document containing, at a minimum, items listed in Table B-2. The corps or division signal staff develops the authority to connect using the items included in Table B-2 and following the given instructions in italics. The corps or division command, or delegated representative, as the authorizing official, then issues the unit or mission partner the authority to connect.

Table B-2. Authority to connect items and directions

Item	***Direction***
Date	*Provide the date the authority to connect is signed.*
From	*Provide who is authorizing the authority to connect.*
To	*Provide who is being given authority to connect.*
References	*List references used for the authority to connect.*
Enclosures	*List any enclosures pertaining to the authority to connect.*
Grant statement	*Provide a written statement granting authority to connect and declaring the system being connected meets the first step of operation.*
Valid dates	*List dates the authority to connect is valid.*
Final authority to operate	*List conditions to meet to achieve authority to operate.*
Signature and contact information	*Provide the signature and contact information for the person granting the authority to connect.*

Appendix C

Expeditionary Mission Partner Network Configuration Sheet Format and Instructions

This appendix provides expeditionary MPN configuration sheet format and instructions. Corps or division signal planners develop and share pertinent information.

GENERAL INSTRUCTIONS

C-1. The expeditionary MPN configuration sheet is used to collect configuration information from units and mission partners. Corps or division signal planners develop the expeditionary MPN configuration sheet using paragraphs C-2 through C-21. They provide configuration information for corps or division systems. Early in the planning process, corps or division planners provide units and other mission partners with the expeditionary MPN configuration sheet to gather configuration information. Planners then use the completed expeditionary MPN configuration sheet to develop the JMEI in this publication.

SECTIONS

C-2. The first section of the expeditionary MPN configuration sheet contains the following unit and mission partner details and points of contact provided by the unit or mission partner:

- Unit or mission partner's nation.
- Connection of the unit or mission partner to the expeditionary MPN.
- Network services point of contact. A point of contact includes name, email address, telephone number, and location of person.
- Common services point of contact.
- COP services point of contact.
- Cybersecurity point of contact.

C-3. The second section of the expeditionary MPN configuration sheet is used to gather configuration information required for the networking instructions. The returned information is used to populate the consolidated cut-sheet in the networking instructions (see Figure A-3 beginning on page A-8). This section is broken into groupings of information based on whether the network information is part of the mission partner enclave or part of the transport network. The section includes the following:

- Mission partner enclave information:
  - Corps or division, units, and mission partners signal staffs provide their super net classless interdomain routing.
  - Corps or division, units, and mission partners signal staffs provide their crypto device plain text subnet, IP, and interface IP.
  - Corps or division, units, and mission partners signal staffs provide their crypto device cypher text IP.
  - Corps or division, units, and mission partners signal staffs provide their tunnel IP address, subnet, and subnet mask.
  - Corps or division, units, and mission partners signal staffs provide their border gateway protocol autonomous system number and authentication.
  - Corps or division, units, and mission partners signal staffs provide their multicast source discovery protocol peer address and authentication.

- Transport network information:
  - Corps or division, units, and mission partners signal staffs provide their modem subnet and IP.
  - Corps or division, units, and mission partners signal staffs provide their router modem interface IP.
  - Corps or division, units, and mission partners signal staffs provide their border gateway protocol autonomous system number if border gateway protocol is the routing protocol.
  - Corps or division, units, and mission partners signal staffs provide their border or open shortest path first authentication.
  - Corps or division, units, and mission partners signal staffs provide their tunnel IP address, subnet mask, and authentication.

C-4. The third section of the expeditionary MPN configuration sheet is used to gather configuration information required for the DNS instruction. The returned information is used to populate the consolidated cut-sheet in the DNS instruction (see Figure A-4 beginning on page A-16). This information includes the following:

- Corps or division, unit, and mission partner signal staffs provide their DNS domains and fully qualified domain name.
- Corps or division, unit, and mission partner signal staffs provide their DNS primary server IP address and fully qualified domain name.
- Corps or division, unit, and mission partner signal staffs provide their DNS secondary server IP address and fully qualified domain name.

C-5. The fourth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the network time protocol instruction. The returned information is used to populate the consolidated cut-sheet in the network time protocol instruction (see Figure A-5 beginning on page A-20) and includes the following:

- Corps or division signal staff provides the network time protocol server primary and secondary IP address.
- Corps or division staff provides the network time protocol server fully qualified domain name.
- Corps or division signal staff provides the network time protocol authentication password.
- Corps or division signal staff provides the time zone.
- Corps or division signal staff provides the network time protocol stratum.

C-6. The fifth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the digital certificate model instruction. The returned information is used to populate the consolidated cut-sheet in the digital certificate model instruction (see Figure A-6 beginning on page A-21) and includes the following:

- Corps or division signal staff provides the certificate authority server primary and secondary IP address.
- Corps or division signal staff provides the certificate authority server fully qualified domain name.
- Corps or division signal staff provides the certificate authority public key universal resource locator (URL).
- Corps or division signal staff provides the certificate revocation list URL and distribution point IP address.
- Corps or division signal staff provides the online certificate status protocol host.
- Corps or division signal staff provides the public key signing URL and encryption URL.

C-7. The sixth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the active directory and global address list synchronization instruction. The returned information is used to populate the consolidated cut-sheet in the active directory and global address list synchronization instruction (see Figure A-7 beginning on page A-26) and includes the following:

- Unit and mission partner signal staffs provide a list of global address list synchronization supported applications.

- Active directory attributes:
  - Unit and mission partner signal staffs provide the surname field information.
  - Unit and mission partner signal staffs provide the first name field information.
  - Unit and mission partner signal staffs provide the rank field information.
  - Unit and mission partner signal staffs provide the role field information.
  - Unit and mission partner signal staffs provide the telephone field information.
  - Unit and mission partner signal staffs provide the role email field information.
  - Unit and mission partner signal staffs provide the name email field information.
  - Unit and mission partners signal staffs provide the nation field information.
  - Unit and mission partners signal staffs provide the nationality field information.
- Corps or division signal staff provides the distinguished name of push organizational unit.
- Corps or division signal staff provides the distinguished name of pull organizational unit.
- Unit and mission partner signal staffs provide their synchronization preference.

C-8. The seventh section of the expeditionary MPN configuration sheet is used to gather configuration information required for the voice and video over IP instruction. The returned information is used to populate the consolidated cut-sheet in the voice and video over IP instruction (see Figure A-8 beginning on page A-31) and includes the following:

- Corps or division signal staff provides the multipoint conference unit or call management server IP address and port.
- Corps or division signal staff provides the ad hoc conference number and personal identification number.
- Corps or division signal staff provides the scheduled conference number and personal identification number.
- Corps or division signal staff provides the conference capacity or endpoints.
- Corps or division signal staff provides the theater prefix.
- Corps or division signal staff provides the session initiation protocol authentication key.
- Unit and mission partner signal staffs provide their voice over IP call agent hardware and software.
- Unit and mission partner signal staffs provide their session border controller IP address and port.
- Unit and mission partner signal staffs provide their call agent source IP, supported audio codecs, and supported video codecs.
- Unit and mission partner signal staffs provide their call agent signaling method, either session initiation protocol or H323.
- Unit and mission partner signal staffs provide their video end point hardware model.
- Unit and mission partner signal staffs provide their country code.
- Unit and mission partner signal staffs provide their subscriber 13-digit dial plan.
- Unit and mission partner signal staffs provide their universal resource identifier.

C-9. The eighth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the email exchange instruction. The returned information is used to populate the consolidated cut-sheet in the email exchange instruction (see Figure A-9 beginning on page A-36) and includes the following:

- Corps or division, unit, and mission partner signal staffs provide their simple email transfer protocol and message transfer agent IP address, port, and fully qualified domain name.
- Corps or division signal staff provides a statement whether the smart host or email exchange will be used.
- Corps or division, unit, and mission partner signal staffs provide their service desk email address.

C-10. The ninth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the collaborative chat services instruction. The returned information is used to populate the consolidated cut-sheet in the collaborative chat services instruction (see Figure A-10 beginning on page A-40) and includes the following:

- Corps or division, unit, and mission partner signal staffs provide their chat server IP address, port, and fully qualified domain name.
- Corps or division, unit, and mission partner signal staffs provide their chat server software and version.
- Corps or division, unit, and mission partner signal staffs provide their chat client software and version.

C-11. The tenth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the web authentication instruction. The returned information is used to populate the consolidated cut-sheet in the web authentication instruction (see Figure A-11 beginning on page A-43) and includes the following:

- Corps or division, unit, and mission partner signal staffs provide their identification provider fully qualified domain name, universal resource identifier, product, and version.
- Corps or division, unit, and mission partner signal staffs provide their security assertion markup language supported version.
- Corps or division staff, unit, and mission partner signal staffs provide their identification provider claims name and value pairs.

C-12. The eleventh section of the expeditionary MPN configuration sheet is used to gather configuration information required for active directory forest trust model instruction. The returned information is used to populate the consolidated cut-sheet in the active directory forest trust model instruction (see Figure A-12 beginning on page A-48) and includes the following:

- Corps or division staff provides the active directory server primary and secondary IP addresses and fully qualified domain name.
- Unit and mission partner signal staffs provide their active directory credentials shared with the CSHub.

C-13. The twelfth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the collaborative web portal and document collaboration services instruction. The returned information is used to populate the consolidated cut-sheet in the collaborative web portal and document collaboration services instruction (see Figure A-13 beginning on page A-51) and includes the following:

- Corps or division signal staff provides the collaborative web portal mission site URL, version, and local zones.
- Unit and mission partner signal staffs provide their web browser and version.

C-14. The thirteenth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the service operations instruction. The returned information is used to populate the consolidated cut-sheet in the service operations instruction (see Figure A-14 beginning on page A-54). Corps or division, unit, and mission partner signal staffs provide their service desk email, telephone number, and chat room.

C-15. The fourteenth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the COP instruction. The returned information is used to populate the consolidated cut-sheet in the COP instruction (see Figure A-15 beginning on page A-57). This section is broken into groupings of information based on the message format used, IERs and protocol, and system metrics.

C-16. The following configuration information is required if using the multilateral interoperability programme (MIP):

- Corps or division, unit, and mission partner signal staffs provide a statement whether their systems support the MIP.
- Corps or division, unit, and mission partner signal staffs provide their MIP node identification and name.
- Corps or division, unit, and mission partner signal staffs provide their MIP host fully qualified domain name.

- Corps or division, unit, and mission partner signal staffs provide their MIP server IP address and port.
- Corps or division, unit, and mission partner signal staffs provide their MIP country prefix, primary key prefix, organization name, role name, and structure query language instance name.

C-17. The following configuration information is required if using the variable message format:

- Corps or division, unit, and mission partner signal staffs provide a statement whether their systems support the variable message format.
- Corps or division, unit, and mission partner signal staffs provide their variable message format body and header version.
- Corps or division, unit, and mission partner signal staffs provide their variable message format multicast address for command and control and situational awareness.
- Corps or division, unit, and mission partner signal staffs provide their variable message format server unicast IP address and port.
- Corps or division, unit, and mission partner signal staffs provide their variable message format gateway classification.

C-18. The following configuration information is required if the North Atlantic Treaty Organization friendly forces information (NFFI) or friendly force information (FFI) is used:

- Corps or division, unit, and mission partner signal staffs provide a statement whether their systems support NFFI or FFI.
- Corps or division, unit, and mission partner signal staffs provide their NFFI or FFI IP address and port.

C-19. The following configuration information is required for IERs and protocol:

- Unit and mission partner signal staffs provide their unit location protocol in and out.
- Unit and mission partner signal staffs provide their track protocol in and out.
- Unit and mission partner signal staffs provide their significant actions protocol in and out.
- Unit and mission partner signal staffs provide their enemy location protocol in and out.
- Unit and mission partner signal staffs provide their enemy situation protocol in and out.
- Unit and mission partner signal staffs provide their neutral location protocol in and out.
- Unit and mission partner signal staffs provide their graphics protocol in and out.

C-20. The following configuration information is required for system metrics:

- Unit and mission partner signal staffs provide their maximum object exchange rate per minute in for their system.
- Unit and mission partner signal staffs provide their maximum object exchange rate per minute out for their system.
- Unit and mission partner signal staffs provide their maximum objects held in the database of their system.

C-21. The fifteenth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the intelligence integration instruction. The returned information is used to populate the consolidated cut-sheet in the intelligence integration instruction (see Figure A-16 beginning on page A-65). Corps or division, unit, and mission partner signal staffs provide their coalition shared database fully qualified domain name, primary IP address, ports, protocol, product, version, and URL.

C-22. The sixteenth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the effects integration instruction. The returned information is used to populate the consolidated cut-sheet in the effects integration instruction (see Figure A-17 beginning on page A-69) and includes the following:

- Corps or division, unit, and mission partner signal staffs provide their operational identification.
- Corps or division, unit, and mission partner signal staffs provide their variable message format unit reference number.
- Corps or division, unit, and mission partner signal staffs provide their organization identification.

- Corps or division, unit, and mission partner signal staffs provide their end system type.
- Corps or division, unit, and mission partner signal staffs provide their NATO alias.
- Corps or division, unit, and mission partner signal staffs provide a statement whether their system sends messages unclassified.
- Corps or division, unit, and mission partner signal staffs provide their n-layer bypass capability.
- Corps or division, unit, and mission partner signal staffs provide their short name, organic parent, operational controller, and administrative controller.
- Corps or division, unit, and mission partner signal staffs provide their U.S. message text format body baseline.
- Corps or division, unit, and mission partner signal staffs provide their variable message format body baseline.

C-23. The seventeenth section of the expeditionary MPN configuration sheet is used to gather configuration information required for the sustainment integration instruction. The returned information is used to populate the consolidated cut-sheet in the sustainment integration instruction (see Figure A-18 beginning on page A-72) and includes the following:

- Corps or division, unit, and mission partner signal staffs provide their system primary and secondary IP addresses.
- Corps or division, unit, and mission partner signal staffs provide their system fully qualified domain name.

Appendix D

Validation Test Serials Format and Instructions

This appendix provides the format and instructions for validation test serials. Corps or division signal planners develop and share pertinent information.

GENERAL INSTRUCTIONS

D-1. The corps or division uses validation test serials to verify that computers and information systems are configured in accordance with the JMEI to join the network. The signal planners develop the validation test serials using the format in Table D-1 on pages D-2 and D-3 as a guide. Signal planners include validation test serials as a tab to an operation order or operation plan. When referring to a validation test serials attachment, planners might include it stating "Technical validation and certification under the authority of the coalition network operations and security center is required before activation. Each subordinate and other mission partner completes the validation test serials in Tab [letter] (Validation Test Serials) to Appendix 2 (Information Network Operations) to Annex H (Signal) under the direction of the network operational authority."

VALIDATION TEST SERIALS

D-2. The validation test serials are tests divided into serials based on the services tested. For example, serial 1 is network services and serial 2 is DNS and network time protocol. The network services test validates that developers configured IP addressing and routing correctly. The DNS and network time protocol test validates that developers configured the DNS and network time protocol correctly.

D-3. The first column in Table D-1 represents the serial and test number combined with a hyphen. The serial number is the first number, and the test number is the second number. For example, test number 1-1 is the first test in the first serial. Test number 8-7 is the seventh test in the eighth serial.

D-4. The test description in Table D-1 describes what is being tested. For example, test 1-1 (mission partner internet protocol routing to common services hub border gateway protocol) tests the routing configuration between the mission partner and the common services hub border gateway protocol. If the test fails, something is wrong with the IP routing.

D-5. The validation test serials include a pass-fail section for each test for record keeping.

Table D-1. Sample validation test serials

Test number	*Test description*
Serial 1. Network services	
1-1	Mission partner 1 internet protocol (IP) routing to common services hub (CSHub) border gateway protocol (BGP)
1-2	Mission partner X IP routing to CSHub BGP
Serial 2. Domain name system (DNS) and network time protocol (NTP)	
2-1	DNS local resolution
2-2	DNS global resolution (mission partner to mission partner)
2-3	Mission partner 1 NTP synchronization to CSHub
2-4	Mission partner X NTP synchronization to CSHub
Serial 3. Active directory (AD) and global address list (GAL) synchronization	
3-1	CSHub UnitySync master and hub-spoke test with mission partner 1
3-2	CSHub UnitySync master and hub-spoke test with mission partner X
3-3	Mission partner 1 comma separated value export to CSHub
3-4	Mission partner X comma separated value export to CSHub
3-5	Aggregate GAL procedure (CSHub only)
Serial 4. Email exchange services	
4-1	Mission partner 1 email to each mission partner
4-2	Mission partner X email to each mission partner
Serial 5. Cross domain trust	
5-1	CSHub to mission partner 1 cross domain trust
5-2	CSHub to mission partner X cross domain trust
Serial 6. Collaborative SharePoint services	
6-1	Mission partner 1 can create, read, update, and delete on the CSHub collaborative SharePoint mission portal
6-2	Mission partner X can create, read, update, and delete on the CSHub collaborative SharePoint mission portal
6-3	Coalition network operations and security center (CNOSC) can archive the collaborative SharePoint mission portal
Serial 7. Collaborative chat services	
7-1	Mission partner 1 can access CSHub chat rooms
7-2	Mission partner X can access CSHub chat rooms
7-3	CNOSC can backup chat archive
Serial 8. Unicast voice and video services	
8-1	Mission partner 1 confirm global voice call dial plan to each nation
8-2	Mission partner 1 confirms global voice call basic telephony services (forward, hold)
8-3	Mission partner X confirm global voice call dial plan to each nation
8-4	Mission partner X confirms global voice call basic telephony services (forward, hold)
8-5	Confirm ad hoc voice conference call to CSHub
8-6	Confirm scheduled conference call to CSHub
8-7	Confirm multipoint to multimode scheduled conference call

Table D-1. Sample validation test serials, cont.

Test number	*Test description*
Serial 9. Streaming voice and video services	
9-1	Confirm commanders update brief streaming operation
9-2	Confirm radio over internet protocol (RoIP) gateway operation
9-3	Confirm RoIP client push to talk
9-4	Confirm RoIP streaming
Serial 10. Unit reference number (URN) database exchange	
10-1	Confirm URN database exchange between mission partners
Serial 11. Common operational picture (COP)	
11-1	Confirm two-way COP exchange between the data distribution system (DDS) and the command post computing environment (CPCE) for variable message format (VMF)
11-2	Confirm two-way COP exchange between Global Command and Control System (GCCS) and CPCE for mission partner to COP via the COP synchronization tool
11-3	Confirm multilateral interoperability programme (MIP) distribution within MIP participants
11-4	Confirm two-way exchange for MIP to VMF via the DDS
11-5	Confirm two-way exchange for VMF to MIP via the DDS
11-6	Confirm two-way exchange for MIP to VMF via GCCS using the COP synchronization tool
11-7	Confirm two-way exchange for VMF to MIP via GCCS using the COP synchronization tool
Serial 12. Advanced Field Artillery Tactical Data System (AFATDS) to AFATDS	
12-1	Confirm two-way fires exchange for AFATDS to AFATDS
Serial 13. Network management system	
13-1	Network management system CNOSC access to mission partner 1
13-2	Network management system CNOSC access to mission partner X
13-3	Network management system protocol capture
Serial 14. Disaster recovery	
14-1	Confirm disaster recovery plan for each mission partner
14-2	Confirm disaster recovery plan for CSHub
Serial 15. Service operations	
15-1	Raise service request
15-2	Confirm mission partner internal escalation service operation procedures
15-3	Confirm CNOSC escalation service operation procedures
15-4	Confirm closing support request service operation procedures

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Appendix E

Technical References

Readers use this appendix to find applicable technical references that apply to different JMEI. Not all JMEI have technical references.

REFERENCES

E-1. Table E-1 has technical references cited in the sample JMEI. Planners list required definitions and standards as a tab to an operation order or plan. When referring to a technical reference attachment, planners might state "Technical references in Tab [letter] (Technical References) to Appendix 2 (Information Network Operations) to Annex H (Signal)." The top row lists the JMEI to which technical references pertain. The far-left column lists technical references. An X marks which technical reference applies to which joining, membership, and exiting instruction.

SOURCE FOR REFERENCES

E-2. Planners use the magnifying glass search icon and select "Search Standards" to find the technical references at the DoD Information Technology Standards Registry at https://www.dsp.dla.mil/Specs-Standards/List-of-DISR-documents/.

Table E-1. Technical references

	Cybersecurity	*Networking*	*Domain name system (DNS)*	*Network time protocol (NTP)*	*Digital certificate model*	*Active directory (AD) and global address list (GAL)*	*Voice and video over internet protocol (VoIP)*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Collaborative web portal and document collaboration*	*Service operations*	*Common operational picture (COP)*
Assertions and Protocols for the OASIS Security Assertion Markup Language (SAML) V2.0, 2005										X				

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
IEEE 802.11 Wireless Local Area Network Standards, 2020		X												
IEEE Std 802.3 Standard for Ethernet, 2018		X												
IETF RFC 1772 Application of the Border Gateway Protocol in the Internet, 1995		X												
IETF RFC 1812 Requirements for IP Version 4 Routers, 1995		X												
IETF RFC 1870 Simple Mail Transfer Protocol Service Extension for Message Size Declaration, 1995								X						
IETF RFC 1997 BGP Communities Attribute, 1996		X												
IETF RFC 2365 Administratively Scoped IP Multicast, 1998			X											
IETF RFC 2545 Use of BFP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing, 1999		X												
IETF RFC 2644 Changing the Default for Directed Broadcasts in Routers, 1999		X												
IETF RFC 2697 A Single Rate Three Color Marker, 1999		X												
IETF RFC 2698 A Two Rate Three Color Marker, 1999		X												

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
IETF RFC 2710 Multicast Listener Discovery (MLD) for IPv6, 1999		X												
IETF RFC 2818 HTTP Over TLS, 2000												X		
IETF RFC 3207 SMTP Service Extension for Secure SMTP over Transport Layer Security, 2002								X						
IETF RFC 3246 An Expedited Forwarding PHB (Per-Hop Behavior), 2002		X												
IETF RFC 3260 New Terminology and Clarifications for Diffserv, 2002		X												
IETF RFC 3261 Session Initiation Protocol (SIP), 2002							X							
IETF RFC 3264 An Offer/ Answer Model with the Session Description Protocol (SDP), 2002							X							
IETF RFC 3311 The Session Initiation Protocol (SIP) UPDATE Method, 2002							X							
IETF RFC 3376 Internet Group Management Protocol, Version 3, 2002		X												
IETF RFC 3501 Internet Message Access Protocol, Version 4rev1, 2003								X						
IETF RFC 3544 IP Header Compression over PPP, 2003		X												

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
IETF RFC 3550 RTP: A Transport Protocol for Real-Time Applications, 2003						X								
IETF RFC 3618 Multicast Source Discovery Protocol (MSDP), 2003		X												
IETF RFC 3711 The Secure Real-Time Transport Protocol (SRTP), 2004						X								
IETF RFC 3810 Multicast Listener Discovery Version 2 (MLDv2) for IPv6, 2004		X												
IETF RFC 3890 A Transport Independent Bandwidth Modifier for the Session Description Protocol (SDP), 2004							X							
IETF RFC 3891 The Session Initiation Protocol (SIP) “Replaces” Header, 2004							X							
IETF RFC 3893 Session Initiation Protocol (SIP) Authenticated Identity Body (AIB) Format, 2004							X							
IETF RFC 3966 The tel URI for Telephone Numbers, 2004							X							
IETF RFC 4120 The Kerberos Network Authentication Service (V5), 2005											X			
IETF RFC 4217 Securing FTP with TLS, 2005												X		

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
IETF RFC 4271 A Border Gateway Protocol 4 (BGP-4), 2006		X												
IETF RFC 4291 IP Version 6 Addressing Architecture, 2006		X												
IETF RFC 4360 BGP Extended Communities Attribute, 2006		X												
IETF RFC 4422 Simple Authentication and Security Layer (SASL), 2006									X		X			
IETF RFC 4443 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification, 2006		X												
IETF RFC 4510 Lightweight Directory Access Protocol (LDAP): Technical Specification Road Map, 2006				X	X						X			
IETF RFC 4513 Lightweight Directory Access Protocol (LDAP): Authentication Methods and Security Mechanisms, 2006						X								
IETF RFC 4568 Session Description Protocol (SDP) Security Descriptions for Media Streams, 2006							X							
IETF RFC 4573 MIME Type Registration for RTP Payload Format for H.224, 2006							X							

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
IETF RFC 4582 The Binary Floor Control Protocol (BFCP), 2006							X							
IETF RFC 4583 Session Description Protocol (SDP) Format for Binary Floor Control Protocol (BFCP) Streams, 2006		X												
IETF RFC 4585 Extended RTP Profile for Real-time Transport Control Protocol (RTCP)-Based Feedback (RTP/AVPF), 2006							X							
IETF RFC 4604 Using Internet Group Management Protocol Version 3 (IGMPv3) and Multicast Listener Discovery Protocol Version 2 (MLDv2) for Source-Specific Multicast, 2006		X												
IETF RFC 4607 Source-Specific Multicast for IP, 2006		X												
IETF RFC 4616 The PLAIN Simple Authentication and Security Layer (SASL) Mechanism, 2006											X			
IETF RFC 4733 RTP Payload for DTMF Digits, Telephony Tones, and Telephony Signals, 2006							X							
IETF RFC 4760 Multiprotocol Extensions for BGP-4, 2007		X												

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
IETF RFC 4796 The Session Description Protocol (SDP) Content Attribute, 2007								X						
IETF RFC 4904 Representing Trunk Groups in tel/sip Uniform Resource Identifiers (URIs), 2007							X	X						
IETF RFC 4954 SMTP Service Extension for Authentication, 2007						X								
IETF RFC 5072 IP Version 6 over PPP, 2007		X												
IETF RFC 5095 Deprecation of Type 0 Routing Headers in IPv6, 2007		X												
IETF RFC 5104 Codec Control Messages in the RTP Audio-Visual Profile with Feedback (AVPF), 2008							X							
IETF RFC 5172 Negotiation for IPv6 Datagram Compression Using IPv6 Control Protocol, 2008		X												
IETF RFC 5280 Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile, 2008					X									
IETF RFC 5321 Simple Mail Transfer Protocol, 2008								X						

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
IETF RFC 5341 The Internet Assigned Number Authority (IANA) tel Uniform Resource Identifier (URI) Parameter Registry, 2008							X							
IETF RFC 5492 Capabilities Advertisement with BGP-4, 2009		X												
IETF RFC 5626 Managing Client-Initiated Connections in the Session Initiation Protocol (SIP), 2009							X							
IETF RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification, 2010				X										
IETF RFC 5954 Essential Correction for IPv6 ABNF and URI Comparison in RFC 3261, 2010							X							
IETF RFC 6120 Extensible Messaging and Presence Protocol (XMPP): Core, 2011									X					
IETF 6121 Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence, 2011									X					
IETF RFC 6176 Prohibiting Secure Sockets Layer (SSL) Version 2.0, 2011												X		
IETF RFC 6184 RTP Payload Format for H.264 Video, 2011							X							

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
IETF RFC 6265 HTTP State Management Mechanism, 2011												X		
IETF RFC 6665 SIP-Specific Event Notification, 2012							X							
IETF RFC 6724 Default Address Selection for Internet Protocol Version 6 (IPv6), 2012			X											
IETF RFC 6960 X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP, 2013					X						X			
IETF RFC 7230 Hypertext Transfer Protocol - HTTP 1.1: Message Syntax and Routing, 2014												X		
IETF RFC 7231 Hypertext Transfer Protocol - HTTP 1.1: Semantics and Content, 2014												X		
IETF RFC 7232 Hypertext Transfer Protocol - HTTP 1.1: Conditional Requests, 2014												X		
IETF RFC 7233 Hypertext Transfer Protocol - HTTP 1.1: Range Requests, 2014												X		
IETF RFC 7234 Hypertext Transfer Protocol - HTTP 1.1: Caching, 2014												X		
IETF RFC 7235 Hypertext Transfer Protocol - HTTP 1.1: Authentication, 2014												X		
IETF RFC 7622 Extensible Messaging and								X						

Table E-1. Technical references, cont.

	Cybersecurity	*Networking*	*DNS*	*NTP*	*Digital certificate*	*AD and GAL*	*Video and VoIP*	*Email exchange*	*Collaborative chat services*	*Web authentication*	*AD forest trust*	*Web portal / document collaboration*	*Service operations*	*COP*
Presence Protocol (XMPP): Address Format, 2015														
IETF RFC 7761 Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised), 2016		X												
IETF RFC 8446 Transport Layer Security (TLS) 1.3, 2018						X			X			X		
IETF RFC 8866 SDP: Session Description Protocol, 2021							X							
IETF Standard 13/RFC 1034/RFC 1035, Domain Name System, 1987			X											
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Glossary

The glossary lists acronyms and terms with Army and joint definitions. The proponent publication for terms is listed in parentheses after the definition.

SECTION I – ACRONYMS AND ABBREVIATIONS

AD	active directory
ADP	Army doctrine publication
AR	Army regulation
ATP	Army techniques publication
cont.	continued
CNOSC	coalition network operations and security center
CSHub	common services hub
DA	Department of the Army
DNS	domain name system
DODI	Department of Defense instruction
DODIN	Department of Defense information network
FFI	friendly force information
FM	field manual
IEC	International Electrotechnical Commission
IER	information exchange requirement
IETF	Internet Engineering Task Force
IP	internet protocol
ISO	International Organization for Standardization
ITU	International Telecommunication Union
JMEI	joining, membership, and exiting instructions
JP	joint publication
MIL-STD	military standard
MIP	multilateral interoperability programme
MPE	mission partner environment
MPN	mission partner network
NFFI	North Atlantic Treaty Organization friendly forces information
NIST	National Institute of Standards and Technology
RFC	request for comments
SAML	Security Assertion Markup Language
STANAG	standardization agreement
URL	universal resource locator
U.S.	United States

SECTION II – TERMS

Department of Defense information network operations

Operations to secure, configure, operate, extend, maintain, and sustain Department of Defense cyberspace to create and preserve the confidentiality, availability, and integrity of the Department of Defense information network. (JP 3-12)

information exchange requirement

A set of characteristics that define who exchanges what information with whom, why the information exchange is necessary, and how the information exchange must occur to support an operational process or function. (JP 3-33)

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