

# **NATO STANDARD**

## **ADatP-34**

### **NATO Interoperability Standards and Profiles**

#### **Volume 1**

#### **Introduction**

#### **Edition N Version 1**

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## **NATO LETTER OF PROMULGATION**

The enclosed Allied Data Publication ADatP-34, Edition N, Version 1 NATO Interoperability Standards and Profiles, which has been approved by the nations in the C3B, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 5524.

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This publication shall be handled in accordance with C-M(2002)60.

Zoltán GULYÁS  
Brigadier General, HUNAF  
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**RESERVED FOR NATIONAL LETTER OF PROMULGATION**

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## RECORD OF SPECIFIC RESERVATIONS

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## CHAPTER 1. INTRODUCTION

001. The NATO Interoperability Standards and Profiles (NISP) is developed by the NATO Consultation, Command and Control (C3) Board Interoperability Profiles Capability Team (IP CaT).

002. The NISP will be made available to the general public as ADatP-34(N) when approved by the C3 Board.

003. The included interoperability standards and profiles (Volume 2) are **mandatory** for use in NATO common funded Communications and Information Systems (CIS). Volume 3 contains **candidate** standards and profiles.

004. In case of conflict between any adopted non-NATO<sup>1</sup> standard and relevant NATO standard, the definition of the latter prevails.

005. In the NISP the keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" are to be interpreted as described in [IETF RFC 2119].

**Table 1.1. Abbreviations**

| Abbreviation | Full Text   |
|--------------|---|
| ABB          | Architecture Building Block   |
| ACaT         | Architecture Capability Team  |
| ACP          | Allied Communications Publication   |
| AdatP-34     | Allied Data Publication - Cover publication for the NISP  |
| BSP          | Basic Standards Profile   |
| C3           | Consultation, Command and Control   |
| CCEB         | Combined Communications Electronic Board (military communications-electronics organization established among five nations: Australia, Canada, New Zealand, United Kingdom, and the United States) |
| CESF         | Core Enterprise Services Framework  |
| COI          | Community of Interest   |
| CIAV (WG)    | Coalition Interoperability Assurance and Validation (Working Group)   |

<sup>1</sup>ISO or other recognized non-NATO standards organization

| Abbreviation | Full Text   |
|--------------|---|
| CIS          | Communication and Information Systems   |
| CWIX         | Coalition Warrior Interoperability<br>eXploration, eXperimentation, eXamination<br>eXercise   |
| DOTMLPFI     | Doctrine, Organization, Training, Materiel,<br>Leadership, Personnel, Facilities and<br>Interoperability  |
| EAPC         | Euro-Atlantic Partnership Council   |
| FMN          | Federated Mission Networking  |
| IOP          | Interoperability Point  |
| IP CaT       | Interoperability Profiles Capability Team   |
| MIP          | Multilateral Interoperability Programme   |
| NAF          | NATO Architecture Framework   |
| NDPP         | NATO Defence Planning Process   |
| NISP         | NATO Interoperability Standards and Profiles  |
| NIST         | National Institute of Standards and<br>Technology   |
| NGO          | Non governmental organization   |
| RFC          | Request for Change  |
| SDS          | Service Data Sheet  |
| SIOP         | Service Interoperability Point  |
| SIP          | Service Interface Profile   |
| SME          | Subject Matter Expert   |
| SOA          | Service Oriented Architecture   |
| STANAG       | A NATO standardization document that<br>specifies the agreement of member nations<br>to implement a standard, in whole or in part,<br>with or without reservation, in order to meet<br>an interoperability requirement. Notes: A<br>NATO standardization agreement is distinct<br>from the standard(s) it covers. |
| TACOMS       | Tactical Communication Programme  |

## 1.1. PURPOSE OF THE NISP

006. NISP gives guidelines to capability planners, programme managers and test managers for NATO common funded systems in the short or mid-term timeframes.

007. The NISP prescribes the necessary technical standards and profiles to achieve interoperability of Communications and Information Systems in support of NATO's missions and operations. In accordance with the Alliance C3 Strategy (ref. C-M(2014)0016) all NATO Enterprise (ref. C-M(2014)0061) entities shall adhere to the NISP mandatory standards and profiles in volume 2.

## **1.2. INTENDED AUDIENCE**

008. The intended audience of the NISP are all stakeholders in the NATO Enterprise, and Allied and Partner nations involved in development, implementation, lifecycle management, and transformation to a federated environment.

009. There are specific viewpoints that are mapped to the NISP structure. NISP gives guidelines to:

- capability planners involved in NDPP and NATO led initiatives
- programme managers for building NATO common funded systems
- test managers for their respective test events (such as CWIX, CIAV, etc.)
- national planning and programme managers for their national initiatives

010. Specific NATO or national views to the NISP based on data export to external planning and management systems will be possible upon delivery of an updated version of the NISP Exchange Specification.

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## CHAPTER 2. BASIC CONCEPTS

011. This chapter gives an overview to understand the data in volume 2 and volume 3. NISP does not differentiate between the usage of NATO and non- NATO standards but always strives to select the most appropriate and up to date. The classification (Mandatory or Candidate) of any standard depends on its location in the NISP, Volume 2 or Volume 3, respectively.

### 2.1. STANDARDS

012. The NISP is composed of non-NATO and NATO Standards. While the first ones are adopted by NATO through the NISP. The second ones are to be considered as normative references.

013. Standards (NATO and non-NATO) are defined and managed in their life cycle by the developing standardization bodies with their own timetable. NATO standards are identified in the NISP by their covering document (STANAG number). They can be in the life cycle status of study/in ratification (no yet NATO approved/expected), promulgated (valid) and superseded/obsolete. A non-NATO standard may have different life cycle status such as emerging, mature, fading, or obsolete. Different standardization bodies may use their own lifecycle status definitions. NISP takes lifecycle status of standards into account, but does not copy them into the NISP database. To inquire about the current status of NATO standards, please visit the NATO Standardization Document Database (NSDD) hosted on the NATO Standardization Organization (NSO) Website. Superseded/obsolete NATO and non-NATO standards may be included in the NISP for maintenance purpose.

014. NISP allow references to either a NATO Standard or the covering document if it exists. However, it is recommended that NATO organizations and nations reference a NATO Standard and NOT the covering document for inclusion in the NISP. IP CaT will subsequently add the covering document as well, but only for reference purposes.

### 2.2. INTEROPERABILITY PROFILES

015. Profiles define the specific use of standards at a service interoperability point (SIOP) in a given context. A SIOP is a reference point within an architecture where one or more service interfaces are physically or logically instantiated to allow systems delivering the same service using different protocols to interoperate. A SIOP serves as the focal point for service interoperability between interconnected systems, and may be logically located at any level within the components, and its detailed technical specification is contained within a service interface profile (SIP). Profiles support prerequisites for programmes or projects and enable interoperability implementation and testing.

016. Interoperability Profiles provide combinations of standards and (sub)profiles for different CIS and identify essential profile elements including:

- Capability Requirements and other NAF architectural views

- Characteristic protocols
- Implementation options
- Technical standards
- Service Interoperability Points, and
- The relationship with other profiles such as the system profile to which an application belongs.

017. The NISP now defines the **obligation status** of profiles and standards as "mandatory" or "candidate".

- **Mandatory:** The application of standards or profiles is enforced for NATO common funded systems in planning, implementing and testing. Nations are required to use the NISP for developing capabilities that support NATO's missions (ie. NATO led operations, projects, programs, contracts and other related tasks). Nations are invited to do the same nationally to promote interoperability for federated systems and services.
- **Candidate:** The application of a standard or profile shall only be used for the purpose of testing and programme / project planning. The standard or profile must have progressed to a stage in its life-cycle and is sufficiently mature and is expected to be approved by the standardization body in the foreseeable future. This implies, that from a planning perspective, the respective standard or profile is expected to become mandatory during execution of the programme. A candidate standard or profile should not stay in volume 3 for more than 3 years.

018. Profiles shall be updated if referenced standards change. Profiles are dynamic entities by nature. NATO captures this dynamic situation by updating profiles once a year in the NISP. Profile owners are responsible for the versioning of their profiles. Profile reviews are required every 2 years by their owners to ensure their accuracy and continued relevance.

019. Proposed profiles (and standards) can be accepted as candidates in order to follow their developments and to decide if they can be promoted to mandatory standards and profiles. In some cases proposed standards and profiles can be readily accepted directly as mandatory.

020. Interoperability Profiles can reference other Interoperability Profiles to allow for maximal reuse.

021. Further information and guidance on creation of profiles is available in Appendix A.

## 2.3. BASIC STANDARDS PROFILE

022. Within the NISP, the "*Basic Standards Profile*" specifies the technical, operational, and business standards that are generally applicable in the context of the Alliance and the NATO Enterprise. For a specific context, such as Federated Mission Networking, separate profiles may

be defined that apply specifically to that context or related architectures. The standards that are cited may be NATO standards, or other agreed international and open standards.

023. As there is no overarching alliance architecture, each standard is associated with elements of the C3 Taxonomy. A distinction must be made between applicability of a standard, and conformance to the standard. If a standard is applicable to a given C3 Taxonomy element, any architecture that implements such an element need not be fully conformant with the standard. The degree of conformance may be judged based on the specific context of the project. For example, to facilitate information exchange between C2 and logistics systems it may be sufficient to implement only a subset of concepts as defined in JC3IEDM (STANAG 5525).

024. The “Basic Standards Profile” contains “agreed” as well as “candidate” standards.

## **2.4. CREATING RELATIONSHIPS TO OTHER CONCEPTS AND PLANNING OBJECTS WITHIN NATO**

025. Different initiatives and organizations have developed new concepts to govern developments in the interoperability domain. These concepts have logical relationship to the NISP.

### **2.4.1. Architecture Building Block**

026. An Architecture Building Block (ABB) is a constituent of the architecture model that describes a single aspect of the overall model <sup>1</sup>.

#### **2.4.1.1. Characteristics**

027. ABBs:

- Capture architecture requirements; e.g., business, data, application, and technology requirements
- Direct and guide the development of Solution Building Blocks

#### **2.4.1.2. Specification Content**

028. ABB specifications include the following as a minimum:

- Fundamental functionality and attributes: semantic, unambiguous, including security capability and manageability
- Interfaces: chosen set, supplied
- Interoperability and relationship with other building blocks

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<sup>1</sup>TOGAF 9.1 Specification

- Dependent building blocks with required functionality and named user interfaces
- Map to business/organizational entities and policies

## **2.4.2. FMN Spiral Specifications**

029. Federated Mission Networking (FMN) Spiral<sup>2</sup> Specifications encompass "an evolutionary cycle that will raise the level of maturity of federated mission networking capabilities over time".

030. The FMN spiral specification contain the following sections

- architecture
- instructions
- profiles, and
- requirements specifications.

The Mandatory and Candidate FMN Spiral Profiles, in context for FMN Affiliates, are listed in the NISP Volumes 2 and 3.

## **2.4.3. Capability Packages**

031. Profiles will be referenced in the NISP for specified NATO Common Funded Systems or Capability Packages and may include descriptions of interfaces to National Systems where appropriate.

## **2.5. CRITERIA FOR SELECTING STANDARDS**

032. Any standard(s) listed in Volume 2 of the NISP shall:

- Be already approved by a NATO Standardization Tasking Authority or another non- NATO standards development organization (e.g. ISO, ANSI, ETSI, IEEE, IETF, W3C);
- Have an assigned responsible party within NATO that can provide relevant subject matter expertise;
- Be available in one of the NATO official languages;
- Support C3 Interoperability (including. people, processes and technology) and related NATO common funded Communication and Information Systems (CIS), including their development and operations;

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<sup>2</sup>Annex B TO Volume I - Implementation Overview, NATO FMN Implementation Plan v4.0 dated: 23 September 2014, Terms and Definitions

- Enable the NATO Enterprise, NATO Nations and Partner Nations to develop interoperable C3 capabilities that support NATO's missions (i.e. NATO led operations, projects, programs, contracts and other related tasks).
- Any standard deviating from the criteria listed in the paragraph 4.1., can be recommended by the IP CaT for inclusion in the NISP and can be implemented after the approval of the C3B.

## **2.6. CRITERIA FOR SELECTING NON-NATO STANDARDS**

033. Any Non-NATO standard(s) listed in Volume 2 of NISP should:

- Have implementations from a cross-section of vendors available;
- Be utilized by the broader user community;
- Be developed in a consensus-based way;
- Be free from any legal issues (i.e. intellectual property rights);
- Meet NATO requirements;
- Be easily accessible to vendors;
- Have an open architecture, e.g. extensible for new technological developments,
- Be compatible with other NATO-agreed standards;
- Be stable (mostly recognized by related community/industry) and mature enough in terms of technology;
- Be measurable in terms of its compliance.

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## CHAPTER 3. ORGANIZATION OF THE NISP INFORMATION

034. This chapter gives an overview of the new structure of all three volumes.

### 3.1. NISP STRUCTURE

035. The structure of the NISP is organized to list and categorize the standards and profiles according to their usage in NATO. It contains three volumes:

- **Volume 1** - Introduction: This volume introduces basic concepts, provides the management framework for the configuration control of the NISP and the process for handling Request for Change (RFC). It includes also guidance on development of interoperability profiles.
- **Volume 2** - Agreed Interoperability Standards and Profiles: This volume lists agreed interoperability standards and profiles, mandatory for NATO common funded systems. These should support NATO and National systems today and new systems actually under procurement or specification.
- **Volume 3** - Candidate Interoperability Standards and Profiles: This Volume lists informative references to Standards and Interoperability Profiles, such as drafts of NATO specifications, that may be used as guidance for future programmes.

036. Volume 2 is normative for NATO common funded systems and Volume 3 is informative.

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## CHAPTER 4. INTEROPERABILITY IN SUPPORT OF CAPABILITY PLANNING

037. The following documents form the foundation to understand the embedding of NISP into NDPP and architecture work:

**Table 4.1. NDPP References**

| Document  | Document Reference                 |
|---|------------------------------------|
| Alliance C3 Strategy Information and Communication Technology to prepare NATO 2020 (20 July 2018) | Alliance C3 Strategy C-M(2018)0037 |
| Alliance C3 Policy (25 April 2016)  | C-M(2015)0041-REV2                 |
| NATO Defence Planning Process (NDPP)  | PO(2016)0655 (INV)                 |

038. The NATO Defence Planning Process (NDPP) is the primary means to identify the required capabilities and promote their timely and coherent development and acquisition by Allies and Partners. It is operationally driven and delivers various products which could support the development and evolution of more detailed C3 architecture and interoperability requirements. The development of NDPP products also benefits from input by the architecture and interoperability communities, especially the NISP, leading to a more coherent development of CIS capabilities for the Alliance.

039. The work on Enterprise, Capability, and programme level architecture will benefit from the NISP by selecting coherent sets of standards for profiles.

040. More information on how the NISP supports the NDPP can be found in Annex B.

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## CHAPTER 5. CONFIGURATION MANAGEMENT

041. The NISP is updated once a year to account for the evolution of standards and profiles.

042. Request for Change (RFC) to the NISP will be processed by the IP CaT, following the process in the graphic below:



**Figure 5.1. RFC Handling Process**

043. The RFC contains all information required for the NISP management by IP CaT; The detailed information about standard or profile is handed over as attachments to this form. A notional RFC form with example information is presented below:

## REQUEST FOR CHANGE PROPOSAL for the NATO

### Interoperability Standards & Profiles

Example

Date:  ■

Type of Request\*:  ▼

Responsible party\*:  ?

Abstract\*:  ?

Identifier:  ?

Request for change\* [Text, standard, profile]  ▼

Change Description:  
Attach separate text if required

The MC decided that Cyber defence and JISR will be.. Therefore para 6.2 should

Justification and Additional Comments:

Example of responsible party: "type=organization; name='C3B, CAP 1 [TDL CaT]'"  
 Example: This RFCP replaces STANAG xxxx ed.1 with ed. 2  
 An unambiguous reference to the resource within a given context

Info applicant

Requesting Organisation\*:

Point of Contact\*:

Full Address:

Telephone\*:

Email\*:

Paragraph  ?

Add file

**Figure 5.2. RFC Notional Form**

044. The primary point of contact for RFC submission is the IP CaT. RFCs may be submitted to the IP CaT via the [Change web site](#) or via email to [herve.radigue@act.nato.int](mailto:herve.radigue@act.nato.int) with attachments.

045. Review of RFCs will be coordinated with the responsible C3 Board substructure organizations where appropriate.

046. The IP CaT reviews the submissions in dialog with national and international bodies. Based on that review, the RFC will be formally processed into the next version of the NISP; or returned to the originator for further details; or rejected. The IP CaT will attempt to address all RFCs submitted by 1 September into the next NISP release. RFCs submitted after this date may be considered for inclusion at the discretion of the IP CaT, or will be processed for the following NISP release.

## 5.1. NISP UPDATE PROCESS

047. The new NISP version is submitted to the C3 Board by end of the year after internal review by the IP CaT. The version under review is a snapshot in time of the status of standards and profiles.

048. The database of standards and profiles maintained by the IP CaT is the definitive source of the current status of standards and profiles.

### 5.1.1. Criteria for listing Standards and Profiles

049. Standards and profiles listed in Volume 2 of the NISP shall:

1. have an assigned responsible party that can provide relevant subject matter expertise, if no responsible party exists the IP CaT will create a temporary assignment,
2. be available in one of the NATO official languages,
3. support C3 Interoperability (incl. people, processes and technology) and related NATO common funded Communication and Information Systems (CIS) including their development and operations, and
4. enable the NATO Enterprise, NATO Nations and partner nations to develop interoperable capabilities that support NATO's missions (ie. NATO led operations, projects, programs, contracts and other related tasks).

050. In addition standards shall be approved already by a NATO Standardization Tasking Authority or another non-NATO standards development organization (e.g. ISO, ANSI, ETSI, IEEE, IETF, W3C).

051. Deviations from the rules listed above can be recommended by the IP CaT and approved by the C3B.

052. Given the rate of innovation in Information and Communication Technology (ICT), it is unsurprising that, NATO standards must be reviewed and updated regularly to keep pace with the state of the art and other international standards. The following criteria should be considered by responsible parties during their annual review of NATO Standards:

- Are all stakeholders' views are reflected in the Standardization Working Group?
  - End Users/ Operational Users
  - Implementers/Vendors
  - Technical Solutions Experts/Testers
  - Standards Experts
- Are all referenced basic standards and documents still valid?
- Are key terms consistent with agreed NATO Terminology?
- Does the standard contain conformance criteria?
- Were any issues with the standard identified during test events (e.g. CWIX, CIAV)?

- Are reference implementations<sup>1</sup> of the Standard available to vendors?

053. Some key criteria for inclusion of non-NATO standards into Volume 2 are

- Availability of implementations from a cross-section of vendors;
- Compatibility with other standards;
- Completeness. Does the standard meet the functional requirements?
- Extensibility. Can the standard easily add new technologies when they become available?;
- Stability/maturity. Is the standard based on well understood technology, and has it matured enough to ensure no major changes will occur through further refinements?
- Non-discriminatory. Was the standard developed in a consensus-based way?
- Testability. Conformance metrics. Can the standard be tested to prove compliance?
- Legitimacy. Freedom from legal issues.

054. Similar criteria are also applied for inclusion of Profiles into Volume 2. Profiles should follow the Profile Guidance in Volume 1, Appendix A, and the IPCaT reserves the right to adjust the data structure of a profile to align with the data model of the NISP.

055. Standards and profiles listed in Volume 3 are not subject to the above criteria as they are not (yet) mandatory.

### 5.1.2. Updating listed Standards and Profiles

- process RFCs together with related responsible parties,
- check if newer versions of
  - listed standards are published by the NATO Standardization Tasking Authority or another non-NATO standards development organization,
  - listed profiles are published by the respective development organization,
  - contact all responsible parties to assess if there is a continued need to keep standards and profiles within Volume 2.

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<sup>1</sup>To facilitate interoperability and adoption in general the production of reference implementations and similar tools that vendors can use to bootstrap and test development efforts is critical. These reference tools help clarify the expected behavior described by the standard. If these tools are released under appropriate licenses, the tools themselves or components thereof can be directly integrated into vendor products, reducing the investment cost, and therefore the risk, of adoption and accelerating adoption efforts. For standards that rely on multiple parties, such as communications protocols between two different roles, having a reference implementation for both communicants can be a big help to implementers by giving them a correspondent against which to test their own implementation. As such, simple implementation efforts can have a significant role in encouraging interoperability and adoption.

## 5.2. NISP PRODUCTS

056. The NISP is published in several formats:

- Documentation in [HTML](#) and [PDF](#) Formats
- Website and searchable [online Database](#)
- Data export in XML format

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## **CHAPTER 6. NATIONAL SYSTEMS INTEROPERABILITY COORDINATION**

057. Coordination of standards and profiles between Nations and NATO are critical for interoperability. As a result of the C3 Board substructure reorganization, participants in IP CaT are subject matter experts (SME) and are no longer national representatives. SME's should therefore coordinate with national and C3 Board representatives to ensure national perspectives are presented to IP CaT. As such, each of the IP CaT SMEs is responsible for:

- Appropriate and timely coordination of standards and profiles with respect to interoperability with national systems;
- Coordination of the SME input including coordination with national SMEs of other C3 Board substructure groups; and
- Providing appropriate technical information and insight based on national market assessment.

058. National level coordination of interoperability technical standards and profiles is the responsibility of the C3 Board. When the latest version of NISP is approved by the C3 Board, it will become the NATO Standard covered by STANAG 5524. This STANAG contains the agreement of the participating nations regarding usage of the mandatory standards and profiles in the NISP.

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## CHAPTER 7. INTEROPERABILITY STANDARDS GUIDANCE

059. The NISP references Standards from different standardization bodies<sup>1</sup>. In the case of a ratified STANAG, NATO standardization procedures apply. The NISP only references these STANAG's without displaying the country-specific reservations. The country-specific reservations can be found in the NATO Standardization Office's NATO Standardization Document Database.

060. The Combined Communications Electronics Board (CCEB) nations will use NISP Volume 2 to publish the interoperability standards for the CCEB under the provisions of the NATO-CCEB List of Understandings (LoU)<sup>2</sup>.

061. The NISP organizes the standards using the structure of baseline 4.0 of NATO's C3 Taxonomy, as endorsed by the NATO C3 Board per AC/322-D(2020)0021 on "C3 Taxonomy Baseline 4.0" dated 4 August 2020. A graphical representation of this taxonomy is given in the following figure and a description of it can be obtained at: [https://tide.act.nato.int/tidepedia/index.php/C3\\_Taxonomy](https://tide.act.nato.int/tidepedia/index.php/C3_Taxonomy). Currently, the standards only address a subset of the services in the taxonomy, mainly services in the group Technical Services. For some standards it is indicated that an appropriate mapping to the C3 Taxonomy could not yet be made.

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<sup>1</sup>In case of conflict between any adopted non-NATO standard and relevant NATO standard, the definition of the latter prevails.

<sup>2</sup>References: NATO Letter AC/322(SC/5)L/144 of 18 October 2000, CCEB Letter D/CCEB/WS/1/16 of 9 November 2000, NATO Letter AC/322(SC/5)L/157 of 13 February 2001



**Figure 7.1. C3 Taxonomy**

062. In principle, NISP only contains or references standards or related documents, which are generally available for NATO/NATO member nations/CCEB.

063. However, a subset of documents may only be available for those nations or organizations, which are joining a specific mission or are members of a special working group. The membership in these activities is outside the scope of NISP.

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## **CHAPTER 8. APPLICABILITY**

064. The mandatory standards and profiles documented in Volume 2 will be used in the implementation of NATO Common Funded Systems. Participating nations agree to use the mandatory standards and profiles included in the NISP at the Service Interoperability Points and to use Service Interface Profiles among NATO and Nations to support the exchange of information and the use of information services in the NATO realm.

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## **APPENDIX A. PROFILE GUIDANCE**

### **A.1. PROFILE CONCEPTUAL BACKGROUND**

065. ISO/IEC TR 10000 [2] defines the concept of profiles as a set of one or more base standards and/or International Standardized Profiles, and, where applicable, the identification of chosen classes, conforming subsets, options and parameters of those base standards, or International Standardized Profiles necessary to accomplish a particular function.

066. The C3 Board (C3B) Interoperability Profiles Capability Team (IP CaT) has extended the profile concept to encompass references to NAF architectural views [1], characteristic protocols, implementation options, technical standards, Service Interoperability Points (SIOP), and related profiles.

067. Nothing in this guidance precludes the referencing of National profiles or profiles developed by non-NATO organizations in the NATO Interoperability Standards and Profiles (NISP).

### **A.2. PURPOSE OF INTEROPERABILITY PROFILES**

068. Interoperability Profiles aggregate references to the characteristics of other profiles types to provide a consolidated perspective.

069. Interoperability Profiles identify essential profile elements including Capability Requirements and other NAF architectural views [1], characteristic protocols, implementation options, technical standards, Service Interoperability Points, and the relationship with other profiles such as the system profile to which an application belongs.

070. NATO and Nations use profiles to ensure that all organizations will architect, invest, and implement capabilities in a coordinated way that will ensure interoperability for NATO and the Nations. Interoperability Profiles will provide context and assist or guide information technologists with an approach for building interoperable systems and services to meet required capabilities.

### **A.3. APPLICABILITY**

071. NISP stakeholders include engineers, designers, technical project managers, procurement staff, architects and other planners. Architectures, which identify the components of system operation, are most applicable during the development and test and evaluation phase of a project. The NISP is particularly applicable to a federated environment, where interoperability of mature National systems requires an agile approach to architectures.

072. The IP CaT has undertaken the development of interoperability profiles in order to meet the need for specific guidance at interoperability points between NATO and Nations systems

and services required for specific capabilities. As a component of the NISP, profiles have great utility in providing context and interoperability specifications for using mature and evolving systems during exercises, pre-deployment or operations. Application of these profiles also provides benefit to Nations and promotes maximum opportunities for interoperability with NATO common funded systems as well as national to national systems. Profiles for system or service development and operational use within a mission area enable Nations enhanced readiness and availability in support of NATO operations.

## **A.4. GUIDELINES FOR INTEROPERABILITY PROFILE DEVELOPMENT**

073. Due to the dynamic nature of NATO operations, the complex Command and Control structure, and the diversity of Nations and Communities of Interest (COI), interoperability must be anchored at critical points where information and data exchange between entities exists. The key drivers for defining a baseline set of interoperability profiles include:

- Identify the Service Interoperability Points and define the Service Interface Profiles
- Develop modular Architecture Building Blocks
- Use standards consistent with common architectures
- Develop specifications that are service oriented and independent of the technology implemented in National systems where practical
- Develop modular profiles that are reusable in future missions or capability areas
- Use an open system approach to embrace emerging technologies

074. The starting point for development of a profile is to clearly define the Service Interoperability Point where two entities will interface and the standards in use by the relevant systems.

075. The NISP is the governing authoritative reference for NATO interoperability profiles. Doctrine, Organization, Training, Materiel, Leadership and education, Personnel, Facilities and Interoperability (DOTMLPFI) capability analysis may result in a profile developer determining that some of the capability elements may not be relevant for a particular profile. In such cases, the "not applicable" sections may either be marked "not applicable" or omitted at the author's discretion.

## **A.5. STRUCTURE OF INTEROPERABILITY PROFILE DOCUMENTATION**

076. This section identifies typical elements of Interoperability Profile Documentation.

## A.5.1. Identification

077. Each NATO or candidate NATO Interoperability Profile **shall** have a unique identifier assigned to it when accepted for inclusion in the NISP. This **shall** be an alpha-numeric string appended to the root mnemonic from the NISP profile taxonomy.

## A.5.2. Profile Elements

078. Profile elements provide a coherent set of descriptive inter-related information to NATO, national, Non-Governmental Organization (NGO), commercial and other entities ('actors') desiring to establish interoperability.

079. Profiles are not concepts, policies, requirements, architectures, patterns, design rules, or standards. Profiles provide context for a specific set of conditions related to the aforementioned documents in order to provide guidance on development of systems, services, or even applications that must consider all of these capability related products. Interoperability Profiles provide the contextual relationship for the correlation of these products in order to ensure interoperability is 'built-in' rather than considered as an 'after-thought'.

### A.5.2.1. Applicable Standards

080. Each profile **should** document the standards required to support this or other associated profiles and any implementation specific options. The intention of this section is to provide an archive that shows the linkage between evolving sets of standards and specific profile revisions.

**Table A.1. Applicable Standards**

| ID                          | Purpose/Service                         | Standards   | Guidance   |
|-----------------------------|---|---|--|
| A unique profile identifier | A description of the purpose or service | A set of relevant Standard Identifier from the NISP | Implementation specific guidance associated with this profile (may be a reference to a separate annex or document) |

### A.5.2.2. Related Profiles

081. Each profile should document other key related system or service profiles in a cross reference table. The intention of this section is to promote smart configuration management by including elements from other profiles rather than duplicating them in part or in whole within this profile. Related profiles would likely be referenced in another section of the profile.

**Table A.2. Related Profiles**

| <b>Profile ID</b>           | <b>Profile Description</b>         | <b>Community of Interest</b>           | <b>Associated SIOPs</b> |
|-----------------------------|------------------------------------|--|-------------------------|
| A unique profile identifier | A short description of the profile | Air, Land, Maritime, Special Ops, etc. | Unique SIOP identifiers |

## **A.6. VERIFICATION AND CONFORMANCE**

082. Each profile **should** identify authoritative measures to determine verification and conformance with agreed quality assurance, Key Performance Indicators (KPIs), and Quality of Service standards such that actors are satisfied they achieve adequate performance. All performance requirements must be quantifiable and measurable; each requirement must include a performance (what), a metric (how measured), and a criterion (minimum acceptable value).

083. Stakeholders are invited to provide feedback to improve a profile's verification and conformance criteria.

084. Verification and Conformance is considered in terms of the following five aspects:

1. Approach to Validating Service Interoperability Points
2. Relevant Maturity Level Criteria
3. Key Performance Indicators (KPIs)
4. Experimentation
5. Demonstration

### **A.6.1. Approach to Validating Service Interoperability Points**

085. Each profile should describe the validation approach used to demonstrate the supporting service interoperability points. The intention of this section is to describe a high-level approach or methodology by which stakeholders may validate interoperability across the SIOP(s).

### **A.6.2. Relevant Maturity Level Criteria**

086. Each profile should describe the Maturity criteria applicable to the profile. The intention of this section is to describe how this profile supports the achievement of improved interoperability.

### **A.6.3. Key Performance Indicators (KPIs)**

087. Each profile should describe the associated Key Performance Indicators (KPIs) to establish a baseline set of critical core capability components required to achieve the enhanced

interoperability supported by this profile. The intention of this section is to assist all stakeholders and authorities to focus on the most critical performance-related items throughout the capability development process.

**Table A.3. Key Performance Indicators (KPIs)<sup>1</sup>**

| Key Performance Indicators (KPI)     | Description |
|--------------------------------------|-------------|
| KPI #1: Single (named) Architecture  |             |
| KPI #2: Shared Situational Awareness |             |
| KPI #3: Enhanced C2                  |             |
| KPI #4: Information Assurance        |             |
| KPI #5: Interoperability             |             |
| KPI #6: Quality of Service           |             |
| KPI #7: TBD                          |             |

<sup>1</sup>'notional' KPIs shown in the table are for illustrative purposes only.

## A.6.4. Experimentation

088. Each profile should document experimentation venues and schedules that will be used to determine conformance. The intention of this section is to describe how experimentation will be used to validate conformance.

## A.6.5. Demonstration

089. Each profile should document demonstration venues and schedules that demonstrate conformance. The intention of this section is to describe how demonstration will be used to validate conformance.

# A.7. CONFIGURATION MANAGEMENT AND GOVERNANCE

## A.7.1. Configuration Management

090. Each profile **shall** identify the current approach or approaches toward configuration management (CM) of core documentation used to specify interoperability at the Service Interoperability Point. The intention of this section is to provide a short description of how often documents associated with this profile may be expected to change, and related governance measures that are in place to monitor such changes [e.g., the IP CaT].

## A.7.2. Governance

091. Each profile **shall** identify **one or more authorities** to provide feedback and when necessary, Request for Change (RFC) for the Profile in order to ensure inclusion of the most

up-to-date details in the NISP. The intention of this section is to provide a clear standardized methodology by which stakeholders may submit recommended changes to this profile.

## References

- [1] *NATO Architecture Framework Version 4*. 25 January 2018. AC/322-D(2018)0002.
- [2] *Information Technology - Framework and Taxonomy of International Standardized Profiles - Part 3: Principals and Taxonomy for Open System Environment Profiles*. Copyright # 1998. ISO. ISO/IEC TR 10000-3.

## **APPENDIX B. INTEROPERABILITY IN THE CONTEXT OF NATO DEFENCE PLANNING**

### **B.1. NATO DEFENCE PLANNING**

092. The NATO Defence Planning Process (NDPP) is the primary means to identify required capabilities and promote their timely, coherent development and acquisition by Allies and the NATO Enterprise. It is operationally driven and delivers various products which could support the development and evolution of more detailed C3 architecture and interoperability requirements. The development of NDPP products also benefits from input by the architecture and interoperability communities, especially the NISP, leading to a more coherent development of CIS capabilities for the Alliance.

093. Ideally technical interoperability requirements align with the NDPP to ensure coherence in the development of capabilities within the Alliance. NDPP Mission Types and Planning Situations provide the essential foundation for the development of the Minimum Capability Requirements (MCR) and the derivation of high level information exchange and interoperability requirements. MCRs are expressed via a common set of definitions for capabilities (including CIS) called Capability Codes and Statements (CC&S), including explicit reference to STANAGs in some cases<sup>1</sup>. Interoperability aspects are primarily captured in free text form within the Capability Statements and in the subsequent NDPP Targets<sup>2</sup>. The NDPP products could be leveraged by the architecture and interoperability community, to define the operational context for required Architecture Building Blocks and interoperability profiles.

094. The Defence Planning Capability Survey (DPCS) is the tool to collect information on national capabilities, the architecture and interoperability communities should provide input on questions related to C3 related capabilities. The architecture and interoperability communities could also bring valuable insight and expertise to the formulation and tailoring of C3 capabilities-related targets to nations, groups of nations or the NATO enterprise.

095. In practice, there is not always an opportunity (time or money) for such a "clean" approach and compromises must be made - from requirements identification to implementation. In recognition of this fact, NATO has developed a parallel track approach, which allows some degree of freedom in the systems development. Although variations in sequence and speed of the different steps are possible, some elements need to be present. Architecture, including the selection of appropriate standards and technologies, is a mandatory step.

096. In a top-down execution of the systems development approach, architecture will provide guidance and overview to the required functionality and the solution patterns, based on longstanding and visionary operational requirements. In a bottom-up execution of the approach, which may be required when addressing urgent requirements and operational imperatives,

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<sup>1</sup>Bi-SC Agreed Capability Codes and Capability Statements, 26 January 2016 and SHAPE/PLANS/JCAP/FCP/16-311533 5000/FPR-0460/TTE-151451/Ser:NU0083

<sup>2</sup>C-M(2017)0021, NATO Capability Targets, 26 June 2017

architecture will be used to assess and validate chosen solution in order to align with the longer term vision.

097. The NISP is a major tool supporting NATO architecture work and must be suitable for use in the different variations of the systems development approach. The NISP will be aligned with the Architectural efforts of the C3 Board led by the ACaT.

098. The relationship of the NISP, the Architecture Building Blocks activities of the ACaT, and Allied Command Transformation Architecture efforts is of a mutual and reciprocal nature. Architecture products provide inputs to the NISP by identifying the technology areas that in the future will require standards. These architecture products also provide guidance on the coherence of standards by indicating in which timeframe certain standards and profiles are required. NATO Architectures benefit from the NISP by selecting coherent sets of standards from profiles.



## **APPENDIX C. CHANGES FROM NISP VERSION 13 (M) TO NISP VERSION 14 (N)**

099. Major content changes to NISP v14 include:

- FMN Spiral 1.1 Profile deleted (Vol 2).
- FMN Spiral 2.0 Profile deleted (Vol 2).
- Proposed FMN Spiral 4 Profile deleted (Vol 3).
- FMN Spiral 4 Profile added as mandatory (Vol 2).
- 46 RFCs processed. Details of the RFC changes are captured in Appendix E.
- Replaced all references to STANAGS references to standards from all profiles in volume 2 and 3.
- Converted some NATO standards to cover documents and added the relevant standards to the database. Similarly added missing cover documents to existing NATO standards.
- Updated information about the NISP update process in chapter 5 of volume 1.
- Implemented a draft exchange format in ArchiMate.

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## **APPENDIX D. DETAILED CHANGES FROM NISP VERSION 13 (M) TO NISP VERSION 14 (N)**

### **D.1. ADDED STANDARDS**

#### **D.1.1. C3B**

- NATO Architecture Framework (C3B AC/322-N(2018)-0002:2018)

#### **D.1.2. Eclipse**

- Arcadia/Capella (Eclipse Capella 1.4:2020)

#### **D.1.3. IDEF**

- Function Modeling Method (IDEF IDEF0:1993)
- Data Modelling Method (IDEF IDEF1X:1993)

#### **D.1.4. IETF**

- Path MTU Discovery (IETF RFC 1191:1990)
- Address Allocation for Private Internets (IETF RFC 1918:1996)
- The Text/Plain Format and DelSp Parameters (IETF RFC 3676:2004)
- URI Fragment Identifiers for the text/plain Media Type (IETF RFC 5147:2008)

#### **D.1.5. ISO/IEC/IEEE**

- Enterprise, systems and software - Architecture processes (ISO/IEC/IEEE 42020:2019)
- Enterprise, systems and software - Architecture Evaluation (ISO/IEC/IEEE 42030:2019)

#### **D.1.6. MIP**

- MIP Information Model 5.0 (MIP MIM 5.0:2019)

#### **D.1.7. NATO**

- Technical standards for single channel UHF radio equipment (NATO AComP-4205 Ed A Ver 1:2018)
- Standard for optical connector medium-rate and high-rate military tactical link (NATO AComP-4290 Ed A Ver 2:2018)
- Characteristics of a Robust, Non-Hopping Serial Tone Modulator/Demodulator For Severely Degraded HF Radio Links (NATO AComP-4415 Ed A Ver 1:2015)

- Super High Frequency (SHF) Military Satellite Communications (MILSATCOM) Frequency Division Multiple Access (FDMA) Non-EPM Modem for Services Conforming to Class-B Of STANAG 4484 (NATO AComP-4486 Ed A Ver 1:2016)
- Super High Frequency (SHF) Military Satellite Communications (Milsatcom) EPM Waveform For Class B Services (NATO AComP-4606 Ed A Ver 1)
- Multi-hop IP Networking with legacy UHF Radios: Mobile ad hoc relay Line of Sight Networking (MARLIN) (NATO AComP-4691 Ed A Ver 1:2016)
- Interoperability Point Quality of Service (IP QoS) (NATO AComP-4711 Ed A Ver 1:2018)
- VLF / LF MSK Multi Channel Broadcast (NATO AComP-4724 Ed A Ver 1:2015)
- Networking Framework for All-IP Transport Services (NETIP) (NATO AComP-4731 Ed A Ver 1:2017)
- Standard for Interconnection of IPv4 and IPv6 Networks at Mission Secret and Unclassified Security Levels (NATO AComP-5067 Ed A Ver 1)
- Secure Communications Interoperability Protocol (SCIP) (NATO AComP-5068 Ed A Ver 2:2017)
- NATO Routing Indicator Book, NATO Supplement-1 (NATO ACP 117 NS-1(R):2013)
- Policy and Procedures for the Management of IFF/SSR, NATO Supplement-1 (NATO ACP 160 NS-1(G):2019)
- Concept of NATO Message Text Formatting System (CONFORMETS) (NATO ADatP-03 Ed A Ver 1:2010)
- Concept of NATO Message Text Formatting System (CONFORMETS) (NATO ADatP-03 Ed A Ver 3:2019)
- NATO Message Text Formatting System (FORMETS) - Concept of Formets (CONFORMETS) (NATO ADatP-03 Ver 4:2010)
- Services to forward Friendly Force Information to Weapon Delivery Assets (NATO ADatP-37 Ed A Ver 1:2018)
- NATO Core Metadata Specification (NATO ADatP-39 (Study) Ed. A Ver. 1)
- NATO Vector Graphics Specification 2.0.2 (NATO ADatP-4733 Ed A Ver 1:2017)
- Confidentiality Metadata Label Syntax (NATO ADatP-4774 Ed A Ver 1:2017)
- Metadata Binding (NATO ADatP-4778 Ed A Ver 1:2018)
- Web Service Messaging Profile (WSMP) (NATO ADatP-5644 (Study) Ed A Ver 1)
- NATO Secondary Imagery Format (NSIF) STANAG 4545 Implementation Guide (NATO AEDP-04 Ed 2 Ver 1:2013)
- NATO Ground Moving Target Indicator(GMTI) Format (NATO AEDP-07 Ed 2 Ver 1:2010)
- Air Reconnaissance Primary Imagery Data Standard (NATO AEDP-09 Ed 1:2009)
- Imagery Air Reconnaissance Tape Recorder Interface (NATO AEDP-11 Ed 1:2001)
- NATO Intelligence, Surveillance And Reconnaissance Tracking Standard (NATO AEDP-12 Ed A Ver 1:2014)
- Biometrics Data, Interchange, Watchlisting and Reporting (NATO AEDP-15 Ed A Ver 1:2013)
- NATO standardization of measurement and signature intelligence (MASINT) Reporting (NATO AEDP-16)
- NATO Standard ISR Library Interface (NATO AEDP-17 Ed A Ver 1:2018)
- NATO Standard ISR Streaming Services (NATO AEDP-18 Ed A Ver 1:2018)

- NATO Standard ISR Workflow Architecture (NATO AEDP-19 Ed A Ver 1:2018)
- Interoperable Data Links for Imaging Systems (NATO AEDP-7085 Ed A Ver 1:2011)
- Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) (NATO AEP-76 Ed. A Ver. 1:2014)
- Specifications Defining The Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Security (NATO AEP-76 Vol1 Ed A Ver 2:2017)
- Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Data Model (NATO AEP-76 Vol2 Ed A Ver 2:2017)
- Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - LOANED RADIO (NATO AEP-76 III Ed. A Ver. 2:2017)
- Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Information Exchange Mechanism (NATO AEP-76 Vol4 Ed A Ver 2:2017)
- Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Network Access (NATO AEP-76 Vol5 Ed A Ver 2:2017)
- Standard Interfaces Of Unmanned Aircraft (UA) CONTROL System (UCS) for NATO UA Interoperability - Interface Control Document (NATO AEP-84 Vol 1 Ed.A Ver 1:2017)
- Standard Interfaces Of Unmanned Aircraft (Ua) Control System (UCS) for NATO UA Interoperability - Interface Control Document (NATO AEP-84 Vol 2 Ed.A Ver 1:2017)
- NATO Specifications for Global Area Reference System (GARS), Edition A Version 1 Oct 2012:Geodetic Datums, Projections, Grids and Grid References GEOREF, MGRS (NATO AGeoP-07 Ed A Ver 1:2012)
- NATO Geospatial Metadata Profile (NATO AGeoP-08 Ed B Ver 1:2019)
- NATO Geospatial Information Framework (NATO AGeoP-11 Ed B Ver 1:2018)
- Additional Military Layers (AML) - Digital Geospatial Data Products (NATO AGeoP-19 Ed A Ver 1:2015)
- Geodetic Datums, Projections, Grids and Grid References (NATO AGeoP-21 Ed A Ver 1:2016)
- NATO Imagery Interpretability Rating Scale (NIIRS) (NATO AIntP-07 Ed A Ver 1:2018)
- Allied Joint Medical Doctrine For Medical Evacuation (NATO AJMedP-2 Ed A Ver 1:2018)
- Captured Persons, Materiel And Documents (NATO AJP-2.5 Ed A:2007)
- Naval Mine Warfare Information - Data Transfer And Mine Warfare Data Centre Interoperability (NATO AMP-11 SUPP Ed. A Ver. 3:2017)
- Mine Warfare Pilots - Southern North Sea (Belgium) (NATO AMP-11 VOL 01 Ver. 2:2004)
- Mine Warfare Pilots - Denmark (NATO AMP-11 VOL 03 Ver. 2:1980)
- Mine Warfare Pilots - French Coast (The Channel) (NATO AMP-11 VOL 04 LEVEL 1 PT 1:1996)
- Mine Warfare Pilots - French Coast(Atlantic) (NATO AMP-11 VOL 04 LEVEL 1 PT 2:1994)
- Mine Warfare Pilots - French Coast(Mediterranean) (NATO AMP-11 VOL 04 LEVEL 1 PT 3:1998)
- Mine Warfare Pilots - French Coast (NATO AMP-11 VOL 04 LEVEL 2 Ver. 7:1980)
- Mine Warfare Pilots - German Bight (NATO AMP-11 VOL 05 PART 1:1971)
- Mine Warfare Pilots - Western Baltic (NATO AMP-11 VOL 05 PART 2:2006)
- Mine Warfare Pilots - Greece- Aegean Sea Coasts (NATO AMP-11 VOL 06 PART A Ver. 3:1999)

- Mine Warfare Pilots - Maridipart La Spezia (NATO AMP-11 VOL 07 PART A:1994)
- Mine Warfare Pilots - Southern Tyrrhenian Area (NATO AMP-11 VOL 07 PART B:2003)
- Mine Warfare Pilot (From Messina Strait To Assi Estuary Comprehensive Of Sicily Island) - Marisicilia Area (NATO AMP-11 VOL 07 PART C:2005)
- Mine Warfare Pilot - Italy (Taranto Area) (NATO AMP-11 VOL 07 PART D:1999)
- Mine Warfare Pilots - Italy (Maridipart Ancona) (NATO AMP-11 VOL 07 PART E:1996)
- Mine Warfare Pilots - Italy (Sardinia) (NATO AMP-11 VOL 07 PART F:2007)
- Mine Warfare Pilot: North Coast Of Spain - From Bidasoa River To Cape Penas (NATO AMP-11 VOL 08 PART 1 Ver. 1:2000)
- Mine Warfare Pilot: Northwest Coast Of Spain - From Cape Penas To Mino (NATO AMP-11 VOL 08 PART 2 Ver. 1:2000)
- Mine Warfare Pilot: South Coast Of Spain - From Guadiana River To Cape Of Gata (Including Ceuta And Melilla) (NATO AMP-11 VOL 08 PART 3 Ver. 1:1999)
- Mine Warfare Pilot: East Coast Of Spain - From Cape Of Gata To Barcelona (Including Balears Islands) (NATO AMP-11 VOL 08 PART 4 Ver. 1:2004)
- Mine Warfare Pilots - Coasts Of Turkey (NATO AMP-11 VOL 11:2002)
- Mine Warfare Pilots - South Coast Of England And Thames (NATO AMP-11 VOL 12 PART A Ver. 12:2011)
- Mine Warfare Pilots- West Coast Of England And Wales (NATO AMP-11 VOL 12 PART B Ver. 9:2011)
- Mine Warfare Pilots- Northern Ireland And West Coast Of Scotland (NATO AMP-11 VOL 12 PART C Ver. 10:2011)
- Mine Warfare Pilots - North And East Coasts Of Scotland And England (NATO AMP-11 VOL 12 PART D Ver. 11:2011)
- Mine Warfare Pilots - Usa (North Carolina Approaches) (NATO AMP-11 VOL 13 PART 1:2002)
- Mine Warfare Pilots - Usa (Norfolk Approaches) (NATO AMP-11 VOL 13 PART 2:2002)
- Mine Warfare Pilots - Usa (Delaware Bay & Approaches) (NATO AMP-11 VOL 13 PART 3:2002)
- Mine Warfare Pilot; Kings Bay, Ga/Mayport, Fl and Approaches (NATO AMP-11 VOL 13 PART 4:2002)
- Standard on warship Electronic Chart Display and Information Systems (WECDIS) (NATO ANP-4564 Ed A Ver 1:2017)
- NATO Joint Military Symbology (NATO APP-06 Ed D Ver 1:2017)
- Joint Brevity Words (NATO APP-07 Ed F Ver 2:2015)
- NATO Message Catalogue (NATO APP-11 Ed D Ver 1:2015)
- NATO Military Oceanographic and Rapid Environmental Assessment Support Procedures (NATO ATP-32 Ed E Ver 2:2019)
- Tactical Data Exchange - Link 1 (Point-to-Point) (NATO ATDLP-5.01 Ed A Ver 1:2015)
- Tactical Data Exchange - Link 11/11B (NATO ATDLP-5.11 Ed B Ver 1:2019)
- Tactical Data Exchange - Link 16 (NATO ATDLP-5.16 Ed B Ver 1:2019)
- Standard for Joint Range Extension Application Protocol (JREAP) (NATO ATDLP-5.18 Ed A Ver 1:2015)

- Joint Range Extension Application Protocol (JREAP) (NATO ATDLP-5.18 Ed B Ver 1:2016)
- Joint Range Extension Application Protocol (JREAP) (NATO ATDLP-5.18 Ed B Ver 2:2019)
- NATO Qualification Levels for Tactical Data Link Personnel (NATO ATDLP-5.55 Ed A Ver 1:2017)
- Standards for Interface of Data Links 1, 11, and 11B Through a Buffer (NATO ATDLP-6.01 Ed A Ver 1:2016)
- Standard Interface for Multiple Platform Link Evaluation (SIMPLE) (NATO ATDLP-6.02 Ed A Ver 1:2014)
- NATO Land Urgent Voice Messages (LUVM) Pocket Book (NATO ATP-97 Ed A Ver 1:2016)
- NATO Geospatial Metadata Profile - AGeoP-8 Edition B (NATO STANAG 2586 Ed 2:2019)
- NATO Geospatial Information Framework - AGeoP-11(B) Ver. 1 (NATO STANAG 2592 Ed 2:2018)
- Identification Data Combining Process - AIDPP-01 ed. A version 1 (NATO STANAG 4162 Ed 3)
- Technical Characteristics of Reverse IFF using Mode 5 Waveform - AETP-4722 Edition A (NATO STANAG 4722 Ed 1)
- Concept of NATO Message Text Formatting System (CONFORMETS) - ADatP-3 (NATO STANAG 5500 Ed 8:2019)
- NATO Core Metadata Specification - ADatP-39 Edition A (NATO STANAG 5636 (Study) Ed 1)
- Implementation Options and Guidance for integrating IFF Mk XIIA Mode 5 on Military Platforms (IOG) - AETP-11 Ed B (NATO STANREG 5635 Ed 1:2017)
- US Motion Imagery Standards Board (MISB) - Motion Imaginary Standards Profile-2015.1 (NATO NNSTD MISP-2015.1:2016)

### **D.1.8. NATO Study (expected)**

- Geospatial Web Services (NATO Study (expected) AGeoP-26 Ed A Ver 1)
- NATO Message Catalogue (NATO Study (expected) APP-11 Ed E Ver 1)
- Tactical Data Exchange - Link 11/11B (NATO Study (expected) ATDLP-5.11 Ed A Ver 1)
- Standards for Data Forwarding between Tactical Data Systems - Link 16 (NATO Study (expected) ATDLP-5.16 Ed. A Ver. 1)
- Geospatial Web Services (NATO Study (expected) STANAG 6523 Ed 1 (RD))

### **D.1.9. NCIA**

- Profiles for Binding Metadata to a Data Object (NCIA TN-1491 Edition 2:2017)

### **D.1.10. OASIS**

- STIX Core Concepts (OASIS STIX Version 2.0 Part 1:2017)
- STIX Core Concepts (OASIS STIX Version 2.0 Part 2:2017)

- Cyber Observable Core Concepts (OASIS STIX Version 2.0 Part 3:2017)
- Cyber Observable Objects (OASIS STIX Version 2.0 Part 4:2017)
- STIX Patterning (OASIS STIX Version 2.0 Part 5:2017)

### **D.1.11. OGC**

- OpenGIS Symbology Encoding Implementation Specification (OGC 05-077r4:2007)
- GML application schema for the Simple and GML serializations of GeoRSS (OGC 1.1:2006)

### **D.1.12. OMG**

- OMG Systems Modeling Language (OMG SysML) (OMG formal-17-05-01:2017)
- Unified Architecture Framework 1.0 (UAF) Domain Meta Model (DMM) (OMG formal/2017-12-02:2017)
- Unified Architecture Framework 1.0 (UAF) Domain Meta Model (DMM) (OMG formal/2017-12-02 DMM:2017)
- Unified Modeling Language (OMG formal/2017-12-01:2017)

### **D.1.13. Open Group**

- ArchiMate Model Exchange File Format for the ArchiMate Modeling Language 3.1 (Open Group c19c:2019)
- ArchiMate 3.1 Specification (Open Group c197:2019)

### **D.1.14. Opensearch**

- OpenSearch 1.1 Draft 6 (Opensearch opensearch11d6:2005)

### **D.1.15. SEI**

- ATAM: Method for Architecture Evaluation (SEI cmu-sei-2000-tr-004:2000)

### **D.1.16. TM-FORUM**

- TMForum Resource Inventory Management API REST Specification R17.0.1 (TM-FORUM TMF639:2017)

### **D.1.17. TMA**

- Cross.Industry Standard Process for Data Mining (TMA crisp-dm-1.0:2000)

### **D.1.18. US DoD**

- Over-The-Horizon Targeting Gold baseline 2007 (US DoD OTH-T Gold Baseline 2007:2007)



## **D.2. DELETED STANDARDS**

### **D.2.1. CCEB**

- Glossary of C-E Terms (CCEB ACP 167(G))
- Guide to Spectrum Management in Military Operations (CCEB ACP 190(A))
- Instructions for the Preparation of ACPs (CCEB ACP 198(N))
- Maritime Tactical Wide Area Networking (Volume 2) (CCEB ACP 200(C):2010)
- Maritime Tactical Wide Area Networking (MTWAN) in the Maritime Environment - Operating Guidance (CCEB ACP 200 V1(D))
- Multinational Videoconferencing Services (CCEB ACP 220(A):2008)

### **D.2.2. IETF**

- Simple Mail Transfer Protocol (IETF RFC 2821:2001)

### **D.2.3. ISO/IEC/IEEE**

- Enterprise, systems and software - Architecture processes (ISO/IEC/IEEE DIS42020:2017)

### **D.2.4. NATO**

- Address Groups and Call Signs, Instructions and Assignments, NATO Supplement-2 (NATO ACP 100 NS-2(A))
- NATO Routing Indicator Book, NATO Supplement-1 (NATO ACP 117 NS-1(S))
- NATO Routing Indicator Book, NATO Supplement-1 (NATO ACP 117 NS-1(T))
- NATO Subject Indicator System (NASIS), NATO Supplement-2 (NATO ACP 117 NS-2(C))
- Handling of ATOMAL Information Within Classified Communications Centres, NATO Supplement-2 (NATO ACP 122 NS-2(B))
- Policy and Procedures for the Management of IFF/SSR, NATO Supplement-1 (NATO ACP 160 NS-1(F):2014)
- Allied Naval and Maritime Air Communications Instructions, NATO Supplement-1 (NATO ACP 176 NS-1(E))
- ACP 190 (B) Expanding Procedures (NATO ACP 190(B) NATO Supp 1A:2003)
- ACP 190 (B) Classified Frequencies (NATO ACP 190(B) NATO Supp 2:2003)
- NATO guide to Spectrum Management in Military Operations (Classified Supplement) (NATO ACP 190(B) NATO Supp 2C:2011)
- NATO Guide to Spectrum Management in Military Operations, NATO Supplement-2 (NATO ACP 190 NS-2(D))
- NATO Vector Graphics (NVG) 2.0.2 - ADatP-4733 Edition A Ver 1 (NATO ADatP-4733 Ed A Ver 1:2017)
- NATO Geospatial Metadata Profile - AGeoP-8 Edition A (NATO STANAG 2586 Ed 1:2013)
- Super High Frequency (SHF) Military Satellite Communications (SATCOM) Frequency Division Multiple Access (FDMA) Non-EPM (Non-EPM) Modem for Services Conforming to Class-B of Stanag 4484 (NATO STANAG 4486 Ed 3:2015)

- Super High Frequency (SHF) MILSATCOM network management and controls (NATO STANAG 4505 Ed 1:2004)
- NATO Secondary Imagery Format (NSIF) (NATO STANAG 4545 Ed 1:1998)
- STANAG 4545 Edition 1 Amendment 1, NATO Secondary Imagery Format (NSIF) (NATO STANAG 4545 Ed 1 Am 1:2000)
- Standard Interface for Multiple Platform Link Evaluation (SIMPLE) (NATO STANAG 5602 Ed 3:2010)
- Digital Geographic Information Exchange Standard (DIGEST) (NATO STANAG 7074 Ed 2:1998)
- Vector Map (VMap) Level 1 (NATO STANAG 7163 Ed 1:2003)
- Additional Military Layers (AML) - Digital Geospatial Data Products (NATO STANAG 7170 Ed 2:2010)

### **D.2.5. OMG**

- OMG Systems Modeling Language (OMG SysML) (OMG formal-2015-06-03:2015)
- Unified Modeling Language, v2.4.1 (OMG formal/2011-08-05:2011)

### **D.2.6. Open Group**

- ArchiMate Model Exchange File Format for the ArchiMate Modeling Language 3.0 (Open Group c174:2017)

### **D.2.7. Opensearch**

- OpenSearch 1.1 (Opensearch OpenSearch 1.1 Draft 4)

### **D.2.8. W3C**

- Simple Object Access Protocol (SOAP) (W3C NOTE-SOAP-20000508:2000)

## APPENDIX E. PROCESSED RFCS

100. The following RFC have been processed::

| RFC #   | Title   | Origin |
|---------|---|--------|
| 11-001  | Add many Modelling and Simulation standard to NISP  | NMSG   |
| 12-001  | Replace NATO ACP 190 (B) NATO Supp 1A and Supp 2 with STANAG 5641 covering ASP-01 "Spectrum Management in Military Operations" in Track Services. | NHQC3S |
| 12-002  | Add STANAG 5642 covering ASP-02 "Spectrum Management in Military Operations - (SMADEF-XML) " in Track Services.                                   | NHQC3S |
| 13-001  | Implemented as RFC 12-30 - Remove AC/322-D(2006)0066 - Interim NATO Friendly Force Information (FFI) from the BSP                                 | FRA    |
| 13-006d | Replace ATP-45 Ed E V1 / STANAG 2103 v11 with ATP-45 Ed F V2 / STANAG 2203 v12  | DEU    |
| 13-006e | Replace AWP-4 Ed B with AMETOC-4 I Ed. A Ver. 1 and AMETOC-4 II Ed. A Ver. 1  | DEU    |
| 13-006j | Add WMO's Manuals on Codes - International Codes Vol. I.1   | DEU    |
| 13-006k | Add WMO's Manuals on Codes - International Codes Vol. I.2   | DEU    |
| 13-006l | Add Manual on Codes volume 2  | DEU    |
| 13-006m | Add ICAO Meteorological Information Exchange Model  | DEU    |
| 13-006n | Add AMETOC-3.2 Ed A Ver 1 - File Naming Convention for NATO Metoc data and product exchange   | DEU    |
| 13-006o | Update release data of ATP-32   | DEU    |
| 13-006p | Duplicate of 13-006d  | DEU    |
| 13-006q | Duplicate of 13-006e  | DEU    |
| 13-006s | Remove STANAG 4061 Ed 4   | DEU    |
| 13-006t | Delete STANAG 4082 Ed 3   | DEU    |
| 13-006u | Delete STANAG 4103 Ed 4   | DEU    |
| 13-006v | Delete STANAG 4140 Ed 2   | DEU    |
| 13-006w | Delete STANAG 6022 Ed 2   | DEU    |
| 13-006y | Move AGeoP-26 Ed A Ver 1 to Geospatial Services in volume 2   | DEU    |

| <b>RFC #</b> | <b>Title</b>   | <b>Origin</b> |
|--------------|--|---------------|
| 13-006z      | Move STANAG 4294 ed1 and ed2 to Navigational Equipment taxonomy node                                       | DEU           |
| 13-006aa     | Move OGC standards from un-aassigned taxonomy nodes to appropriate geo nodes                               | DEU           |
| 13-006ab     | Describe in volume 1 what latest version of C3 Taxonomy means  | DEU           |
| 13-006ad     | Move Web Coverage (OGC 07-067r5) from Symbology Services to Geospatial Web Coverage Service                | DEU           |
| 13-006ae     | JGS and JGSWG meged into one group MC / MCJSB / JGSWG  | DEU           |
| 13-006af     | Relocating cloud standards (Implemented via RFC 13-007)  | DEU           |
| 13-007a      | Update to 17203:2017   | NCIA/CES      |
| 13-007b      | Move ISO/IEC 17788 to Core Service taxonomy node   | NCIA/CES      |
| 13-007c      | Move ISO/IEC 17789 to Core Service taxonomy node   | NCIA/CES      |
| 13-007d      | Update to ISO/IEC 19944:2017   | NCIA/CES      |
| 13-007e      | Update to ISO/IEC 17826:2016   | NCIA/CES      |
| 13-007f      | Update to ISO/IEC 19941:2017   | NCIA/CES      |
| 13-007g      | Remove ISO/IEC cd17826   | NCIA/CES      |
| 13-007h      | Update ISO/IEC 30102   | NCIA/CES      |
| 13-007i      | Reference ISO/IEC 17963 from multiple taxonomy nodes   | NCIA/CES      |
| 13-007j      | Add ISO/IEC 19099:2014 to Virtualization Management Services (from v4 of the C3 taxonomy)                  | NCIA/CES      |
| 13-008       | Add STANAG 4660 Ed 1 and AEP-77 Ed A Ver 1 Vol 1-3   | CAN           |
| 13-009q      | Change definition of STANAG  | DEU           |
| 13-013       | Add STANAG 4609 Ed 5   | IP CaT        |
| 13-014       | Add NATO standard MISP-2019.1  | IP CaT        |
| 13-015       | Update standard AEDP-06 Ed B Ver 3 to AEDP-06 Ed B Ver 4   | IP CaT        |
| 13-016       | Remove Standard: AAP-44 Ed. A and replace with Standard AAITP-09 Ed. A Ver. 1 covered by STANAG 4329 Ed. 5 | IP CaT        |
| 13-017       | Remove FMN Spiral 1.1 and FMN Spiral 2.0   | IP CaT        |
| 13-018       | Remove Proposed FMN Spiral 4.0   | IP CaT        |
| 13-019       | Add the Final FMN Spiral 4 Specification's standards and profile in NISP Volume 2.                         | IP CaT        |

| <b>RFC #</b> | <b>Title</b>                                     | <b>Origin</b> |
|--------------|--|---------------|
| 13-020       | Remove confusion in the SIOP and SIP definition. | NHQC3S        |

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## APPENDIX F. ARCHIMATE EXCHANGE FORMAT

101. The C3B have tasked IP CaT to improve the consistency and usability of NISP. IP CaT have therefore in "A standard representation and exchange specification for Interoperability Standards and Profiles" ver 0.8 dated Dec 10, 2020 (AC-322-WP(2020)0036) specified a semantic representation of the data set contained in the NISP as an architecture model in the Open Group ArchiMate Modelling Language so that this model can be exchanged via the ArchiMate Model Exchange File Format Standard between tools and/or systems that can import, and export ArchiMate models. ArchiMate Exchange Files enable exporting content from one ArchiMate modelling tool or repository and importing it into another while retaining information describing the model in the file and how it is structured, such as a list of model elements and relationships. Extensions of ArchiMate are specified in accordance with the Language Customization Mechanisms and where possible re-use metadata elements defined by the NATO Core Metadata Specification (NCMS) to limit the definition of NISP specific metadata requirements.

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# **NATO STANDARD**

## **ADatP-34**

### **NATO Interoperability Standards and Profiles**

#### **Volume 2**

#### **Agreed Interoperability Standards and Profiles**

#### **Edition N Version 1**

**26 May 2021**



### **NORTH ATLANTIC TREATY ORGANIZATION ALLIED DATA PUBLICATION**

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## **NATO LETTER OF PROMULGATION**

The enclosed Allied Data Publication ADatP-34, Edition N, Version 1 NATO Interoperability Standards and Profiles, which has been approved by the nations in the C3B, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 5524.

ADatP-34, Edition N, Version 1 is effective on receipt.

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This publication shall be handled in accordance with C-M(2002)60.

Zoltán GULYÁS  
Brigadier General, HUNAF  
Director, NATO Standardization Office

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**RESERVED FOR NATIONAL LETTER OF PROMULGATION**

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## RECORD OF SPECIFIC RESERVATIONS

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Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.

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## CHAPTER 1. INTRODUCTION

001. Volume 2 of the NISP focuses on agreed interoperability standards and profiles.

002. The NISP references Standards from different standardization bodies<sup>1</sup>. In the case of a ratified STANAG, NATO Standardization procedures apply. The NISP only references these STANAG's without displaying the country-specific reservations. The country-specific reservations can be found in the NATO Standardization Office's NATO Standardization Document Database (NSDD).

003. The Combined Communications Electronics Board (CCEB) nations will use NISP Volume 2 Chapter 3 and Section 3.3 tables to publish the interoperability standards for the CCEB under the provisions of the NATO-CCEB List of Understandings (LoU)<sup>2</sup>.

### 1.1. SCOPE

004. The scope of this volume includes:

- Identifying the standards and technologies that are relevant to a service oriented environment,
- Describing the standards and technologies to support federation.

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<sup>1</sup>In case of conflict between any recommended non-NATO standard and relevant NATO standard, the definition of the latter prevails.

<sup>2</sup>References: NATO Letter AC/322(SC/5)L/144 of 18 October 2000, CCEB Letter D/CCEB/WS/1/16 of 9 November 2000, NATO Letter AC/322(SC/5)L/157 of 13 February 2001

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## CHAPTER 2. REFERENCE MODELS: TRANSITION FROM PLATFORM CENTRIC TO SERVICE ORIENTED MODELS

005. Information technology has undergone a fundamental shift from platform-oriented computing to service-oriented computing. Platform-oriented computing emerged with the widespread proliferation of personal computers and the global business environment. These factors and related technologies have created the conditions for the emergence of network-oriented computing. This shift from platform to network is what enables the more flexible and more dynamic network-oriented operation. The shift from viewing NATO and partner Nations as independent to viewing them as part of a continuously adapting network ecosystem fosters a rich information sharing environment.

006. This shift is most obvious in the explosive growth of the Internet, intranets, and extranets. Internet users no doubt will recognize transmission control protocol/internet protocol (TCP/IP), hypertext transfer protocol (HTTP), hypertext markup language (HTML), Web browsers, search engines, and Java<sup>1</sup> Computing. These technologies, combined with high-volume, high-speed data access (enabled by the low-cost laser) and technologies for high-speed data networking (switches and routers) have led to the emergence of network-oriented computing. Information “content” now can be created, distributed, and easily exploited across the extremely heterogeneous global computing environment. The “power” or “payoff” of network-oriented computing comes from information-intensive interactions between very large numbers of heterogeneous computational nodes in the network, where the network becomes the dynamic information grid established by interconnecting participants in a collaborative, coalition environment. At the structural level, network-enabled warfare requires an operational architecture to enable common processes to be shared.

007. One of the major drivers for supporting net-enabled operations is Service-Oriented Architectures (SOA). SOA is an architectural style that leverages heterogeneity, focuses on interfaces between services and as such this approach is inherently platform-neutral. It is focused on the composition of Services into flexible processes and is more concerned with the Service interface and above (including composition metadata, security policy, and dynamic binding information), more so than what sits beneath the abstraction of the Service interface. SOA requires a different kind of platform, because runtime execution has different meanings within SOA. SOA enables users and process architects to compose Services into processes, and then manage and evolve those processes, in a declarative fashion. Runtime execution of such processes is therefore a metadata-centric operation of a different kind of platform -- a Service-oriented composite application platform.

008. Service-enabled operations are characterized by new concepts of speed of command and self-synchronization.

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<sup>1</sup>Registered Trademark of ORACLE and/or its affiliates. Other names may be the trademarks of their respective owners.

009. The most important SOA within an enterprise is the one that links all its systems. Existing platforms can be wrapped or extended in order to participate in a wider SOA environment. NATO use of the NISP will provide a template for new systems development, as well as assist in defining the path for existing systems to migrate towards net-enabled operations.



## CHAPTER 3. STANDARDS

### 3.1. INTRODUCTION

010. The purpose of this chapter is to specify the agreed NISP standards. The document organizes these standards, following baseline 3.1 of NATO's C3 Taxonomy, as endorsed by the NATO C3 Board per AC/322-D(2019)0034-AS1(INV) on "C3 Taxonomy Baseline 3.1" dated 26 August 2019. A graphical representation of this taxonomy is included in volume 1.

011. For some standards it was not clear yet which service identified in the C3 Taxonomy should be used. Therefore, as an interim solution, the taxonomy was extended with e.g. user-defined "Cloud Services". In a separate section, all standards are listed for which could not yet be defined how they should be linked to the C3 Taxonomy.

012. The standards are presented in tabular form. Each table represent a subtree from the C3 taxonomy and each table line (marked in bold and spanning all columns in the table) represents a taxonomy node from the subtree. Under each taxonomy node title, all standards which are mapped to the node are listed with the following attributes: title of the standard; where possible, a link to the standard; publication number of the standard<sup>1</sup>; a list of all the capability profiles where the standard is used; and finally the "responsible party" which is the domain expert that advises NATO about the standard. In general, a taxonomy node is only listed if at least one standard is assigned to this taxonomy node.

013. When STANAG X Ed Y is in ratification process, this is indicated by STANAG (RD) X Ed Y, and when it is a study draft, this is indicated by STANAG (Study) X Ed Y.

#### 3.1.1. Releasability Statement

014. In principle, NISP only contains or references standards or related documents, which are generally available for NATO/NATO member nations/CCEB.

### 3.2. USER APPLICATIONS

| Title  | Pubnum                  | Profiles    | Responsible Party |
|--|-------------------------|-------------|-------------------|
| <b>Service Management Domain Applications</b>                    |                         |             |                   |
| <b>TMF000 Event API REST Specification R17.5<sup>1</sup></b>     | TM-FORUM<br>TMF000:2017 | SIP-FOR-SMC | FMN CPWG          |
| <b>Trouble Ticket REST API Specification R14.5.1 Interface</b>   | TM-FORUM<br>TMF621:2015 | SIP-FOR-SMC | FMN CPWG          |
| <b>Product Ordering API REST Specification R14.5.1 Interface</b> | TM-FORUM<br>TMF622:2015 | SIP-FOR-SMC | FMN CPWG          |

<sup>1</sup>If the standard is a NATO standard and has a cover document, the publication number is followed by a slash and the publication number of the cover document.

| Title  | Pubnum   | Profiles     | Responsible Party |
|--|--|--------------|-------------------|
| TMF638 Service Inventory API REST Specification R16.5  | TM-FORUM<br>TMF638:2016                            | SIP-FOR-SMC  | FMN CPWG          |
| TMF661 Trouble Ticket API Conformance Profile R16.5.1  | TM-FORUM<br>TMF661:2017                            | SIP-FOR-SMC  | FMN CPWG          |
| API REST Conformance Guidelines R15.5.1 Standard   | TM-FORUM<br>TR250:2016                             | SIP-FOR-SMC  | FMN CPWG          |
| <b>Architecture Management Application</b>   |  |              |                   |
| NATO Interoperability Standards and Profile eXchange Specification                                 | C3B AC/322-D(2017)0007-U:2017                      | BSP          | C3B IP iCaT       |
| NATO Architecture Framework  | C3B AC/322-N(2018)-0002:2018                       | ARCHITECTURE | C3B Arch iCaT     |
| Enterprise, systems and software - Architecture processes  | ISO/IEC/IEEE 42020:2019                            | ARCHITECTURE | C3B Arch iCaT     |
| Enterprise, systems and software - Architecture Evaluation   | ISO/IEC/IEEE 42030:2019                            | ARCHITECTURE | C3B Arch iCaT     |
| Unified Architecture Framework 1.0 (UAF) Domain Meta Model (DMM)                                   | OMG formal/2017-12-02:2017                         | ARCHITECTURE | C3B Arch iCaT     |
| Unified Architecture Framework 1.0 (UAF) Domain Meta Model (DMM)                                   | OMG formal/2017-12-02 DMM:2017                     | ARCHITECTURE | C3B Arch iCaT     |
| ArchiMate 3.1 Specification  | Open Group c197:2019                               | ARCHITECTURE | C3B Arch iCaT     |
| ArchiMate Model Exchange File Format for the ArchiMate Modeling Language 3.1                       | Open Group c19c:2019                               | ARCHITECTURE | C3B Arch iCaT     |
| <b>Joint Applications</b>  |  |              |                   |
| IFF Operational Procedures   | CCEB ACP 160(E):2004                               | BSP          | C3B NACP CaT      |
| Policy and Procedures for the Management of IFF/SSR, NATO Supplement-1                             | NATO ACP 160 NS-1(G):2019                          | BSP          | C3B NACP CaT      |
| Implementation Options and Guidance for integrating IFF Mk XIIA Mode 5 on Military Platforms (IOG) | NATO AEtP-11 Ed. B Ver. 1:2017 / STANREG 5635 Ed 1 | BSP          | C3B CaP2 IFF CaT  |
| Technical Characteristics of the IFF Mk XIIA System Part I:  | NATO STANAG 4193 Ed 3 P1:2016                      | BSP          | C3B CaP2          |

| <b>Title</b>  | <b>Pubnum</b>                                    | <b>Profiles</b>                      | <b>Responsible Party</b> |
|---|--|--------------------------------------|--------------------------|
| System Description and General Characteristics  |  |                                      |                          |
| Technical Characteristics of the IFF Mk XIIIA System Part II: Classified System Characteristics                               | NATO STANAG 4193 Ed 3 P2:2016                    | BSP                                  | C3B CaP2                 |
| Technical Characteristics of the IFF Mk XIIIA System Part III: Installed System Characteristics                               | NATO STANAG 4193 Ed 3 P3:2016                    | BSP                                  | C3B CaP2                 |
| <b>Geospatial Applications</b>  |  |                                      |                          |
| NATO Geospatial Information Framework   | NATO AGeoP-11 Ed B Ver 1:2018 / STANAG 2592 Ed 2 | BSP                                  | MC, MCJSB, JGS           |
| <b>Office Automation Applications</b>   |  |                                      |                          |
| XMP Specification Part 3, Storage in Files  | ADOBE XMP-part3-2016:2016                        | BINDING-EXTENSIBLE-V2                | NCIA                     |
| Graphic Technology - Extensible metadata platform (XMP) specification - Part 1: Data model, serialization and core properties | ISO 16684-1:2012                                 | BINDING-EXTENSIBLE-V2                | NCIA                     |
| Open Document Format for Office Applications (OpenDocument) v1.2 -- Part 1: OpenDocument Schema                               | ISO/IEC 26300-1:2015                             | BSP                                  | FMN CPWG                 |
| Open Document Format for Office Applications (OpenDocument) v1.2 -- Part 2: Recalculated Formula (OpenFormula) Format         | ISO/IEC 26300-2:2015                             | BSP                                  | FMN CPWG                 |
| Open Document Format for Office Applications (OpenDocument) v1.2 -- Part 3: Packages  | ISO/IEC 26300-3:2015                             | BSP                                  | FMN CPWG                 |
| Office Open XML File Formats -- Part 2: Open Packaging Conventions  | ISO/IEC 29500-2:2012                             | BINDING-GENERIC-V2, BINDING-OOXML-V2 | NCIA                     |
| Rich Text Format (RTF) Specification, Version 1.9.1   | Microsoft RTF 1.9.1:2008                         | BSP                                  | NCIA/Sstrat/Sea          |

| <b>Title</b>   | <b>Pubnum</b>                                      | <b>Profiles</b>  | <b>Responsible Party</b> |
|--|--|--|--------------------------|
| Confidentiality Metadata Label Syntax                        | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1 | BINDING-EXTENSIBLE-V2, BINDING-GENERIC-V2, BINDING-OXML-V2 | C3B CaP1 DM CaT          |
| Metadata Binding   | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1 | BINDING-EXTENSIBLE-V2, BINDING-GENERIC-V2, BINDING-OXML-V2 | C3B CaP1 DM CaT          |
| RDF 1.1 Concepts and Abstract Syntax                         | W3C REC-rdf11-concepts-20140225:2014               | BINDING-EXTENSIBLE-V2                                      | NCIA/CES                 |
| RDF Primer   | W3C REC-rdf-primer-20040210:2004                   | BINDING-EXTENSIBLE-V2                                      | NCIA                     |
| eXtensible Markup Language (XML) version 1.0 (Fifth Edition) | W3C REC-xml-20081126:2008                          | BINDING-EXTENSIBLE-V2                                      | FMN CPWG                 |
| <b>Browser Application</b>                                   |  |  |                          |
| Geolocation API Specification 2nd Edition                    | W3C REC-geolocation-API-20161108/:2016             | SIP-FOR-WEB-APPS   | FMN CPWG                 |
| HTML5 Differences from HTML4                                 | W3C NOTE-html5-diff:2014                           | SIP-FOR-WEB-APPS   | FMN CPWG                 |
| Hypertext Markup Language revision 5.2 (HTML5)               | W3C REC-html52:2017                                | SIP-FOR-WEB-APPS   | FMN CPWG                 |
| Hypertext Markup Language revision 5.3 Editor's Draft (4.7)  | W3C REC-html53-Draft:2018                          | SIP-FOR-WEB-APPS   | FMN CPWG                 |
| Media Source Extensions                                      | W3C REC-media-source:2016                          | SIP-FOR-WEB-APPS   | FMN CPWG                 |
| Mobile Web Application Best Practices                        | W3C REC-mwabp:2010                                 | SIP-FOR-WEB-APPS   | FMN CPWG                 |
| Web Speech API   | W3C speech-API:2018                                | SIP-FOR-WEB-APPS   | FMN CPWG                 |

| Title                         | Pubnum                  | Profiles         | Responsible Party |
|-------------------------------|-------------------------|------------------|-------------------|
| DOM Parsing and Serialization | W3C WD-DOM-Parsing:2016 | SIP-FOR-WEB-APPS | FMN CPWG          |

<sup>1</sup>TMF000 is included in FMN Spiral 3. An official publication number is not yet available.

### 3.3. TECHNICAL SERVICES

015. The “Technical Services” include those services required to enable “User Applications”. They are part of the “Back-End Capabilities” while “User Applications” are part of “User-Facing Capabilities”.

016. According to the C3 Taxonomy, they consist of “Community Of Interest (COI) Services”, “Core Services” and “Communications Services”. The complete collection of Technical Services is sometimes referred to as the “Technical Services Framework” (TSF) or “NNEC Services Framework” (NSF).

017. In addition to the “Technical Services” identified in the C3 Taxonomy, a taxonomy layer “Cloud Computing” has been added. This enables a more useful categorization of cloud-based standards (currently only included as candidate standards).

#### 3.3.1. Community Of Interest (COI) Services

| Title  | Pubnum   | Profiles | Responsible Party |
|--|--|----------|-------------------|
| <b>Community Of Interest (COI) Services</b>  |  |          |                   |
| Web Services for Management (WS-Management) Specification  | ISO/IEC 17963:2013                                 | BSP      | NCIA/SMC          |
| <b>Air Domain Services</b>   |  |          |                   |
| IFF Operational Procedures   | CCEB ACP 160(E):2004                               | BSP      | C3B NACP CaT      |
| Policy and Procedures for the Management of IFF/SSR, NATO Supplement-1                             | NATO ACP 160 NS-1(G):2019                          | BSP      | C3B NACP CaT      |
| Implementation Options and Guidance for integrating IFF Mk XIIA Mode 5 on Military Platforms (IOG) | NATO AEtP-11 Ed. B Ver. 1:2017 / STANREG 5635 Ed 1 | BSP      | C3B CaP2 IFF CaT  |
| Joint Brevity Words  | NATO APP-07 Ed F Ver 2:2015 / STANAG 1401 Ed 15    | BSP      | MC, MCJSB, IERHWG |
| Technical Characteristics of the IFF Mk XIIA System Part I:  | NATO STANAG 4193 Ed 3 P1:2016                      | BSP      | C3B CaP2          |

| Title   | Pubnum   | Profiles        | Responsible Party   |
|---|--|-----------------|---------------------|
| System Description and General Characteristics  |  |                 |                     |
| Technical Characteristics of the IFF Mk XIIIA System Part II: Classified System Characteristics | NATO STANAG 4193 Ed 3 P2:2016                          | BSP             | C3B CaP2            |
| Technical Characteristics of the IFF Mk XIIIA System Part III: Installed System Characteristics | NATO STANAG 4193 Ed 3 P3:2016                          | BSP             | C3B CaP2            |
| <b>Recognized Air Picture Services</b>  |  |                 |                     |
| Tactical Data Exchange - Link 1 (Point-to-Point)  | NATO ATDLP-5.01 Ed A Ver 2:2020 / STANAG 5501 Ed 7     | BSP             | C3B CaP1<br>TDL CaT |
| Tactical Data Exchange - Link 11/11B  | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP             | C3B CaP1<br>TDL CaT |
| Tactical Data Exchange - Link 16  | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8  | FMN4            | C3B CaP1<br>TDL CaT |
| Joint Range Extension Application Protocol (JREAP) <sup>1</sup>                                 | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4  | BSP, FMN3, FMN4 | C3B CaP1<br>TDL CaT |
| Tactical Data Exchange - Link 16  | NATO STANAG 5516 Ed 4:2008                             | FMN3            | C3B CaP1<br>TDL CaT |
| NATO Improved Link Eleven (NILE) - Link 22  | NATO STANAG 5522 Ed 2:2008                             | BSP             | C3B CaP1<br>TDL CaT |
| <b>Recognized Maritime Picture Services</b>   |  |                 |                     |
| Tactical Data Exchange - Link 11/11B  | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP             | C3B CaP1<br>TDL CaT |
| Tactical Data Exchange - Link 16  | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8  | BSP, FMN4       | C3B CaP1<br>TDL CaT |

| <b>Title</b>   | <b>Pubnum</b>   | <b>Profiles</b> | <b>Responsible Party</b> |
|--|---|-----------------|--------------------------|
| Joint Range Extension Application Protocol (JREAP) <sup>1</sup>                    | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4       | FMN4            | C3B CaP1<br>TDL CaT      |
| NATO Improved Link Eleven (NILE) - Link 22   | NATO STANAG 5522 Ed 2:2008                                  | BSP             | C3B CaP1<br>TDL CaT      |
| NATO Vector Graphics (NVG) Protocol version 1.5:2010 (ACT)                         | NATO TIDE/ NVG:2008   | FMN3            | NCIA/C2                  |
| Operational Specification for OVER-THE-HORIZON TARGETING GOLD (Revision C) (OTH-G) | US DoD OTH-G Rev. C:1997                                    | FMN3, FMN4      | FMN CPWG                 |
| Over-The-Horizon Targeting Gold baseline 2007                                      | US DoD OTH-T Gold Baseline 2007:2007                        | FMN4            | C3B CaP1<br>DM CaT       |
| <b>Recognized Ground Picture Services</b>  |   |                 |                          |
| Tactical Data Exchange - Link 16   | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8       | FMN4            | C3B CaP1<br>TDL CaT      |
| Joint Range Extension Application Protocol (JREAP) <sup>1</sup>                    | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4       | FMN4            | C3B CaP1<br>TDL CaT      |
| <b>Meteorology Services</b>  |   |                 |                          |
| Manual on the ICAO Meteorological Information Exchange Model                       | ICAO 10003:2019   | BSP             | MC,<br>MCJSB,<br>METOC   |
| File Naming Convention for NATO Metoc data and product exchange                    | NATO AMETOC-3.2 Ed A Ver 1:2019 / STANAG 6014 Ed 4          | BSP             | MC,<br>MCJSB,<br>METOC   |
| NATO Meteorological and Oceanographic Codes Manual - Vol 1                         | NATO AMETOC-4 I Ed. A Ver. 1:2019 / STANAG 6015 Ed. 5       | BSP             | MC,<br>MCJSB,<br>METOC   |
| NATO Meteorological and Oceanographic Codes Manual - Vol 2                         | NATO AMETOC-4 II (NR) Ed. A Ver. 1:2019 / STANAG 6015 Ed. 5 | BSP             | MC,<br>MCJSB,<br>METOC   |



| <b>Title</b>   | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b> |
|--|--|-----------------|--------------------------|
| Naval Mine Warfare Information - Data Transfer And Mine Warfare Data Centre Interoperability | NATO AMP-11 SUPP Ed. A Ver. 3:2017 / STANAG 1116 Ed 10     | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Southern North Sea (Belgium)   | NATO AMP-11 VOL 01 Ver. 2:2004 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Denmark  | NATO AMP-11 VOL 03 Ver. 2:1980 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - French Coast (The Channel)   | NATO AMP-11 VOL 04 LEVEL 1 PT 1:1996 / STANAG 1116 Ed 10   | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - French Coast(Atlantic)   | NATO AMP-11 VOL 04 LEVEL 1 PT 2:1994 / STANAG 1116 Ed 10   | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - French Coast(Mediterranean)  | NATO AMP-11 VOL 04 LEVEL 1 PT 3:1998 / STANAG 1116 Ed 10   | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - French Coast   | NATO AMP-11 VOL 04 LEVEL 2 Ver. 7:1980 / STANAG 1116 Ed 10 | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - German Bight   | NATO AMP-11 VOL 05 PART 1:1971 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Western Baltic   | NATO AMP-11 VOL 05 PART 2:2006 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Greece-Aegean Sea Coasts   | NATO AMP-11 VOL 06 PART A Ver. 3:1999 / STANAG 1116 Ed 10  | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Maridipart La Spezia   | NATO AMP-11 VOL 07 PART A:1994 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |



| <b>Title</b>   | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b> |
|--|--|-----------------|--------------------------|
| Mine Warfare Pilots - Southern Tyrrhenian Area   | NATO AMP-11 VOL 07 PART B:2003 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilot (From Messina Strait To Assi Estuary Comprehensive Of Sicily Island) - Marisicilia Area   | NATO AMP-11 VOL 07 PART C:2005 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilot - Italy (Taranto Area)  | NATO AMP-11 VOL 07 PART D:1999 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Italy (Maridipart Ancona)  | NATO AMP-11 VOL 07 PART E:1996 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Italy (Sardinia)   | NATO AMP-11 VOL 07 PART F:2007 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilot: North Coast Of Spain - From Bidasoa River To Cape Penas                                  | NATO AMP-11 VOL 08 PART 1 Ver. 1:2000 / STANAG 1116 Ed 10  | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilot: Northwest Coast Of Spain - From Cape Penas To Mino                                       | NATO AMP-11 VOL 08 PART 2 Ver. 1:2000 / STANAG 1116 Ed 10  | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilot: South Coast Of Spain - From Guadiana River To Cape Of Gata (Including Ceuta And Melilla) | NATO AMP-11 VOL 08 PART 3 Ver. 1:1999 / STANAG 1116 Ed 10  | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilot: East Coast Of Spain - From Cape Of Gata To Barcelona (Including Balears Islands)         | NATO AMP-11 VOL 08 PART 4 Ver. 1:2004 / STANAG 1116 Ed 10  | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Coasts Of Turkey   | NATO AMP-11 VOL 11:2002 / STANAG 1116 Ed 10                | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - South Coast Of England And Thames  | NATO AMP-11 VOL 12 PART A Ver. 12:2011 / STANAG 1116 Ed 10 | BSP             | MC, MCMSB, NMW           |

| <b>Title</b>   | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b> |
|--|--|-----------------|--------------------------|
| Mine Warfare Pilots- West Coast Of England And Wales   | NATO AMP-11 VOL 12 PART B Ver. 9:2011 / STANAG 1116 Ed 10  | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots- Northern Ireland And West Coast Of Scotland   | NATO AMP-11 VOL 12 PART C Ver. 10:2011 / STANAG 1116 Ed 10 | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - North And East Coasts Of Scotland And England  | NATO AMP-11 VOL 12 PART D Ver. 11:2011 / STANAG 1116 Ed 10 | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Usa (North Carolina Approaches)  | NATO AMP-11 VOL 13 PART 1:2002 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Usa (Norfolk Approaches)   | NATO AMP-11 VOL 13 PART 2:2002 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilots - Usa (Delaware Bay & Approaches)  | NATO AMP-11 VOL 13 PART 3:2002 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| Mine Warfare Pilot; Kings Bay, Ga/ Mayport, Fl and Approaches  | NATO AMP-11 VOL 13 PART 4:2002 / STANAG 1116 Ed 10         | BSP             | MC, MCMSB, NMW           |
| NATO Military Oceanographic and Rapid Environmental Assessment Support Procedures  | NATO ATP-32 Ed E Ver 2:2019 / STANAG 1171 Ed 10            | BSP             | MC, MCJSB, METOC         |
| Warning and Reporting and Hazard Prediction of Chemical, Biological, Radiological and Nuclear Incidents (Operators Manual)           | NATO ATP-45 Ed F Ver 2:2020 / STANAG 2103 Ed 12            | BSP             | MC, MCJSB, JCBRND CDG    |
| Manual on Codes - International Codes, Volume I.1, Annex II to the WMO Technical Regulations: part A- Alphanumeric Codes             | WMO 306 Vol I.1:2019                                       | BSP             | MC, MCJSB, METOC         |
| Manual on Codes - International Codes, Volume I.2, Annex II to the WMO Technical Regulations: Part B – Binary Codes, Part C – Common | WMO 306 Vol I.2:2019                                       | BSP             | MC, MCJSB, METOC         |

| <b>Title</b>   | <b>Pubnum</b>   | <b>Profiles</b> | <b>Responsible Party</b>           |
|--|---|-----------------|------------------------------------|
| Features to Binary and Alphanumeric Codes  |   |                 |                                    |
| Manual on Codes - Regional Codes and National Coding Practices, Volume II                                    | WMO 306 Vol 2:2018  | BSP             | MC,<br>MCJSB,<br>METOC             |
| <b>COI-Enabling Services</b>   |   |                 |                                    |
| ECMAScript Language Specification ed.5.1:2011  | ECMA<br>ECMA-262:2011                                       | BSP             | FMN CPWG                           |
| ECMAScript for XML (E4X) Specification ed.2:2005   | ECMA<br>ECMA-357:2005                                       | BSP             | NCIA/CES                           |
| Representation of Dates and Times  | ISO 8601:2004   | BSP             | NCIA/Sstrat/<br>Sea                |
| MIP Information Model 5.0  | MIP MIM 5.0:2019  | BSP             | C3B CaP1<br>DM CaT                 |
| NATO Standard Bar Code Handbook  | NATO AAITP-09 Ed.<br>A Ver. 1:2018 /<br>STANAG 4329 Ed 5    | BSP             | MC,<br>MCLSB,<br>AST               |
| Date and Time Formats  | W3C NOTE-<br>datetime:1998                                  | BSP             | NCIA/Sstrat/<br>Sea                |
| <b>Situational Awareness Services</b>  |   |                 |                                    |
| MIP4 Information Exchange Specification 4.3  | MIP MIP4-IES-<br>CoreSpec-4.3                               | FMN4            | FMN CPWG                           |
| Web Service Messaging Profile (WSMP)   | NATO ADatP-5644<br>(Study) Ed A Ver 1 /<br>STANAG 5644 Ed 1 | FMN4            | C3B CaP1<br>DM CaT                 |
| Specifications Defining The Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Security     | NATO AEP-76 Vol1<br>Ed A Ver 2:2017 /<br>STANAG 4677 Ed 1   | FMN4            | CNAD,<br>AC/225<br>NAAG,<br>LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Data Model   | NATO AEP-76 Vol2<br>Ed A Ver 2:2017 /<br>STANAG 4677 Ed 1   | FMN4            | CNAD,<br>AC/225<br>NAAG,<br>LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - LOANED RADIO | NATO AEP-76 III<br>Ed. A Ver. 2:2017 /<br>STANAG 4677 Ed 1  | FMN4            | FMN CPWG                           |

| Title  | Pubnum   | Profiles        | Responsible Party         |
|--|--|-----------------|---------------------------|
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Information Exchange Mechanism | NATO AEP-76 Vol4 Ed A Ver 2:2017 / STANAG 4677 Ed 1    | FMN4            | CNAD, AC/225 NAAG, LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Network Access                 | NATO AEP-76 Vol5 Ed A Ver 2:2017 / STANAG 4677 Ed 1    | FMN4            | CNAD, AC/225 NAAG, LCGDSS |
| Tactical Data Exchange - Link 1 (Point-to-Point)   | NATO ATDLP-5.01 Ed A Ver 2:2020 / STANAG 5501 Ed 7     | BSP             | C3B CaP1 TDL CaT          |
| Tactical Data Exchange - Link 11/11B   | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP             | C3B CaP1 TDL CaT          |
| Tactical Data Exchange - Link 16   | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8  | FMN4            | C3B CaP1 TDL CaT          |
| Joint Range Extension Application Protocol (JREAP) <sup>1</sup>  | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4  | BSP, FMN3, FMN4 | C3B CaP1 TDL CaT          |
| Tactical Data Exchange - Link 16   | NATO STANAG 5516 Ed 4:2008                             | FMN3            | C3B CaP1 TDL CaT          |
| NATO Improved Link Eleven (NILE) - Link 22   | NATO STANAG 5522 Ed 2:2008                             | BSP             | C3B CaP1 TDL CaT          |
| Joint C3 Information Exchange Data Model (JC3IEDM)   | NATO STANAG 5525 Ed 1:2007                             | BSP             | C3B CaP1 DM CaT           |
| <b>Symbology Services</b>  |  |                 |                           |
| NATO Vector Graphics (NVG)   | ACT NVG 2.0.2:2015                                     | FMN4            | FMN CPWG                  |
| Portable Network Graphics (PNG) Specification, v. 1.0  | IETF RFC 2083:1997                                     | BSP             | NCIA/CES                  |
| NATO Joint Military Symbology  | NATO APP-06 Ed D Ver 1:2017 / STANAG 2019 Ed 7         | FMN3, FMN4      | MC, MCJSB, IERHWG         |
| Military Telecommunications-Diagram Symbols  | NATO STANAG 5042 Ed 1:1978                             | BSP             | C3B CaP1                  |

| <b>Title</b>   | <b>Pubnum</b>   | <b>Profiles</b> | <b>Responsible Party</b>           |
|--|---|-----------------|------------------------------------|
| NATO Vector Graphics (NVG) Protocol version 1.5:2010 (ACT)   | NATO TIDE/<br>NVG:2008  | FMN3            | NCIA/C2                            |
| Web Feature Service Implementation Specification   | OGC 04-094:2005   | BSP             | NCIA/Sstrat/<br>Sea                |
| OpenGIS Symbology Encoding Implementation Specification  | OGC 05-077r4:2007   | BSP             | MC,<br>MCJSB, JGS                  |
| OGC KML  | OGC 07-147r2:2008   | FMN4            | FMN CPWG                           |
| <b>Tasking and Order Services</b>  |   |                 |                                    |
| Joint C3 Information Exchange Data Model (JC3IEDM)   | NATO STANAG<br>5525 Ed 1:2007   | BSP             | C3B CaP1<br>DM CaT                 |
| <b>Battlespace Event Services</b>  |   |                 |                                    |
| NATO Message Catalogue   | NATO APP-11 Ed<br>D Ver 1:2015 /<br>STANAG 7149 Ed 6                                | FMN4            | MC,<br>MCJSB,<br>IERHWG            |
| NATO Message Catalogue <sup>2</sup>  | NATO Study<br>(expected) APP-11 Ed<br>D Ver 2:2017 /<br>STANAG 7149 Ed 6<br>(study) | FMN3            | MC,<br>MCJSB,<br>IERHWG            |
| <b>Battlespace Object Services</b>   |   |                 |                                    |
| MIP4 Information Exchange Specification 4.3  | MIP MIP4-IES-<br>CoreSpec-4.3   | FMN4            | FMN CPWG                           |
| Web Service Messaging Profile (WSMP)   | NATO ADatP-5644<br>(Study) Ed A Ver 1 /<br>STANAG 5644 Ed 1                         | FMN4            | C3B CaP1<br>DM CaT                 |
| Specifications Defining The Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Security     | NATO AEP-76 Vol1<br>Ed A Ver 2:2017 /<br>STANAG 4677 Ed 1                           | FMN4            | CNAD,<br>AC/225<br>NAAG,<br>LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Data Model   | NATO AEP-76 Vol2<br>Ed A Ver 2:2017 /<br>STANAG 4677 Ed 1                           | FMN4            | CNAD,<br>AC/225<br>NAAG,<br>LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - LOANED RADIO | NATO AEP-76 III<br>Ed. A Ver. 2:2017 /<br>STANAG 4677 Ed 1                          | FMN4            | FMN CPWG                           |

| Title  | Pubnum  | Profiles   | Responsible Party         |
|--|---|------------|---------------------------|
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Information Exchange Mechanism | NATO AEP-76 Vol4 Ed A Ver 2:2017 / STANAG 4677 Ed 1 | FMN4       | CNAD, AC/225 NAAG, LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Network Access                 | NATO AEP-76 Vol5 Ed A Ver 2:2017 / STANAG 4677 Ed 1 | FMN4       | CNAD, AC/225 NAAG, LCGDSS |
| Joint C3 Information Exchange Data Model (JC3IEDM)   | NATO STANAG 5525 Ed 1:2007                          | FMN3       | C3B CaP1 DM CaT           |
| <b>Track Management Services</b>   |   |            |                           |
| Guide to Electromagnetic Spectrum Management in military Operations  | CCEB ACP 190(D):2013                                | BSP        | C3B NACP CaT              |
| Carrier Sense Multiple Access/ Collision Detect (CSMA/CD)  | ISO/IEC 8802-3:2000                                 | BSP        | NCIA/NSII                 |
| NATO Friendly Force Information (FFI) Standard for Interoperability of Friendly Force Tracking Systems (FFTS)                  | NATO ADatP-36 Ed A Ver 1:2017 / STANAG 5527 Ed 1    | FMN3, FMN4 | C3B CaP2 FFT CaT          |
| Services to forward Friendly Force Information to Weapon Delivery Assets   | NATO ADatP-37 Ed A Ver 1:2018 / STANAG 5528 Ed 1    | FMN4       | C3B CaP2                  |
| NATO Message Catalogue   | NATO APP-11 Ed D Ver 1:2015 / STANAG 7149 Ed 6      | FMN3, FMN4 | MC, MCJSB, IERHWG         |
| Spectrum Management in Military Operations   | NATO ASP-01 Ed A Ver 2:2020 / STANAG 5641 Ed 1      | BSP        | C3B CaP3                  |
| Spectrum Management Allied Data Exchange Format - Extensible Markup Language (SMADEF-XML)                                      | NATO ASP-02 Ed A Ver 2:2020 / STANAG 5642 Ed 1      | BSP        | C3B CaP3                  |
| Tactical Data Exchange - Link 1 (Point-to-Point)   | NATO ATDLP-5.01 Ed A Ver 2:2020 / STANAG 5501 Ed 7  | BSP        | C3B CaP1 TDL CaT          |
| Tactical Data Exchange - Link 11/11B   | NATO ATDLP-5.11 Ed B Ver 1:2019 /                   | BSP        | C3B CaP1 TDL CaT          |

| Title   | Pubnum  | Profiles                              | Responsible Party                  |
|---|---|---------------------------------------|------------------------------------|
|   | STANAG FT 5511 Ed 10                                  |                                       |                                    |
| Tactical Data Exchange - Link 16  | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8 | FMN4                                  | C3B CaP1<br>TDL CaT                |
| Joint Range Extension Application Protocol (JREAP) <sup>1</sup>   | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4 | FMN3, FMN4                            | C3B CaP1<br>TDL CaT                |
| Identification Data Combining Process   | NATO STANAG 4162 Ed 2:2009                            | BSP                                   | C3B CaP2                           |
| Battlefield Target Identification Device (BTIDs)  | NATO STANAG 4579 Ed 1:2001                            | BSP                                   | C3B CaP2                           |
| Tactical Data Exchange - Link 16  | NATO STANAG 5516 Ed 4:2008                            | FMN3, SIP-RECOGNIZED-AIR-PICTURE-DATA | C3B CaP1<br>TDL CaT                |
| NATO Improved Link Eleven (NILE) - Link 22  | NATO STANAG 5522 Ed 2:2008                            | BSP                                   | C3B CaP1<br>TDL CaT                |
| <b>Track Distribution Services</b>  |   |                                       |                                    |
| NATO Friendly Force Information (FFI) Standard for Interoperability of Friendly Force Tracking Systems (FFTS) | NATO ADatP-36 Ed A Ver 1:2017 / STANAG 5527 Ed 1      | FMN4                                  | C3B CaP2<br>FFT CaT                |
| Services to forward Friendly Force Information to Weapon Delivery Assets                                      | NATO ADatP-37 Ed A Ver 1:2018 / STANAG 5528 Ed 1      | FMN4                                  | C3B CaP2                           |
| Specifications Defining The Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Security      | NATO AEP-76 Vol1 Ed A Ver 2:2017 / STANAG 4677 Ed 1   | FMN4                                  | CNAD,<br>AC/225<br>NAAG,<br>LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Data Model    | NATO AEP-76 Vol2 Ed A Ver 2:2017 / STANAG 4677 Ed 1   | FMN4                                  | CNAD,<br>AC/225<br>NAAG,<br>LCGDSS |



| Title  | Pubnum   | Profiles | Responsible Party         |
|--|--|----------|---------------------------|
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - LOANED RADIO                   | NATO AEP-76 III Ed. A Ver. 2:2017 / STANAG 4677 Ed 1 | FMN4     | FMN CPWG                  |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Information Exchange Mechanism | NATO AEP-76 Vol4 Ed A Ver 2:2017 / STANAG 4677 Ed 1  | FMN4     | CNAD, AC/225 NAAG, LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Network Access                 | NATO AEP-76 Vol5 Ed A Ver 2:2017 / STANAG 4677 Ed 1  | FMN4     | CNAD, AC/225 NAAG, LCGDSS |
| NATO Message Catalogue   | NATO APP-11 Ed D Ver 1:2015 / STANAG 7149 Ed 6       | FMN4     | MC, MCJSB, IERHWG         |
| <b>Modeling and Simulation Services</b>  |  |          |                           |
| Modeling and Simulation (M&S) High Level Architecture (HLA)  | IEEE P1516:2000                                      | BSP      | NCIA/E&T                  |
| SEDRIS functional specification  | ISO/IEC FCD 18023-1:2006                             | BSP      | NCIA/JISR                 |
| Common Object Request Broker Architecture (CORBA):2009   | OMG formal/2002-12-06:2002                           | BSP      | NCIA/JISR                 |
| Standard for Command and Control Systems - Simulation Systems Interoperation   | SISO C2SIM:2020                                      | BSP      |                           |
| Distributed Simulation Engineering and Execution Process   | SISO DSEEP:2011                                      | BSP      |                           |
| Enumerations for Distributed Simulation  | SISO Enum:2020                                       | BSP      |                           |
| High Level Architecture  | SISO HLA:2010  | BSP      |                           |

<sup>1</sup>The SIP for Recognized Air Picture Data refers to ATDLP-5.18 Ed B Version 1 instead of ATDLP-5.18 Ed B Version 2

<sup>2</sup>STANAG 7149 Ed 6/APP-11 (Study) Edition D Ver 2 should be noted as an emerging standard that will extend the message formats in APP-11(D)(1) with new Urgent Operational Requirements.

### 3.3.2. Core Services

| Title                | Pubnum | Profiles | Responsible Party |
|----------------------|--------|----------|-------------------|
| <b>Core Services</b> |        |          |                   |



| <b>Title</b>  | <b>Pubnum</b>                                  | <b>Profiles</b> | <b>Responsible Party</b> |
|---|--|-----------------|--------------------------|
| Identification cards - Contactless integrated circuit(s) cards - Proximity cards        | ISO/IEC 14443:2008                             | BSP             | C3B NPMA                 |
| Security Techniques - Evaluation criteria for IT security:2009                          | ISO/IEC 15408:2005                             | BSP             | C3B CaP4                 |
| Information technology - Cloud computing - Overview and vocabulary                      | ISO/IEC 17788:2014                             | BSP             | NCIA/CES                 |
| Information technology - Cloud computing - Reference architecture                       | ISO/IEC 17789:2014                             | BSP             | NCIA/CES                 |
| Web Services for Management (WS-Management) Specification                               | ISO/IEC 17963:2013                             | BSP             | NCIA/SMC                 |
| <b>Business Support CIS Security Services</b>   |  |                 |                          |
| Machine readable travel documents - Part 1: Machine readable passport                   | ISO/IEC 7501-1:2008                            | BSP             | NCIA/Sstrat/Sea          |
| NATO Public Key Infrastructure (NPKI) Certificate Policy (CertP) Rev2.                  | NATO AC/322-D(2004)0024REV2:2008               | BSP             | C3B NPMA                 |
| SAML Token Profile 1.1  | OASIS wss-v1.1-errata-os-SAMLTOKENProfile:2006 | BSP             | C3B CaP4                 |
| WSS XML Schema  | OASIS wssutil:2001                             | BSP             | NCIA/CS                  |
| WS-Trust 1.4  | OASIS wstrust-1.4:2012                         | BSP             | NCIA/CS                  |
| Basic Security Profile Version 1.1  | WS-I BasicSecurityProfile-1.1-2010-01-24.html  | BSP             | C3B CaP4:2010            |
| <b>Business Support Guard Services</b>  |  |                 |                          |
| Interim Implementation Guide for ACP 123/STANAG 4406 Messaging Services Between Nations | CCEB ACP 145(A):2008                           | BSP             | C3B NACP CaT             |
| <b>Communication and Collaboration Services</b>   |  |                 |                          |
| Session Initiation Protocol   | IETF RFC 3261:2002                             | BSP             | FMN CPWG                 |
| Document management -- Portable document format -- Part 1: PDF 1.7                      | ISO 32000-1:2008                               | BSP             | FMN CPWG                 |
| HyperText Markup Language (HTML)  | ISO/IEC 15445:2000                             | BSP             | FMN CPWG                 |

| <b>Title</b>   | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b> |
|--|--|-----------------|--------------------------|
| Open Document Format (ODF) for Office Applications (OpenDocument) v1.0 | ISO/IEC 26300:2006                                     | BSP             | FMN CPWG                 |
| Gateway Control Protocol (MGCP) v3                                     | ITU-T H.248.1:2013                                     | BSP             | NCIA/NSII                |
| Circuit-based Multimedia Comms. System                                 | ITU-T H.320:2004                                       | BSP             | NCIA/NSII                |
| Advanced Distributed Learning (ADL)                                    | NATO STANAG 2591 Ed 1:2013                             | BSP             | MC, MCJSB, NTG           |
| XEP-0004: Data Forms   | XMPP XEP-0004:2007                                     | BSP             | FMN CPWG                 |
| XEP-0030: Service Discovery  | XMPP XEP-0030:2008                                     | BSP             | FMN CPWG                 |
| <b>Informal Messaging Services</b>                                     |  |                 |                          |
| SIP for Binding Metadata to Informal Messages                          | FMN SIP for Binding Metadata to Informal Messages:2021 | FMN4            | FMN CPWG                 |
| Hypertext Markup Language - 2.0  | IETF RFC 1866:1995                                     | FMN3            | FMN CPWG                 |
| SMTP Service Extension for Message Size Declaration                    | IETF RFC 1870:1995                                     | FMN3, FMN4      | FMN CPWG                 |
| The text/enriched MIME Content-type                                    | IETF RFC 1896:1996                                     | FMN3, FMN4      | FMN CPWG                 |
| Post Office Protocol - Version 3                                       | IETF RFC 1939:1996                                     | BSP             | NCIA/CES                 |
| SMTP Service Extension for Returning Enhanced Error Codes              | IETF RFC 2034:1996                                     | FMN3, FMN4      | FMN CPWG                 |
| MIME - Part 1: Format of Internet Message Bodies                       | IETF RFC 2045:1996                                     | FMN3, FMN4      | FMN CPWG                 |
| MIME - Part 2: Media Types   | IETF RFC 2046:1996                                     | FMN3, FMN4      | FMN CPWG                 |
| MIME - Part 3: Message Header Extensions for Non-ASCII Text            | IETF RFC 2047:1996                                     | FMN3, FMN4      | FMN CPWG                 |
| MIME - Part 5: Conformance Criteria and Examples                       | IETF RFC 2049:1996                                     | FMN3, FMN4      | FMN CPWG                 |
| MIME Parameter Value and Encoded Word Extensions:                      | IETF RFC 2231:1997                                     | BINDING-SMTP-V2 | NCIA                     |

| <b>Title</b>   | <b>Pubnum</b>      | <b>Profiles</b> | <b>Responsible Party</b> |
|--|--------------------|-----------------|--------------------------|
| Character Sets, Languages, and Continuations                                       |                    |                 |                          |
| The TLS Protocol Version 1.0   | IETF RFC 2246:1999 | SIP-FOR-TLS     | FMN CPWG                 |
| Content-ID and Message-ID Uniform Resource Locators                                | IETF RFC 2392:1998 | BINDING-SMTP-V2 | NCIA/CES                 |
| SMTP Service Extension for Command Pipelining                                      | IETF RFC 2920:2000 | FMN3, FMN4      | FMN CPWG                 |
| SMTP Service Extension for Secure SMTP over TLS                                    | IETF RFC 3207:2002 | FMN3, FMN4      | FMN CPWG                 |
| SMTP Service Extension for Delivery Status Notifications                           | IETF RFC 3461:2003 | FMN3, FMN4      | FMN CPWG                 |
| Internet Message Access Protocol Version 4, revision 1                             | IETF RFC 3501:2003 | BSP             | NCIA/CES                 |
| UTF-8, a transformation format of ISO/IEC 10646                                    | IETF RFC 3629:2003 | FMN3, FMN4      | FMN CPWG                 |
| The Text/Plain Format and DelSp Parameters   | IETF RFC 3676:2004 | FMN4            | FMN CPWG                 |
| Transport Layer Security Protocol Compression Methods                              | IETF RFC 3749:2004 | SIP-FOR-TLS     | FMN CPWG                 |
| Media Type Specifications and Registration Procedures                              | IETF RFC 4288:2005 | FMN3            | FMN CPWG                 |
| The Transport Layer Security (TLS) Protocol Version 1.1                            | IETF RFC 4346:2006 | SIP-FOR-TLS     | FMN CPWG                 |
| Elliptic Curve Cryptography (ECC) Cipher Suites for Transport Layer Security (TLS) | IETF RFC 4492:2006 | SIP-FOR-TLS     | FMN CPWG                 |
| SMTP Service Extension for Authentication  | IETF RFC 4954:2007 | FMN3, FMN4      | FMN CPWG                 |
| URI Fragment Identifiers for the text/plain Media Type                             | IETF RFC 5147:2008 | FMN4            | FMN CPWG                 |
| Transport Layer Security (TLS)   | IETF RFC 5246:2008 | SIP-FOR-TLS     | C3B CaP4                 |
| Internet X.509 Public Key Infrastructure Certificate and CRL Profile               | IETF RFC 5280:2008 | SIP-FOR-TLS     | FMN CPWG                 |
| Simple Mail Transfer Protocol  | IETF RFC 5321:2008 | FMN3, FMN4      | FMN CPWG                 |

| <b>Title</b>  | <b>Pubnum</b>      | <b>Profiles</b>       | <b>Responsible Party</b> |
|---|--------------------|-----------------------|--------------------------|
| Internet Message Format   | IETF RFC 5322:2008 | BINDING-SMTP-V2, FMN4 | NCIA                     |
| Internet Calendaring and Scheduling Core Object Specification (iCalendar)   | IETF RFC 5545:2009 | FMN4                  | FMN CPWG                 |
| Extensible Provisioning Protocol (EPP) Domain Name Mapping  | IETF RFC 5731:2009 | BINDING-SMTP-V2       | NCIA                     |
| Transport Layer Security (TLS) Renegotiation Indication Extension   | IETF RFC 5746:2010 | SIP-FOR-TLS           | FMN CPWG                 |
| Transport Layer Security (TLS) Extensions: Extension Definitions  | IETF RFC 6066:2011 | SIP-FOR-TLS           | FMN CPWG                 |
| The Secure Sockets Layer (SSL) Protocol Version 3.0   | IETF RFC 6101:2011 | SIP-FOR-TLS           | FMN CPWG                 |
| Representation and Verification of Domain-Based Application Service Identity within Internet Public Key Infrastructure Using X.509 (PKIX) Certificates in the Context of Transport Layer Security (TLS) | IETF RFC 6125:2011 | SIP-FOR-TLS           | FMN CPWG                 |
| SMTP Service Extension for 8-bit MIME Transport   | IETF RFC 6152:2011 | FMN3, FMN4            | FMN CPWG                 |
| Prohibiting Secure Sockets Layer (SSL) Version 2.0  | IETF RFC 6176:2011 | SIP-FOR-TLS           | FMN CPWG                 |
| Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS) Heartbeat Extension   | IETF RFC 6520:2012 | SIP-FOR-TLS           | FMN CPWG                 |
| Update to Internet Message Format to Allow Group Syntax in the From: and Sender: Header Fields  | IETF RFC 6854:2013 | BSP                   | NCIA/CES                 |
| X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP  | IETF RFC 6960:2013 | SIP-FOR-TLS           | FMN CPWG                 |
| The Transport Layer Security (TLS) Multiple Certificate Status Request Extension  | IETF RFC 6961:2013 | SIP-FOR-TLS           | FMN CPWG                 |

| <b>Title</b>  | <b>Pubnum</b>        | <b>Profiles</b> | <b>Responsible Party</b> |
|---|----------------------|-----------------|--------------------------|
| Encrypt-then-MAC for Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)              | IETF RFC 7366:2014   | SIP-FOR-TLS     | FMN CPWG                 |
| Security Labels in Internet Email   | IETF RFC 7444:2015   | BINDING-SMTP-V2 | NCIA                     |
| Recommendations for Secure Use of Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS) | IETF RFC 7525:2015   | SIP-FOR-TLS     | FMN CPWG                 |
| Deprecating Secure Sockets Layer Version 3.0  | IETF RFC 7568:2015   | SIP-FOR-TLS     | FMN CPWG                 |
| Transport Layer Security (TLS) Session Hash and Extended Master Secret Extension                              | IETF RFC 7627:2015   | SIP-FOR-TLS     | FMN CPWG                 |
| Negotiated Finite Field Diffie-Hellman Ephemeral Parameters for Transport Layer Security (TLS)                | IETF RFC 7919:2016   | SIP-FOR-TLS     | FMN CPWG                 |
| Transmission Control Protocol   | IETF RFC 793:1981    | SIP-FOR-TLS     | FMN CPWG                 |
| The SSL Protocol  | IETF RFC SSL2:1995   | SIP-FOR-TLS     | FMN CPWG                 |
| Electronic document file format for long-term preservation -- Part 1: Use of PDF 1.4 (PDF/A-1)                | ISO 19005-1:2005     | FMN3, FMN4      | FMN CPWG                 |
| Electronic document file format for long-term preservation -- Part 2: Use of ISO 32000-1 (PDF/A-2)            | ISO 19005-2:2011     | FMN3, FMN4      | FMN CPWG                 |
| Document management -- Portable document format -- Part 1: PDF 1.7  | ISO 32000-1:2008     | FMN3, FMN4      | FMN CPWG                 |
| Digital compression and coding of continuous-tone still images: Requirements and guidelines                   | ISO/IEC 10918-1:1994 | FMN3, FMN4      | FMN CPWG                 |
| Digital compression and coding of continuous-tone still images: Extensions                                    | ISO/IEC 10918-3:1997 | FMN3, FMN4      | FMN CPWG                 |
| Open Document Format for Office Applications (OpenDocument) v1.2 -- Part 1: OpenDocument Schema               | ISO/IEC 26300-1:2015 | FMN4            | FMN CPWG                 |
| Open Document Format for Office Applications (OpenDocument) v1.2  | ISO/IEC 26300-2:2015 | FMN4            | FMN CPWG                 |

| Title  | Pubnum   | Profiles              | Responsible Party          |
|--|--|-----------------------|----------------------------|
| -- Part 2: Recalculated Formula (OpenFormula) Format                                 |  |                       |                            |
| Open Document Format for Office Applications (OpenDocument) v1.2 -- Part 3: Packages | ISO/IEC 26300-3:2015                               | FMN4                  | FMN CPWG                   |
| Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference   | ISO/IEC 29500-1:2012                               | FMN3, FMN4            | FMN CPWG                   |
| Confidentiality Metadata Label Syntax  | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1 | BINDING-SMTP-V2, FMN4 | C3B CaP1 DM CaT            |
| Metadata Binding   | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1 | BINDING-SMTP-V2, FMN4 | C3B CaP1 DM CaT            |
| NATO Secondary Imagery Format (NSIF) STANAG 4545 Implementation Guide                | NATO AEDP-04 Ed 2 Ver 1:2013 / STANAG 4545 Ed 2    | FMN3                  | CNAD, AC/224 NAFAG, JCGISR |
| NATO Ground Moving Target Indicator(GMTI) Format                                     | NATO AEDP-07 Ed 2 Ver 1:2010 / STANAG 4607 Ed 3    | FMN3                  | FMN CPWG                   |
| NATO Intelligence, Surveillance And Reconnaissance Tracking Standard                 | NATO AEDP-12 Ed A Ver 1:2014 / STANAG 4676 Ed 1    | FMN3                  | FMN CPWG                   |
| NATO standardization of measurement and signature intelligence (MASINT) Reporting    | NATO AEDP-16 / STANAG (Study) 4716 Ed 1            | FMN3                  | CNAD, AC/224 NAFAG, JCGISR |
| Allied Joint Medical Doctrine For Medical Evacuation                                 | NATO AJMedP-2 Ed A Ver 1:2018 / STANAG 2546 Ed 2   | FMN3, FMN4            | COMEDS, MCMedSB, MedStd EM |
| Captured Persons, Materiel And Documents   | NATO AJP-2.5 Ed A:2007 / STANAG 2195 Ed 2          | FMN3                  | MC, MCJSB, JINT            |
| NATO Message Catalogue   | NATO APP-11 Ed D Ver 1:2015 / STANAG 7149 Ed 6     | FMN4                  | MC, MCJSB, IERHWG          |

| <b>Title</b>   | <b>Pubnum</b>   | <b>Profiles</b> | <b>Responsible Party</b> |
|--|---|-----------------|--------------------------|
| NATO Message Catalogue <sup>2</sup>  | NATO Study<br>(expected) APP-11 Ed<br>D Ver 2:2017 /<br>STANAG 7149 Ed 6<br>(study) | FMN3            | MC,<br>MCJSB,<br>IERHWG  |
| Interface Control Definition for the International Exchange of MIDS/JTIDS Network (NETMAN T/1) | NATO ATDLP-7.03<br>Ed B Ver 1:2019  | BSP             | C3B CaP1<br>TDL CaT      |
| NATO Land Urgent Voice Messages (LUVM) Pocket Book   | NATO ATP-97 Ed<br>A Ver 1:2016 /<br>STANAG 2627 Ed 1                                | FMN3, FMN4      | MC,<br>MCLSB, LO         |
| US Motion Imagery Standards Board (MISB) - Motion Imagery Standards Profile-2015.1             | NATO NNSTD<br>MISP-2015.1:2016 /<br>STANAG 4609 Ed 4                                | FMN3            | FMN CPWG                 |
| Air Reconnaissance Intelligence Report Forms   | NATO STANAG<br>3377 Ed 6:2002   | FMN3            | FMN CPWG                 |
| XHTML™ 1.0 in XML Schema   | W3C NOTE-xhtml1-<br>schema-20020902:2002  | FMN4            | FMN CPWG                 |
| Hypertext Markup Language revision 5 (HTML5)   | W3C REC-<br>html5-20141028:2014   | FMN4            | FMN CPWG                 |
| <b>Fax Services</b>  |   |                 |                          |
| Procedures for document facsimile transmission in the general switched telephone network       | ITU-T T.30:2005   | BSP             | NCIA/NSII                |
| Interoperability of Tactical Digital Facsimile Equipment                                       | NATO STANAG<br>5000 Ed 3:2006   | BSP             | C3B CaP1<br>N&S CaT      |
| <b>Calendaring and Scheduling Services</b>   |   |                 |                          |
| Internet Calendaring and Scheduling Core Object Specification (iCalendar)                      | IETF RFC 5545:2009  | FMN3, FMN4      | FMN CPWG                 |
| iCalendar Transport-Independent Interoperability Protocol (iTIP)                               | IETF RFC 5546:2009  | FMN3, FMN4      | FMN CPWG                 |
| iCalendar Message-Based Interoperability Protocol (iMIP)                                       | IETF RFC 6047:2010  | FMN3, FMN4      | FMN CPWG                 |
| <b>Video-based Communication Services</b>  |   |                 |                          |
| Session Initiation Protocol  | IETF RFC 3261:2002  | FMN3, FMN4      | FMN CPWG                 |



| <b>Title</b>  | <b>Pubnum</b>      | <b>Profiles</b> | <b>Responsible Party</b> |
|---|--------------------|-----------------|--------------------------|
| Reliability of Provisional Responses in the Session Initiation Protocol (SIP)                   | IETF RFC 3262:2002 | FMN3, FMN4      | FMN CPWG                 |
| An Offer/Answer Model with the Session Description Protocol (SDP)                               | IETF RFC 3264:2002 | FMN3, FMN4      | FMN CPWG                 |
| The Session Initiation Protocol (SIP) UPDATE Method   | IETF RFC 3311:2002 | FMN3, FMN4      | FMN CPWG                 |
| Session Timers in the Session Initiation Protocol (SIP)   | IETF RFC 4028:2005 | FMN3, FMN4      | FMN CPWG                 |
| A Framework for Conferencing with the Session Initiation Protocol (SIP)                         | IETF RFC 4353:2006 | FMN3, FMN4      | FMN CPWG                 |
| Extending the Session Initiation Protocol (SIP) Reason Header for Preemption Events             | IETF RFC 4411:2006 | FMN3, FMN4      | FMN CPWG                 |
| Communications Resource Priority for the Session Initiation Protocol (SIP)                      | IETF RFC 4412:2006 | FMN3, FMN4      | FMN CPWG                 |
| SDP: Session Description Protocol   | IETF RFC 4566:2006 | FMN3, FMN4      | FMN CPWG                 |
| Session Initiation Protocol (SIP) Call Control - Conferencing for User Agents                   | IETF RFC 4579:2006 | FMN3, FMN4      | FMN CPWG                 |
| The Binary Floor Control Protocol (BFCP)  | IETF RFC 4582:2006 | FMN4            | FMN CPWG                 |
| Conference Establishment Using Request-Contained Lists in the Session Initiation Protocol (SIP) | IETF RFC 5366:2008 | FMN3, FMN4      | FMN CPWG                 |
| RTP Payload Format for H.264 Video  | IETF RFC 6184:2011 | FMN3, FMN4      | FMN CPWG                 |
| SIP-Specific Event Notification   | IETF RFC 6665:2012 | FMN3, FMN4      | FMN CPWG                 |
| RTP Topologies  | IETF RFC 7667:2015 | FMN3, FMN4      | FMN CPWG                 |
| Notation for national and international telephone numbers, e-mail addresses and web addresses   | ITU-T E.123:2001   | FMN3, FMN4      | FMN CPWG                 |
| The international public telecommunication numbering plan                                       | ITU-T E.164:2010   | FMN3, FMN4      | FMN CPWG                 |
| Pulse code modulation (PCM) of voice frequencies  | ITU-T G.711:1988   | FMN3, FMN4      | FMN CPWG                 |



| <b>Title</b>  | <b>Pubnum</b>                                   | <b>Profiles</b> | <b>Responsible Party</b> |
|---|---|-----------------|--------------------------|
| Low-complexity coding at 24 and 32 kbit/s for hands-free operation in systems with low frame loss | ITU-T G.722.1:2005                              | FMN4            | FMN CPWG                 |
| Low-complexity coding at 24 and 32 kbit/s for hands-free operation in systems with low frame loss | ITU-T G.722.1 (2005) Corrigendum 1 (06/08):2008 | FMN3, FMN4      | FMN CPWG                 |
| Advanced video coding for generic audiovisual services  | ITU-T H.264:2017                                | FMN3, FMN4      | FMN CPWG                 |
| International Network Numbering for Communications Systems in use in NATO                         | NATO STANAG 4705 Ed 1:2015                      | BSP, FMN3, FMN4 | C3B CaP1 N&S CaT         |
| The NATO Military Communications Directory System   | NATO STANAG 5046 Ed 4:2015                      | BSP             | C3B CaP1 N&S CaT         |
| <b>Audio-based Communication Services</b>   |   |                 |                          |
| RTP: A Transport Protocol for Real-Time Applications  | IETF RFC 3550:2003                              | FMN3, FMN4      | FMN CPWG                 |
| Extending the Session Initiation Protocol (SIP) Reason Header for Preemption Events               | IETF RFC 4411:2006                              | FMN3, FMN4      | FMN CPWG                 |
| Communications Resource Priority for the Session Initiation Protocol (SIP)                        | IETF RFC 4412:2006                              | FMN3, FMN4      | FMN CPWG                 |
| RTP Payload for DTMF Digits, Telephony Tones, and Telephony Signals                               | IETF RFC 4733:2006                              | FMN3, FMN4      | FMN CPWG                 |
| SCIP Signalling Plan rev.3.3  | CIS3 C&IP SCIP-210:2010                         | FMN3, FMN4      | C3B CaP1 N&S CaT         |
| SCIP over the PSTN rev.1.0  | CIS3 C&IP SCIP-214.1:2008                       | FMN4            | C3B CaP1 N&S CaT         |
| SCIP over RTP rev.1.0   | CIS3 C&IP SCIP-214.2:2010                       | FMN3, FMN4      | C3B CaP1 N&S CaT         |
| Securing SIP Signaling - Use of TLS with SCIP   | CIS3 C&IP SCIP-214.3:2014                       | FMN3, FMN4      | C3B CaP1 N&S CaT         |
| U.S. SCIP/IP Implementation Standard and MER Publication rev.2.2                                  | CIS3 C&IP SCIP-215:2011                         | FMN4            | C3B CaP1 N&S CaT         |

| <b>Title</b>   | <b>Pubnum</b>                                      | <b>Profiles</b> | <b>Responsible Party</b> |
|--|--|-----------------|--------------------------|
| Minimum Essential Requirements (MER) for V.150.1 Gateways Publication rev.2.2                              | CIS3 C&IP<br>SCIP-216:2011                         | FMN4            | FMN CPWG                 |
| Interoperable Terminal Priority (TP) Community of Interest (COI) Specification rev.1.0                     | CIS3 C&IP<br>SCIP-233.350:2012                     | FMN3, FMN4      | C3B CaP1<br>N&S CaT      |
| Secure MELP(e) Voice rev.1.1   | CIS3 C&IP<br>SCIP-233.501:2012                     | FMN3, FMN4      | C3B CaP1<br>N&S CaT      |
| Secure G.729D Voice Specification Rev. 1.1.  | CIS3 C&IP<br>SCIP-233.502:2011                     | FMN3, FMN4      | C3B CaP1<br>N&S CaT      |
| Notation for national and international telephone numbers, e-mail addresses and web addresses              | ITU-T E.123:2001                                   | FMN3, FMN4      | FMN CPWG                 |
| The international public telecommunication numbering plan  | ITU-T E.164:2010                                   | FMN3, FMN4      | FMN CPWG                 |
| Pulse code modulation (PCM) of voice frequencies   | ITU-T G.711:1988                                   | FMN3, FMN4      | FMN CPWG                 |
| Low-complexity coding at 24 and 32 kbit/s for hands-free operation in systems with low frame loss          | ITU-T G.722.1:2005                                 | FMN4            | FMN CPWG                 |
| Low-complexity coding at 24 and 32 kbit/s for hands-free operation in systems with low frame loss          | ITU-T G.722.1 (2005) Corrigendum 1 (06/08):2008    | FMN3, FMN4      | FMN CPWG                 |
| 14 kHz audio codec   | ITU-T G.722.1c:2012                                | BSP             | NCIA/NSII                |
| Coding of speech at 8 kbit/s using conjugate-structure algebraic-code-excited linear prediction (CS-ACELP) | ITU-T G.729:2012                                   | FMN3, FMN4      | FMN CPWG                 |
| Advanced video coding for generic audiovisual services   | ITU-T H.264:2017                                   | FMN3            | FMN CPWG                 |
| Packet-based Multimedia Communication System   | ITU-T H.323:2001                                   | BSP             | FMN CPWG                 |
| Secure Communications Interoperability Protocol (SCIP)   | NATO AComP-5068 Ed A Ver 2:2017 / STANAG 5068 Ed 1 | BSP             | C3B CaP1<br>N&S CaT      |
| NATO Secondary Imagery Format (NSIF) STANAG 4545 Implementation Guide                                      | NATO AEDP-04 Ed 2 Ver 1:2013 / STANAG 4545 Ed 2    | FMN3            | CNAD,<br>AC/224          |

| <b>Title</b>  | <b>Pubnum</b>   | <b>Profiles</b> | <b>Responsible Party</b>   |
|---|---|-----------------|----------------------------|
|   |   |                 | NAFAG, JCGISR              |
| NATO Ground Moving Target Indicator(GMTI) Format                                    | NATO AEDP-07 Ed 2 Ver 1:2010 / STANAG 4607 Ed 3                         | FMN3            | FMN CPWG                   |
| NATO Intelligence, Surveillance And Reconnaissance Tracking Standard                | NATO AEDP-12 Ed A Ver 1:2014 / STANAG 4676 Ed 1                         | FMN3            | FMN CPWG                   |
| NATO standardization of measurement and signature intelligence (MASINT) Reporting   | NATO AEDP-16 / STANAG (Study) 4716 Ed 1                                 | FMN3            | CNAD, AC/224 NAFAG, JCGISR |
| Allied Joint Medical Doctrine For Medical Evacuation                                | NATO AJMedP-2 Ed A Ver 1:2018 / STANAG 2546 Ed 2                        | FMN3, FMN4      | COMEDS, MCMedSB, MedStd EM |
| Captured Persons, Materiel And Documents  | NATO AJP-2.5 Ed A:2007 / STANAG 2195 Ed 2                               | FMN3            | MC, MCJSB, JINT            |
| NATO Message Catalogue  | NATO APP-11 Ed D Ver 1:2015 / STANAG 7149 Ed 6                          | FMN4            | MC, MCJSB, IERHWG          |
| NATO Message Catalogue <sup>2</sup>   | NATO Study (expected) APP-11 Ed D Ver 2:2017 / STANAG 7149 Ed 6 (study) | FMN3            | MC, MCJSB, IERHWG          |
| NATO Land Urgent Voice Messages (LUVN) Pocket Book                                  | NATO ATP-97 Ed A Ver 1:2016 / STANAG 2627 Ed 1                          | FMN3, FMN4      | MC, MCLSB, LO              |
| US Motion Imagery Standards Board (MISB) - Motion Imagery Standards Profile-2015.1  | NATO NNSTD MISP-2015.1:2016 / STANAG 4609 Ed 4                          | FMN3            | FMN CPWG                   |
| Air Reconnaissance Intelligence Report Forms  | NATO STANAG 3377 Ed 6:2002  | FMN3            | FMN CPWG                   |
| The 600 Bit/S, 1200 Bit/S AND 2400 Bit/S NATO Interoperable Narrow Band Voice Coder | NATO STANAG 4591 Ed 1:2008  | BSP             | C3B CaP1 N&S CaT           |

| <b>Title</b>   | <b>Pubnum</b>                                     | <b>Profiles</b>             | <b>Responsible Party</b> |
|--|---|-----------------------------|--------------------------|
| <a href="#">International Network Numbering for Communications Systems in use in NATO</a>          | NATO STANAG 4705 Ed 1:2015                        | FMN3, FMN4                  | C3B CaP1<br>N&S CaT      |
| <b>Text-based Communication Services</b>   |   |                             |                          |
| <a href="#">SIP for Binding Metadata to XMPP Stanzas</a>   | FMN SIP for Binding Metadata to XMPP Stanzas:2021 | FMN4                        | FMN CPWG                 |
| <a href="#">The TLS Protocol Version 1.0</a>   | IETF RFC 2246:1999                                | SIP-FOR-TLS                 | FMN CPWG                 |
| <a href="#">Enhanced Security Services for S/MIME</a>  | IETF RFC 2634:1999                                | BINDING-XMPP-V2             | NCIA                     |
| <a href="#">UTF-8, a transformation format of ISO/IEC 10646</a>                                    | IETF RFC 3629:2003                                | FMN3, FMN4                  | FMN CPWG                 |
| <a href="#">Transport Layer Security Protocol Compression Methods</a>                              | IETF RFC 3749:2004                                | SIP-FOR-TLS                 | FMN CPWG                 |
| <a href="#">The Transport Layer Security (TLS) Protocol Version 1.1</a>                            | IETF RFC 4346:2006                                | SIP-FOR-TLS                 | FMN CPWG                 |
| <a href="#">Elliptic Curve Cryptography (ECC) Cipher Suites for Transport Layer Security (TLS)</a> | IETF RFC 4492:2006                                | SIP-FOR-TLS                 | FMN CPWG                 |
| <a href="#">Transport Layer Security (TLS)</a>   | IETF RFC 5246:2008                                | SIP-FOR-TLS                 | C3B CaP4                 |
| <a href="#">Internet X.509 Public Key Infrastructure Certificate and CRL Profile</a>               | IETF RFC 5280:2008                                | SIP-FOR-TLS                 | FMN CPWG                 |
| <a href="#">Transport Layer Security (TLS) Renegotiation Indication Extension</a>                  | IETF RFC 5746:2010                                | SIP-FOR-TLS                 | FMN CPWG                 |
| <a href="#">Transport Layer Security (TLS) Extensions: Extension Definitions</a>                   | IETF RFC 6066:2011                                | SIP-FOR-TLS                 | FMN CPWG                 |
| <a href="#">The Secure Sockets Layer (SSL) Protocol Version 3.0</a>                                | IETF RFC 6101:2011                                | SIP-FOR-TLS                 | FMN CPWG                 |
| <a href="#">Extensible Messaging and Presence Protocol (XMPP): Core</a>                            | IETF RFC 6120:2011                                | BINDING-XMPP-V2, FMN3, FMN4 | NCIA                     |
| <a href="#">Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence</a>  | IETF RFC 6121:2011                                | BINDING-XMPP-V2, FMN3, FMN4 | NCIA                     |

| <b>Title</b>  | <b>Pubnum</b>      | <b>Profiles</b>             | <b>Responsible Party</b> |
|---|--------------------|-----------------------------|--------------------------|
| Extensible Messaging and Presence Protocol (XMPP): Address Format   | IETF RFC 6122:2011 | BINDING-XMPP-V2, FMN3, FMN4 | NCIA                     |
| Representation and Verification of Domain-Based Application Service Identity within Internet Public Key Infrastructure Using X.509 (PKIX) Certificates in the Context of Transport Layer Security (TLS) | IETF RFC 6125:2011 | SIP-FOR-TLS                 | FMN CPWG                 |
| Prohibiting Secure Sockets Layer (SSL) Version 2.0  | IETF RFC 6176:2011 | SIP-FOR-TLS                 | FMN CPWG                 |
| Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS) Heartbeat Extension   | IETF RFC 6520:2012 | SIP-FOR-TLS                 | FMN CPWG                 |
| X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP  | IETF RFC 6960:2013 | SIP-FOR-TLS                 | FMN CPWG                 |
| The Transport Layer Security (TLS) Multiple Certificate Status Request Extension  | IETF RFC 6961:2013 | SIP-FOR-TLS                 | FMN CPWG                 |
| Encrypt-then-MAC for Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)  | IETF RFC 7366:2014 | SIP-FOR-TLS                 | FMN CPWG                 |
| Recommendations for Secure Use of Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)   | IETF RFC 7525:2015 | SIP-FOR-TLS                 | FMN CPWG                 |
| Deprecating Secure Sockets Layer Version 3.0  | IETF RFC 7568:2015 | SIP-FOR-TLS                 | FMN CPWG                 |
| Transport Layer Security (TLS) Session Hash and Extended Master Secret Extension  | IETF RFC 7627:2015 | SIP-FOR-TLS                 | FMN CPWG                 |
| Negotiated Finite Field Diffie-Hellman Ephemeral Parameters for Transport Layer Security (TLS)  | IETF RFC 7919:2016 | SIP-FOR-TLS                 | FMN CPWG                 |
| Transmission Control Protocol   | IETF RFC 793:1981  | SIP-FOR-TLS                 | FMN CPWG                 |
| The SSL Protocol  | IETF RFC SSL2:1995 | SIP-FOR-TLS                 | FMN CPWG                 |

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|---|---|-----------------------|-------------------------------|
| NATO Friendly Force Information (FFI) Standard for Interoperability of Friendly Force Tracking Systems (FFTS) | NATO ADatP-36 Ed A Ver 1:2017 / STANAG 5527 Ed 1                        | FMN4                  | C3B CaP2<br>FFT CaT           |
| Confidentiality Metadata Label Syntax   | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1                      | BINDING-XMPP-V2, FMN4 | C3B CaP1<br>DM CaT            |
| Metadata Binding  | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1                      | BINDING-XMPP-V2, FMN4 | C3B CaP1<br>DM CaT            |
| NATO Secondary Imagery Format (NSIF) STANAG 4545 Implementation Guide   | NATO AEDP-04 Ed 2 Ver 1:2013 / STANAG 4545 Ed 2                         | FMN3                  | CNAD, AC/224<br>NAFAG, JCGISR |
| NATO Ground Moving Target Indicator(GMTI) Format  | NATO AEDP-07 Ed 2 Ver 1:2010 / STANAG 4607 Ed 3                         | FMN3                  | FMN CPWG                      |
| NATO Intelligence, Surveillance And Reconnaissance Tracking Standard  | NATO AEDP-12 Ed A Ver 1:2014 / STANAG 4676 Ed 1                         | FMN3                  | FMN CPWG                      |
| NATO standardization of measurement and signature intelligence (MASINT) Reporting                             | NATO AEDP-16 / STANAG (Study) 4716 Ed 1                                 | FMN3                  | CNAD, AC/224<br>NAFAG, JCGISR |
| Allied Joint Medical Doctrine For Medical Evacuation  | NATO AJMedP-2 Ed A Ver 1:2018 / STANAG 2546 Ed 2                        | FMN3, FMN4            | COMEDS, MCMedSB, MedStd EM    |
| Captured Persons, Materiel And Documents  | NATO AJP-2.5 Ed A:2007 / STANAG 2195 Ed 2                               | FMN3                  | MC, MCJSB, JINT               |
| NATO Message Catalogue  | NATO APP-11 Ed D Ver 1:2015 / STANAG 7149 Ed 6                          | FMN4                  | MC, MCJSB, IERHWG             |
| NATO Message Catalogue <sup>2</sup>   | NATO Study (expected) APP-11 Ed D Ver 2:2017 / STANAG 7149 Ed 6 (study) | FMN3                  | MC, MCJSB, IERHWG             |

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| NATO Land Urgent Voice Messages (LUVIM) Pocket Book                                | NATO ATP-97 Ed A Ver 1:2016 / STANAG 2627 Ed 1 | FMN3, FMN4      | MC, MCLSB, LO            |
| US Motion Imagery Standards Board (MISB) - Motion Imagery Standards Profile-2015.1 | NATO NNSTD MISP-2015.1:2016 / STANAG 4609 Ed 4 | FMN3            | FMN CPWG                 |
| Air Reconnaissance Intelligence Report Forms                                       | NATO STANAG 3377 Ed 6:2002                     | FMN3            | FMN CPWG                 |
| Character Model for the World Wide Web 1.0: Fundamentals                           | W3C REC-charmod-20050215:2005                  | FMN4            | FMN CPWG                 |
| Internationalization Tag Set (ITS) Version 1.0                                     | W3C REC-its-20070403:2007                      | FMN4            | FMN CPWG                 |
| Internationalization Tag Set (ITS) Version 2.0                                     | W3C REC-its20-20131029:2013                    | FMN4            | FMN CPWG                 |
| Ruby Annotation  | W3C REC-ruby-20010531:2001                     | FMN4            | FMN CPWG                 |
| XEP-0004: Data Forms   | XMPP XEP-0004:2007                             | FMN3            | FMN CPWG                 |
| Data Forms   | XMPP XEP-0004:2020                             | FMN4            | FMN CPWG                 |
| XEP-0012: Last Activity  | XMPP XEP-0012:2008                             | FMN3, FMN4      | FMN CPWG                 |
| XEP-0030: Service Discovery  | XMPP XEP-0030:2008                             | FMN3            | FMN CPWG                 |
| Service Discovery  | XMPP XEP-0030:2017                             | FMN4            | FMN CPWG                 |
| XEP-0045: Multi-User Chat  | XMPP XEP-0045:2012                             | FMN3            | FMN CPWG                 |
| Multi-User Chat  | XMPP XEP-0045:2019                             | FMN4            | FMN CPWG                 |
| XEP-0047: In-Band Bytestreams  | XMPP XEP-0047:2012                             | FMN3, FMN4      | FMN CPWG                 |
| XEP-0049: Private XML Storage  | XMPP XEP-0049:2004                             | FMN3            | FMN CPWG                 |
| XEP-0054: vcard-temp   | XMPP XEP-0054:2008                             | FMN3, FMN4      | FMN CPWG                 |



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| XEP-0055: Jabber Search                                | XMPP<br>XEP-0055:2009 | FMN3, FMN4                   | FMN CPWG                 |
| XEP-0059: Result Set Management                        | XMPP<br>XEP-0059:2006 | FMN4                         | NCIA                     |
| XEP-0060: Publish-Subscribe                            | XMPP<br>XEP-0060:2010 | BINDING-<br>XMPP-V2,<br>FMN3 | NCIA                     |
| Publish-Subscribe                                      | XMPP<br>XEP-0060:2020 | FMN4                         | FMN CPWG                 |
| XEP-0065: SOCKS5 Bytestreams                           | XMPP<br>XEP-0065:2011 | FMN3                         | FMN CPWG                 |
| XEP-0068: Field Standardization for Data Forms         | XMPP<br>XEP-0068:2012 | FMN4                         | NCIA                     |
| XEP-0082: XMPP Date and Time Profiles                  | XMPP<br>XEP-0082:2013 | FMN4                         | FMN CPWG                 |
| XEP-0092: Software Version                             | XMPP<br>XEP-0092:2007 | FMN3, FMN4                   | FMN CPWG                 |
| JID Escaping   | XMPP :2007            | FMN4                         | FMN CPWG                 |
| XEP-0114: Jabber Component Protocol                    | XMPP<br>XEP-0114:2012 | FMN3, FMN4                   | FMN CPWG                 |
| XEP-0115: Entity Capabilities                          | XMPP<br>XEP-0115:2008 | FMN3                         | FMN CPWG                 |
| Entity Capabilities                                    | XMPP<br>XEP-0115:2020 | FMN4                         | FMN CPWG                 |
| XEP-0160: Best Practices for Handling Offline Messages | XMPP<br>XEP-0160:2016 | FMN3, FMN4                   | FMN CPWG                 |
| XEP-0198: Stream Management                            | XMPP<br>XEP-0198:2011 | FMN3                         | NCIA                     |
| XEP-0199: XMPP Ping                                    | XMPP<br>XEP-0199:2009 | FMN3, FMN4                   | NCIA                     |
| XEP-0202: Entity Time                                  | XMPP<br>XEP-0202:2009 | FMN3, FMN4                   | NCIA                     |
| XEP-0203: Delayed Delivery                             | XMPP<br>XEP-0203:2009 | FMN3, FMN4                   | FMN CPWG                 |
| XEP-0220: Server Dialback                              | XMPP<br>XEP-0220:2014 | FMN3                         | FMN CPWG                 |



| <b>Title</b>  | <b>Pubnum</b>         | <b>Profiles</b>              | <b>Responsible Party</b> |
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| Server Dialback   | XMPP<br>XEP-0220:2015 | FMN4                         | FMN CPWG                 |
| XEP-0258: Security Labels in XMPP   | XMPP<br>XEP-0258:2013 | BINDING-<br>XMPP-V2,<br>FMN3 | NCIA                     |
| XEP-0313: Message Archive Management  | XMPP<br>XEP-0313:2017 | FMN4                         | FMN CPWG                 |
| XEP-0346: Form Discovery and Publishing   | XMPP<br>XEP-0346:2017 | FMN4                         | FMN CPWG                 |
| <b>Presence Services</b>  |                       |                              |                          |
| Extensible Messaging and Presence Protocol (XMPP): Core                           | IETF RFC 6120:2011    | FMN3, FMN4                   | NCIA                     |
| Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence | IETF RFC 6121:2011    | FMN3, FMN4                   | NCIA                     |
| Extensible Messaging and Presence Protocol (XMPP): Address Format                 | IETF RFC 6122:2011    | FMN3, FMN4                   | NCIA                     |
| XEP-0004: Data Forms  | XMPP<br>XEP-0004:2007 | FMN3                         | FMN CPWG                 |
| XEP-0012: Last Activity   | XMPP<br>XEP-0012:2008 | FMN3, FMN4                   | FMN CPWG                 |
| XEP-0030: Service Discovery   | XMPP<br>XEP-0030:2008 | FMN3                         | FMN CPWG                 |
| Service Discovery   | XMPP<br>XEP-0030:2017 | FMN4                         | FMN CPWG                 |
| XEP-0045: Multi-User Chat   | XMPP<br>XEP-0045:2012 | FMN3                         | FMN CPWG                 |
| Multi-User Chat   | XMPP<br>XEP-0045:2019 | FMN4                         | FMN CPWG                 |
| XEP-0047: In-Band Bytestreams   | XMPP<br>XEP-0047:2012 | FMN3, FMN4                   | FMN CPWG                 |
| XEP-0049: Private XML Storage   | XMPP<br>XEP-0049:2004 | FMN3                         | FMN CPWG                 |
| XEP-0054: vcard-temp  | XMPP<br>XEP-0054:2008 | FMN3, FMN4                   | FMN CPWG                 |

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|--|-----------------------|-----------------|--------------------------|
| XEP-0055: Jabber Search                                | XMPP<br>XEP-0055:2009 | FMN3, FMN4      | FMN CPWG                 |
| XEP-0059: Result Set Management                        | XMPP<br>XEP-0059:2006 | FMN4            | NCIA                     |
| XEP-0060: Publish-Subscribe                            | XMPP<br>XEP-0060:2010 | FMN3            | NCIA                     |
| Publish-Subscribe                                      | XMPP<br>XEP-0060:2020 | FMN4            | FMN CPWG                 |
| XEP-0065: SOCKS5 Bytestreams                           | XMPP<br>XEP-0065:2011 | FMN3            | FMN CPWG                 |
| XEP-0082: XMPP Date and Time Profiles                  | XMPP<br>XEP-0082:2013 | FMN4            | FMN CPWG                 |
| XEP-0092: Software Version                             | XMPP<br>XEP-0092:2007 | FMN3, FMN4      | FMN CPWG                 |
| JID Escaping   | XMPP :2007            | FMN4            | FMN CPWG                 |
| XEP-0114: Jabber Component Protocol                    | XMPP<br>XEP-0114:2012 | FMN3, FMN4      | FMN CPWG                 |
| XEP-0115: Entity Capabilities                          | XMPP<br>XEP-0115:2008 | FMN3            | FMN CPWG                 |
| Entity Capabilities                                    | XMPP<br>XEP-0115:2020 | FMN4            | FMN CPWG                 |
| XEP-0160: Best Practices for Handling Offline Messages | XMPP<br>XEP-0160:2016 | FMN3, FMN4      | FMN CPWG                 |
| XEP-0198: Stream Management                            | XMPP<br>XEP-0198:2011 | FMN3            | NCIA                     |
| XEP-0199: XMPP Ping                                    | XMPP<br>XEP-0199:2009 | FMN3, FMN4      | NCIA                     |
| XEP-0202: Entity Time                                  | XMPP<br>XEP-0202:2009 | FMN3, FMN4      | NCIA                     |
| XEP-0203: Delayed Delivery                             | XMPP<br>XEP-0203:2009 | FMN3, FMN4      | FMN CPWG                 |
| XEP-0220: Server Dialback                              | XMPP<br>XEP-0220:2014 | FMN3            | FMN CPWG                 |
| Server Dialback  | XMPP<br>XEP-0220:2015 | FMN4            | FMN CPWG                 |

| <b>Title</b>  | <b>Pubnum</b>   | <b>Profiles</b> | <b>Responsible Party</b> |
|---|---|-----------------|--------------------------|
| XEP-0258: Security Labels in XMPP   | XMPP<br>XEP-0258:2013   | FMN3            | NCIA                     |
| XEP-0313: Message Archive Management  | XMPP<br>XEP-0313:2017   | FMN4            | FMN CPWG                 |
| <b>Application Sharing Services</b>   |   |                 |                          |
| Data Protocols for Multimedia Conferencing                                    | ITU-T T.120:2007  | BSP             | NCIA/NSII                |
| <b>Geospatial Services</b>  |   |                 |                          |
|   |   | FMN4            |                          |
| XML Schema of the Geodatabase   | ESRI :2008  | FMN4            | FMN CPWG                 |
| JPEG 2000 image coding system: Core coding system                             | ISO/IEC<br>15444-1:2004   | FMN4            | NCIA/JISR                |
|   |   | FMN4            |                          |
| NATO Geospatial Metadata Profile  | NATO AGeoP-08 Ed B Ver 1:2019 / STANAG 2586 Ed 2                  | BSP             | MC, MCJSB, JGS           |
| NATO Geospatial Information Framework   | NATO AGeoP-11 Ed B Ver 1:2018 / STANAG 2592 Ed 2                  | FMN4            | MC, MCJSB, JGS           |
| Additional Military Layers (AML) - Digital Geospatial Data Products           | NATO AGeoP-19 Ed A Ver 1:2015 / STANAG 7170 Ed 3                  | BSP, FMN4       | MC, MCJSB, JGS           |
| Geodetic Datums, Projections, Grids and Grid References                       | NATO AGeoP-21 Ed A Ver 1:2016 / STANAG 2211 Ed 7                  | BSP             | MC, MCJSB, JGS           |
| Geospatial Web Services   | NATO Study (expected) AGeoP-26 Ed A Ver 1 / STANAG 6523 Ed 1 (RD) | BSP             | MC, MCJSB, JGS           |
| Standard on warship Electronic Chart Display and Information Systems (WECDIS) | NATO ANP-4564 Ed A Ver 1:2017 / STANAG 4564 Ed 3                  | BSP             | C3B CaP2                 |
| Digital Terrain Elevation Data (DTED) Exchange Format                         | NATO STANAG 3809 Ed 4:2004  | BSP             | MC, MCJSB, JGS           |
| Compressed ARC Digitized Raster Graphics (CADRG)                              | NATO STANAG 7098 Ed 2:2004  | BSP             | MC, MCJSB, JGS           |

| <b>Title</b>  | <b>Pubnum</b>   | <b>Profiles</b> | <b>Responsible Party</b> |
|---|---|-----------------|--------------------------|
| Controlled Imagery Base (CIB)                           | NATO STANAG 7099 Ed 2:2004  | BSP             | MC, MCJSB, JGS           |
| Vector Smart Map (VMAP) Level 1                         | US DoD MIL-PRF-89033:1995   | FMN4            | FMN CPWG                 |
| Compressed ARC Digitized Raster Graphics (ADRG)         | NGA MIL-PRF-89038:1994  | FMN4            | FMN CPWG                 |
| Vector Smart Map (VMAP) Level 0                         | US DoD MIL-PRF-89039:1995   | FMN4            | FMN CPWG                 |
| Raster Product Format                                   | NGA MIL-STD-2411:2010   | FMN4            | FMN CPWG                 |
| World Geodetic System 84 (WGS-84)                       | NGA TR 8350.2:2004  | BSP             | NCIA/JISR                |
| GML in JPEG 2000 for Geographic Imagery (GMLJP2)        | OGC 05-047r3:2006   | FMN3, FMN4      | FMN CPWG                 |
| Open GIS Web Map Service Implementation Specification   | OGC 06-042:2006   | BSP             | FMN CPWG                 |
| Web Services Common Implementation Specification v2.0.0 | OGC 06-121r9:2010   | BSP             | NCIA                     |
| OpenGIS Web Map Tile Service Implementation Standard    | OGC 07-057r7:2010   | BSP             | NCIA/AWG                 |
| OGC KML   | OGC 07-147r2:2008   | FMN3            | FMN CPWG                 |
| GML Simple Features Profile v2.0                        | OGC 10-100r2:2010   | BSP             | NCIA/AWG                 |
| Geographical Tagged Image Format (GeoTIFF)              | OSGEO 1.8.2:2000  | FMN3            | FMN CPWG                 |
| <b>Geospatial Web Map Services</b>                      |   |                 |                          |
| Geospatial Web Services                                 | NATO Study (expected) AGeoP-26 Ed A Ver 1 / STANAG 6523 Ed 1 (RD) | FMN4            | MC, MCJSB, JGS           |
| Open GIS Web Map Service Implementation Specification   | OGC 06-042:2006   | FMN3, FMN4      | FMN CPWG                 |
| <b>Geospatial Web Feature Services</b>                  |   |                 |                          |
| OpenGIS Web Feature Service 2.0 Interface Standard      | OGC 09-025r2:2006   | FMN3, FMN4      | FMN CPWG                 |
| <b>Geospatial Web Coverage Services</b>                 |   |                 |                          |

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|--|---|----------------------------------|--------------------------|
| Web Coverage Service Core (WCS):2012   | OGC 09-110r4:2012   | BSP                              | NCIA/JISR                |
| <b>Geospatial Web Map Tile Services</b>  |   |                                  |                          |
| Geospatial Web Services  | NATO Study (expected) AGeoP-26 Ed A Ver 1 / STANAG 6523 Ed 1 (RD) | FMN4                             | MC, MCJSB, JGS           |
| OpenGIS Web Map Tile Service Implementation Standard   | OGC 07-057r7:2010   | FMN4                             | NCIA/AWG                 |
| Geography Markup Language (GML) simple features profile Technical Note v 2.0                   | OGC 11-044:2011   | FMN3                             | FMN CPWG                 |
| <b>Content Management Services</b>   |   |                                  |                          |
| XMP Specification Part 3, Storage in Files   | ADOBE XMP-part3-2016:2016   | BINDING-EXTENSIBLE-V2            | NCIA                     |
| HMAC: Keyed-Hashing for Message Authentication   | IETF RFC 2104:1997  | BINDING-CRYPTO-V2                | NCIA                     |
| Key words for use in RFCs to Indicate Requirement Levels                                       | IETF RFC 2119:1997  | BINDING-COMMON-XML               | NCIA                     |
| MIME Parameter Value and Encoded Word Extensions: Character Sets, Languages, and Continuations | IETF RFC 2231:1997  | BINDING-REST-V2, BINDING-SMTP-V2 | NCIA                     |
| Content-ID and Message-ID Uniform Resource Locators  | IETF RFC 2392:1998  | BINDING-SMTP-V2                  | NCIA/CES                 |
| Enhanced Security Services for S/MIME  | IETF RFC 2634:1999  | BINDING-XMPP-V2                  | NCIA                     |
| UTF-8, a transformation format of ISO/IEC 10646  | IETF RFC 3629:2003  | FMN3, FMN4                       | FMN CPWG                 |
| Internet X.509 Public Key Infrastructure Certificate and CRL Profile                           | IETF RFC 5280:2008  | BINDING-CRYPTO-V2                | FMN CPWG                 |
| Internet Message Format  | IETF RFC 5322:2008  | BINDING-SMTP-V2                  | NCIA                     |
| Extensible Provisioning Protocol (EPP) Domain Name Mapping                                     | IETF RFC 5731:2009  | BINDING-SMTP-V2                  | NCIA                     |

| <b>Title</b>  | <b>Pubnum</b>        | <b>Profiles</b>                         | <b>Responsible Party</b> |
|---|----------------------|---|--------------------------|
| Secure/Multipurpose Internet Mail Extensions (S/MIME) Version 3.2 Message Specification   | IETF RFC 5751:2010   | BINDING-CRYPTO-V2                       | NCIA                     |
| Extensible Messaging and Presence Protocol (XMPP): Core   | IETF RFC 6120:2011   | BINDING-XMPP-V2                         | NCIA                     |
| Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence   | IETF RFC 6121:2011   | BINDING-XMPP-V2                         | NCIA                     |
| Extensible Messaging and Presence Protocol (XMPP): Address Format   | IETF RFC 6122:2011   | BINDING-XMPP-V2                         | NCIA                     |
| Additional XML Security Uniform Resource Identifiers (URIs)   | IETF RFC 6931:2013   | BINDING-CRYPTO-V2                       | NCIA                     |
| Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing  | IETF RFC 7230:2014   | BINDING-REST-V2                         | NCIA/CES                 |
| Security Labels in Internet Email   | IETF RFC 7444:2015   | BINDING-REST-V2,<br>BINDING-SMTP-V2     | NCIA                     |
| JSON Web Signature (JWS)  | IETF RFC 7515:2015   | BINDING-CRYPTO-V2                       | NCIA                     |
| Graphic Technology - Extensible metadata platform (XMP) specification - Part 1: Data model, serialization and core properties     | ISO 16684-1:2012     | BINDING-EXTENSIBLE-V2                   | NCIA                     |
| Information Technology - Document Schema Definition Languages (DSDL) - Part 3: Rules-based validation - Schematron Second Edition | ISO 19757-3:2016     | BINDING-COMMON-XML                      | NCIA                     |
| Office Open XML File Formats -- Part 2: Open Packaging Conventions  | ISO/IEC 29500-2:2012 | BINDING-GENERIC-V2,<br>BINDING-OOXML-V2 | NCIA                     |
| Information Technology - Security Techniques - Security information objects for access control                                    | ITU-T X.841:2000     | BINDING-REST-V2                         | NCIA                     |

| Title  | Pubnum   | Profiles  | Responsible Party    |
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| <a href="#">Confidentiality</a> <a href="#">Metadata</a> <a href="#">Label</a><br><a href="#">Syntax</a> | NATO   ADatP-4774<br>Ed A Ver 1:2017 /<br>STANAG 4774 Ed 1 | BINDING-<br>COMMON-<br>XML,<br>BINDING-<br>CRYPTO-V2,<br>BINDING-<br>EXTENSIBLE-<br>V2,   BINDING-<br>GENERIC-V2,<br>BINDING-<br>OOXML-V2,<br>BINDING-<br>REST-V2,<br>BINDING-<br>SIDECAR-V2,<br>BINDING-<br>SMTP-V2,<br>BINDING-<br>SOAP,<br>BINDING-<br>WSMP-V2,<br>BINDING-<br>XMPP-V2 | C3B   CaP1<br>DM CaT |
| <a href="#">Metadata Binding</a>   | NATO   ADatP-4778<br>Ed A Ver 1:2018 /<br>STANAG 4778 Ed 1 | BINDING-<br>COMMON-<br>XML,<br>BINDING-<br>CRYPTO-V2,<br>BINDING-<br>EXTENSIBLE-<br>V2,   BINDING-<br>GENERIC-V2,<br>BINDING-<br>OOXML-V2,<br>BINDING-<br>REST-V2,<br>BINDING-<br>SIDECAR-V2,<br>BINDING-<br>SMTP-V2,<br>BINDING-<br>SOAP,  | C3B   CaP1<br>DM CaT |

| Title  | Pubnum  | Profiles                            | Responsible Party |
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|  |   | BINDING-WSMP-V2,<br>BINDING-XMPP-V2 |                   |
| Context/value Association using genericode 1.0               | OASIS context-value-association-1.0:2010        | BINDING-COMMON-XML                  | NCIA              |
| Code List Representation (Genericode)                        | OASIS cs-genericode-1.0:2007                    | BINDING-COMMON-XML                  | NCIA              |
| Web Services Security: SOAP Message Security 1.1             | OASIS wss-v1.1-spec-os-SOAPMessageSecurity:2006 | BINDING-CRYPTO-V2                   | NCIA/CES          |
| Simple Object Access Protocol (SOAP)                         | W3C NOTE-SOAP-20000508:2000                     | BINDING-SOAP                        | NCIA              |
| XML Security Algorithm Cross-Reference                       | W3C NOTE-xmlsec-algorithms-20130411:2013        | BINDING-CRYPTO-V2                   | NCIA              |
| RDF 1.1 Concepts and Abstract Syntax                         | W3C REC-rdf11-concepts-20140225:2014            | BINDING-EXTENSIBLE-V2               | NCIA/CES          |
| RDF Primer   | W3C REC-rdf-primer-20040210:2004                | BINDING-EXTENSIBLE-V2               | NCIA              |
| SOAP Version 1.2 Part 1: Messaging Framework                 | W3C REC-soap12-part1-20030624:2003              | BINDING-SOAP                        | NCIA              |
| Associating Style Sheets with XML documents, Version 1.0     | W3C REC-xml-stylesheet-19990629:1999            | BINDING-COMMON-XML                  | NCIA/CES          |
| eXtensible Markup Language (XML) version 1.0 (Fifth Edition) | W3C REC-xml-20081126:2008                       | BINDING-EXTENSIBLE-V2               | FMN CPWG          |
| XML-Signature Syntax and Processing (Second Edition)         | W3C REC-xmlsig-core-20080610:2008               | BINDING-CRYPTO-V2,<br>BINDING-SOAP  | NCIA              |
| Errata for XML Signature 2nd Edition                         | W3C REC-xmlsig-core-20080610:2014               | BINDING-CRYPTO-V2                   | NCIA              |
| XML Signature Syntax and Processing Version 1.1              | W3C REC-xmlsig-core1-20130411:2013              | BINDING-CRYPTO-V2                   | NCIA              |
| XML Encryption Syntax and Processing                         | W3C REC-xmlenc-core-20021210:2002               | BINDING-CRYPTO-V2                   | NCIA              |



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| <a href="#">XML Encryption Syntax and Processing Version 1.1</a>                      | W3C REC-xmlenc-core1-20130411:2013                     | BINDING-CRYPTO-V2               | NCIA                                |
| <a href="#">XML Schema Definition Language (XSD) 1.1 Part 1: Structures</a>           | W3C REC-xmlschema11-1-20120406:2012                    | BINDING-CRYPTO-V2<br>COMMON-XML | NATO Archive Committee              |
| <a href="#">XML Path Language 1.0</a>   | W3C REC-xpath-19991119:1999                            | BINDING-CRYPTO-V2               | NCIA                                |
| <a href="#">XML Pointer Language (Xpointer)</a>                                       | W3C wd-xptr-20020816:2002                              | BINDING-CRYPTO-V2               | NCIA                                |
| Open XML SPIF   | XML SPIF xmlspif:2010                                  | BINDING-CRYPTO-V2<br>COMMON-XML | NCIA                                |
| <a href="#">XEP-0060: Publish-Subscribe</a>   | XMPP XEP-0060:2010                                     | BINDING-XMPP-V2                 | NCIA                                |
| <a href="#">XEP-0258: Security Labels in XMPP</a>                                     | XMPP XEP-0258:2013                                     | BINDING-XMPP-V2                 | NCIA                                |
| <b>Formal Messaging Services</b>  |  |                                 |                                     |
| <a href="#">Concept of NATO Message Text Formatting System (CONFORMETS)</a>           | NATO ADatP-03 Ed A Ver 3:2019 / STANAG 5500 Ed 8       | BSP                             | C3B CaP1<br>MTF CaT                 |
| <a href="#">NATO Secondary Imagery Format (NSIF) STANAG 4545 Implementation Guide</a> | NATO AEDP-04 Ed 2 Ver 1:2013 / STANAG 4545 Ed 2        | BSP                             | CNAD,<br>AC/224<br>NAFAG,<br>JCGISR |
| <a href="#">NATO Message Catalogue</a>  | NATO APP-11 Ed D Ver 1:2015 / STANAG 7149 Ed 6         | BSP                             | MC,<br>MCJSB,<br>IERHWG             |
| <a href="#">Tactical Data Exchange - Link 1 (Point-to-Point)</a>                      | NATO ATDLP-5.01 Ed A Ver 2:2020 / STANAG 5501 Ed 7     | BSP                             | C3B CaP1<br>TDL CaT                 |
| <a href="#">Tactical Data Exchange - Link 11/11B</a>                                  | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP                             | C3B CaP1<br>TDL CaT                 |
| <a href="#">Tactical Data Exchange - Link 16</a>                                      | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8  | BSP                             | C3B CaP1<br>TDL CaT                 |

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| Interoperability of Low-level Ground-based Air Defence Surveillance, Command and Control Systems | NATO STANAG 4312 Ed 2:2012 | BSP             | CNAD, AC/225 NAAG, JCGGBAD |
| Military Message Handling System (MMHS)  | NATO STANAG 4406 Ed 2:2006 | BSP             | C3B CaP1                   |
| NATO Improved Link Eleven (NILE) - Link 22   | NATO STANAG 5522 Ed 2:2008 | BSP             | C3B CaP1 TDL CaT           |
| <b>Search Services</b>   |                            |                 |                            |
| The Dublin Core Metadata Element Set   | ISO 15836:2010             | BSP             | NCIA/Sstrat/Sea            |
| TIDE Information Discovery (Request-Response) Protocol v2.3                                      | NATO TIDE/TIDE-ID-RR:2009  | BSP             | NCIA/CES                   |
| <b>Archiving Services</b>  |                            |                 |                            |
| TIFF Revision 6.0  | ADOBE TIFF:1992            | ARCHIVE-ARCHIVE | NATO Archive Committee     |
| Specification of the Broadcast Wave Format (BWF) - Version 2                                     | EBU Tech 3285:2011         | ARCHIVE-ARCHIVE | NATO Archive Committee     |
| MIME Encapsulation of Aggregate Documents, such as HTML (MHTML)                                  | IETF RFC 2557:2006         | ARCHIVE-ARCHIVE | NCIA/CES                   |
| The application/mbox Media Type  | IETF RFC 4155:2005         | ARCHIVE-ARCHIVE | NCIA/CES                   |
| Common Format and MIME Type for Comma-Separated Values (CSV) Files                               | IETF RFC 4180:2005         | ARCHIVE-ARCHIVE | NCIA/CES                   |
| Information and documentation - WARCfile format.   | ISO 28500:2009             | ARCHIVE-ARCHIVE | NATO Archive Committee     |
| Document management -- Portable document format -- Part 1: PDF 1.7                               | ISO 32000-1:2008           | ARCHIVE-ARCHIVE | FMN CPWG                   |
| Digital compression and coding of continuous-tone still images: Requirements and guidelines      | ISO/IEC 10918-1:1994       | ARCHIVE-ARCHIVE | FMN CPWG                   |

| <b>Title</b>  | <b>Pubnum</b>                       | <b>Profiles</b> | <b>Responsible Party</b> |
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| Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s; PCM Part 3: audio | ISO/IEC 11172-3:1993                | ARCHIVE-ARCHIVE | NCIA/NSII                |
| Generic coding of moving pictures and associated audio information: Video   | ISO/IEC 13818-2:2000                | ARCHIVE-ARCHIVE | NCIA/CES                 |
| Generic coding of moving pictures and associated audio information -- Part 3: Audio                                   | ISO/IEC 13818-3:1998                | ARCHIVE-ARCHIVE | NCIA/CES                 |
| Coding of audio-visual objects -- Part 10: Advanced Video Coding  | ISO/IEC 14496-10:2012               | ARCHIVE-ARCHIVE | NCIA/CES                 |
| Coding of audio-visual objects -- Part 2: Visual  | ISO/IEC 14496-2:2004                | ARCHIVE-ARCHIVE | NCIA/CES                 |
| JPEG 2000 image coding system: Core coding system   | ISO/IEC 15444-1:2004                | ARCHIVE-ARCHIVE | NCIA/JISR                |
| Database languages - SQL - Part 1: Framework  | ISO/IEC 9075-1:2011                 | ARCHIVE-ARCHIVE | NCIA/Sstrat/Sea          |
| OGC KML   | OGC 07-147r2:2008                   | ARCHIVE-ARCHIVE | FMN CPWG                 |
| OGC GeoPackage Encoding Standard V1.0.  | OGC 12-128r10:2004                  | ARCHIVE-ARCHIVE | NCIA/AWG                 |
| Scalable Vector Graphics (SVG) 1.1 Specification (Second Edition)   | W3C REC-SVG11-20110816:2011         | ARCHIVE-ARCHIVE | NATO Archive Committee   |
| Extensible Markup Language (XML) version 1.1 (Second Edition)   | W3C REC-xml11-20060816:2006         | ARCHIVE-ARCHIVE | NCIA/CES                 |
| XML Schema Definition Language (XSD) 1.1 Part 1: Structures   | W3C REC-xmlschema11-1-20120401:2012 | ARCHIVE-ARCHIVE | NATO Archive Committee   |
| XML Schema Definition Language (XSD) 1.1 Part 2: Datatypes  | W3C REC-xmlschema11-2-20120401:2012 | ARCHIVE-ARCHIVE | NATO Archive Committee   |
| <b>Data Science Services</b>  |                                     |                 |                          |
| Predictive Model Markup Language (PMML)   | DMG PMML-4.2.1:2015                 | BSP             | NCIA                     |

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| Cross.Industry Standard Process for Data Mining  | TMA crisp-dm-1.0:2000                  | BSP             | NCIA                     |
| SPARQL 1.1 Query Language  | W3C PR-sparql11-query-20121108:2012    | BSP             | NCIA                     |
| <b>Platform Services</b>   |  |                 |                          |
| Representational State Transfer (REST)   | ACM 2002-REST-TOIT:2000                | BSP             | FMN CPWG                 |
| Atom Publishing Protocol   | IETF RFC 5023:2007                     | BSP             | FMN CPWG                 |
| Information technology - Distributed Application Platforms and Services (DAPS) - General technical principles of Service Oriented Architecture | ISO/IEC 30102:2012                     | BSP             | NCIA/CES                 |
| ebXML Registry Information Model Version 3.0   | OASIS regrep-rim-3.0-os:2005           | BSP             | NCIA/CES                 |
| Simple Object Access Protocol (SOAP)   | W3C NOTE-SOAP-20000508:2000            | BSP             | NCIA                     |
| Web Services Addressing 1.0 - Metadata   | W3C REC-ws-addr-metadata-20070904:2007 | BSP             | NCIA/CES                 |
| Web Services Addressing 1.0 - SOAP Binding   | W3C REC-ws-addr-soap-20060509:2006     | BSP             | NCIA/CES                 |
| <b>Platform CIS Security Services</b>  |  |                 |                          |
| Digital Signature Algorithm RSA 2048   | RSA PKCS#1 v2.1:2002                   | BSP             | NCIA/CS                  |
| XML Signature Syntax and Processing (2nd ed.):2008   | W3C xmldsig-core:2008                  | BSP             | NCIA/CES                 |
| <b>Platform Guard Services</b>   |  |                 |                          |
| Secure Shell (SSH)   | IETF RFC 4250:2006                     | BSP             | C3B CaP4                 |
| Transport Layer Security (TLS)   | IETF RFC 5246:2008                     | BSP             | C3B CaP4                 |
| <b>Security Token Services</b>   |  |                 |                          |
| The Kerberos v5 Simple Authentication and Security Layer (SASL) Mechanism  | IETF RFC 4752:2006                     | BSP             | FMN CPWG                 |
| Internet X.509 Public Key Infrastructure Certificate and CRL Profile   | IETF RFC 5280:2008                     | BSP             | FMN CPWG                 |

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| Web Services Federation Language (WS-Federation) Version 1.2                                   | OASIS wsfed:2009                                | BSP                              | NCIA/CES                   |
| Web Services Policy 1.5 - Guidelines for Policy Assertion Authors                              | W3C NOTE-ws-policy-guidelines-20071112:2007     | BSP                              | NCIA/CS                    |
| Web Services Policy 1.5 - Primer   | W3C NOTE-ws-policy-primer-20071112:2007         | BSP                              | NCIA/CS                    |
| Web Services Policy 1.5 - Framework  | W3C REC-ws-policy-20070904:2007                 | BSP                              | NCIA/CS                    |
| <b>Policy Decision Point Services</b>  |   |                                  |                            |
| Biometrics Data, Interchange, Watchlisting and Reporting                                       | NATO AEDP-15 Ed A Ver 1:2013 / STANAG 4715 Ed 1 | BSP                              | CNAD, AC/224 NAFAG, JCGISR |
| <b>Information Labeling Services</b>   |   |                                  |                            |
| XMP Specification Part 3, Storage in Files   | ADOBE XMP-part3-2016:2016                       | BINDING-EXTENSIBLE-V2            | NCIA                       |
| HMAC: Keyed-Hashing for Message Authentication   | IETF RFC 2104:1997                              | BINDING-CRYPTO-V2                | NCIA                       |
| Key words for use in RFCs to Indicate Requirement Levels                                       | IETF RFC 2119:1997                              | BINDING-COMMON-XML               | NCIA                       |
| MIME Parameter Value and Encoded Word Extensions: Character Sets, Languages, and Continuations | IETF RFC 2231:1997                              | BINDING-REST-V2, BINDING-SMTP-V2 | NCIA                       |
| Content-ID and Message-ID Uniform Resource Locators  | IETF RFC 2392:1998                              | BINDING-SMTP-V2                  | NCIA/CES                   |
| Enhanced Security Services for S/MIME  | IETF RFC 2634:1999                              | BINDING-XMPP-V2                  | NCIA                       |
| Internet X.509 Public Key Infrastructure Certificate and CRL Profile                           | IETF RFC 5280:2008                              | BINDING-CRYPTO-V2                | FMN CPWG                   |
| Internet Message Format  | IETF RFC 5322:2008                              | BINDING-SMTP-V2                  | NCIA                       |

| <b>Title</b>  | <b>Pubnum</b>        | <b>Profiles</b>                         | <b>Responsible Party</b> |
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| <a href="#">Extensible Provisioning Protocol (EPP) Domain Name Mapping</a>  | IETF RFC 5731:2009   | BINDING-SMTP-V2                         | NCIA                     |
| <a href="#">Secure/Multipurpose Internet Mail Extensions (S/MIME) Version 3.2 Message Specification</a>   | IETF RFC 5751:2010   | BINDING-CRYPTO-V2                       | NCIA                     |
| <a href="#">Extensible Messaging and Presence Protocol (XMPP): Core</a>   | IETF RFC 6120:2011   | BINDING-XMPP-V2                         | NCIA                     |
| <a href="#">Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence</a>   | IETF RFC 6121:2011   | BINDING-XMPP-V2                         | NCIA                     |
| <a href="#">Extensible Messaging and Presence Protocol (XMPP): Address Format</a>   | IETF RFC 6122:2011   | BINDING-XMPP-V2                         | NCIA                     |
| <a href="#">Additional XML Security Uniform Resource Identifiers (URIs)</a>   | IETF RFC 6931:2013   | BINDING-CRYPTO-V2                       | NCIA                     |
| <a href="#">Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing</a>  | IETF RFC 7230:2014   | BINDING-REST-V2                         | NCIA/CES                 |
| <a href="#">Security Labels in Internet Email</a>   | IETF RFC 7444:2015   | BINDING-REST-V2,<br>BINDING-SMTP-V2     | NCIA                     |
| <a href="#">JSON Web Signature (JWS)</a>  | IETF RFC 7515:2015   | BINDING-CRYPTO-V2                       | NCIA                     |
| <a href="#">Graphic Technology - Extensible metadata platform (XMP) specification - Part 1: Data model, serialization and core properties</a>     | ISO 16684-1:2012     | BINDING-EXTENSIBLE-V2                   | NCIA                     |
| <a href="#">Information Technology - Document Schema Definition Languages (DSDL) - Part 3: Rules-based validation - Schematron Second Edition</a> | ISO 19757-3:2016     | BINDING-COMMON-XML                      | NCIA                     |
| <a href="#">Office Open XML File Formats -- Part 2: Open Packaging Conventions</a>  | ISO/IEC 29500-2:2012 | BINDING-GENERIC-V2,<br>BINDING-OOXML-V2 | NCIA                     |

| <b>Title</b>   | <b>Pubnum</b>                                      | <b>Profiles</b>  | <b>Responsible Party</b> |
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| Information Technology - Security Techniques - Security information objects for access control | ITU-T X.841:2000                                   | BINDING-REST-V2  | NCIA                     |
| Confidentiality Metadata Label Syntax  | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1 | BINDING-COMMON-XML, BINDING-CRYPTO-V2, BINDING-EXTENSIBLE-V2, BINDING-GENERIC-V2, BINDING-OOXML-V2, BINDING-REST-V2, BINDING-SIDECAR-V2, BINDING-SMTP-V2, BINDING-SOAP, BINDING-WSMP-V2, BINDING-XMPP-V2 | C3B CaP1 DM CaT          |
| Metadata Binding   | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1 | BINDING-COMMON-XML, BINDING-CRYPTO-V2, BINDING-EXTENSIBLE-V2, BINDING-GENERIC-V2, BINDING-OOXML-V2, BINDING-REST-V2, BINDING-SIDECAR-V2,   | C3B CaP1 DM CaT          |



| Title  | Pubnum  | Profiles   | Responsible Party |
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|  |   | BINDING-SMTP-V2,<br>BINDING-SOAP,<br>BINDING-WSMP-V2,<br>BINDING-XMPP-V2 |                   |
| Context/value Association using genericode 1.0               | OASIS context-value-association-1.0:2010        | BINDING-COMMON-XML   | NCIA              |
| Code List Representation (Genericode)                        | OASIS cs-genericode-1.0:2007                    | BINDING-COMMON-XML   | NCIA              |
| Web Services Security: SOAP Message Security 1.1             | OASIS wss-v1.1-spec-os-SOAPMessageSecurity:2006 | BINDING-CRYPTO-V2  | NCIA/CES          |
| Simple Object Access Protocol (SOAP)                         | W3C NOTE-SOAP-20000508:2000                     | BINDING-SOAP   | NCIA              |
| XML Security Algorithm Cross-Reference                       | W3C NOTE-xmlsec-algorithms-20130411:2013        | BINDING-CRYPTO-V2  | NCIA              |
| RDF 1.1 Concepts and Abstract Syntax                         | W3C REC-rdf11-concepts-20140225:2014            | BINDING-EXTENSIBLE-V2  | NCIA/CES          |
| RDF Primer   | W3C REC-rdf-primer-20040210:2004                | BINDING-EXTENSIBLE-V2  | NCIA              |
| SOAP Version 1.2 Part 1: Messaging Framework                 | W3C REC-soap12-part1-20030624:2003              | BINDING-SOAP   | NCIA              |
| Associating Style Sheets with XML documents, Version 1.0     | W3C REC-xmlstylesheet-19990629:1999             | BINDING-COMMON-XML   | NCIA/CES          |
| eXtensible Markup Language (XML) version 1.0 (Fifth Edition) | W3C REC-xml-20081126:2008                       | BINDING-EXTENSIBLE-V2  | FMN CPWG          |
| XML-Signature Syntax and Processing (Second Edition)         | W3C REC-xmlsig-core-20080610:2008               | BINDING-CRYPTO-V2,<br>BINDING-SOAP                                       | NCIA              |
| Errata for XML Signature 2nd Edition                         | W3C REC-xmlsig-core-20080610:2014               | BINDING-CRYPTO-V2  | NCIA              |



| <b>Title</b>   | <b>Pubnum</b>                       | <b>Profiles</b>    | <b>Responsible Party</b> |
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| XML Signature Syntax and Processing Version 1.1                      | W3C REC-xmlsig-core1-20130411:2013  | BINDING-CRYPTO-V2  | NCIA                     |
| XML Encryption Syntax and Processing                                 | W3C REC-xmlenc-core-20021210:2002   | BINDING-CRYPTO-V2  | NCIA                     |
| XML Encryption Syntax and Processing Version 1.1                     | W3C REC-xmlenc-core1-20130411:2013  | BINDING-CRYPTO-V2  | NCIA                     |
| XML Schema Definition Language (XSD) 1.1 Part 1: Structures          | W3C REC-xmlschema11-1-20120405:2012 | BINDING-COMMON-XML | NATO Archive Committee   |
| XML Path Language 1.0  | W3C REC-xpath-19991119:1999         | BINDING-CRYPTO-V2  | NCIA                     |
| XML Pointer Language (Xpointer)                                      | W3C wd-xptr-20020816:2002           | BINDING-CRYPTO-V2  | NCIA                     |
| Open XML SPIF  | XML SPIF xmlspif:2010               | BINDING-COMMON-XML | NCIA                     |
| XEP-0060: Publish-Subscribe  | XMPP XEP-0060:2010                  | BINDING-XMPP-V2    | NCIA                     |
| XEP-0258: Security Labels in XMPP                                    | XMPP XEP-0258:2013                  | BINDING-XMPP-V2    | NCIA                     |
| <b>Platform SMC Services</b>   |                                     |                    |                          |
| CIM Schema: Version 2.30.0   | DMTF CIM V2300:2011                 | BSP                | C3B CaP1 SMC CaT         |
| Configuration Management Database (CMDB) Federation Specification    | DMTF DSP0252:2010                   | BSP                | C3B CaP1 SMC CaT         |
| IEEE QoS   | IEEE 802.1p:2004                    | BSP                | NCIA/NSII                |
| Structure of Management Information                                  | IETF RFC 1212:1991                  | BSP                | NCIA/CES                 |
| Management Information Base v2 (MIB II)                              | IETF RFC 1213:1991                  | BSP                | NCIA/SMC                 |
| Definitions of Managed Objects for the Ethernet-like Interface Types | IETF RFC 1643:1994                  | BSP                | NCIA/NSII                |
| RIP Version 2 MIB Extensions   | IETF RFC 1724:1994                  | BSP                | NCIA/SMC                 |
| Host Resources Management Information Base (MIB)                     | IETF RFC 2790:2000                  | BSP                | NCIA/SMC                 |

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| Remote Network Monitoring Management Information Base, RMON-MIB version 1                          | IETF RFC 2819:2000                                    | BSP             | NCIA/SMC                 |
| OSPF version 2 Management Information Base:2006  | IETF RFC 4750:2006                                    | BSP             | NCIA/SMC                 |
| COBIT 5: A Business Framework for the Governance and Management of Enterprise IT                   | ISACA Cobit 5:2012                                    | BSP             | NCIA/Sstrat/Sea          |
| Performance objectives and procedures for provisioning and maintenance of IP-based networks        | ITU-T M.2301:2002                                     | BSP             | FMN CPWG                 |
| TMF630 API Design Guidelines 3.0 R17.5.0   | TM-FORUM TMF630:2017                                  | FMN4            | FMN CPWG                 |
| API REST Conformance Guidelines R15.5.1 Standard   | TM-FORUM TR250:2016                                   | FMN4            | FMN CPWG                 |
| <b>Service Discovery Services</b>  |   |                 |                          |
| electronic business eXtensible Markup Language (ebXML) Technical Architecture Specification v1.0.4 | EBXML ebTA:2001                                       | BSP             | NCIA/CES                 |
| TIDE Service Discovery   | NATO TIDE/TIDE-ID-SP:2008                             | BSP             | NCIA/CES                 |
| ebXML Registry Services and Protocols Version 3.0  | OASIS regrep-rs-3.0-os:2005                           | BSP             | NCIA/CES                 |
| Universal Description Discovery & Integration (UDDI)   | OASIS uddi-v3.00-published-20020719:2002              | BSP             | NCIA/C2                  |
| Web Service Description Language (WSDL) 1.1  | W3C NOTE-wsdl-20010315:2001                           | BSP             | FMN CPWG                 |
| <b>Message-Oriented Middleware Services</b>  |   |                 |                          |
| Web Service Messaging Profile (WSMP)   | NATO ADatP-5644 (Study) Ed A Ver 1 / STANAG 5644 Ed 1 | FMN4            | C3B CaP1 DM CaT          |
| Web Services Reliable Messaging (WS-ReliableMessaging)   | OASIS relmes:2009                                     | BSP             | FMN CPWG                 |
| Web Services Security: SOAP Message Security 1.1   | OASIS wss-v1.1-spec-os-SOAPMessageSecurity:2006       | BSP             | NCIA/CES                 |

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| <b>Direct Messaging Services</b>   |  |          |                           |
| Specifications Defining The Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Security                       | NATO AEP-76 Vol1 Ed A Ver 2:2017 / STANAG 4677 Ed 1  | FMN4     | CNAD, AC/225 NAAG, LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Data Model                     | NATO AEP-76 Vol2 Ed A Ver 2:2017 / STANAG 4677 Ed 1  | FMN4     | CNAD, AC/225 NAAG, LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - LOANED RADIO                   | NATO AEP-76 III Ed. A Ver. 2:2017 / STANAG 4677 Ed 1 | FMN4     | FMN CPWG                  |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Information Exchange Mechanism | NATO AEP-76 Vol4 Ed A Ver 2:2017 / STANAG 4677 Ed 1  | FMN4     | CNAD, AC/225 NAAG, LCGDSS |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Network Access                 | NATO AEP-76 Vol5 Ed A Ver 2:2017 / STANAG 4677 Ed 1  | FMN4     | CNAD, AC/225 NAAG, LCGDSS |
| <b>Web Platform Services</b>   |  |          |                           |
| FTP Security Extensions  | IETF RFC 2228:1997                                   | BSP      | NCIA/CES                  |
| HyperText Transfer Protocol (HTTP), version 1.1  | IETF RFC 2616:1999                                   | BSP      | FMN CPWG                  |
| Internationalization of the File Transfer Protocol   | IETF RFC 2640:1999                                   | BSP      | NCIA/CES                  |
| Extensions to FTP  | IETF RFC 3659:2007                                   | BSP      | NCIA/CES                  |
| Extended MKCOL for Web Distributed Authoring and Versioning (WebDAV)   | IETF RFC 5689:2009                                   | BSP      | NCIA/CES                  |
| FTP Command and Extension Registry   | IETF RFC 5797:2010                                   | BSP      | NCIA/CES                  |
| File Transfer Protocol HOST Command for Virtual Hosts  | IETF RFC 7151:2014                                   | BSP      | NCIA/CES                  |

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| Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing | IETF RFC 7230:2014                     | BSP              | NCIA/CES                 |
| Geolocation API Specification 2nd Edition                          | W3C REC-geolocation-API-20161108/:2016 | SIP-FOR-WEB-APPS | FMN CPWG                 |
| HTML5 Differences from HTML4                                       | W3C NOTE-html5-diff:2014               | SIP-FOR-WEB-APPS | FMN CPWG                 |
| Cascading Style Sheets, level 2 revision 1                         | W3C REC-CSS2-2011067:2011              | BSP              | FMN CPWG                 |
| Hypertext Markup Language revision 5.2 (HTML5)                     | W3C REC-html52:2017                    | SIP-FOR-WEB-APPS | FMN CPWG                 |
| Hypertext Markup Language revision 5.3 Editor's Draft (4.7)        | W3C REC-html53-Draft:2018              | SIP-FOR-WEB-APPS | FMN CPWG                 |
| Media Source Extensions  | W3C REC-media-source:2016              | SIP-FOR-WEB-APPS | FMN CPWG                 |
| Mobile Web Application Best Practices                              | W3C REC-mwabp:2010                     | SIP-FOR-WEB-APPS | FMN CPWG                 |
| XML Information Set  | W3C REC-xml-infoaset-20011024:2001     | BSP              | NCIA/CES                 |
| Associating Style Sheets with XML documents, Version 1.0           | W3C REC-xml-stylesheet-19990629:1999   | BSP              | NCIA/CES                 |
| eXtensible Markup Language (XML) version 1.0 (Fifth Edition)       | W3C REC-xml-20081126:2008              | BSP              | FMN CPWG                 |
| XML Base   | W3C REC-xmlbase-20010627:2001          | BSP              | NCIA/CES                 |
| Web Speech API   | W3C speech-API:2018                    | SIP-FOR-WEB-APPS | FMN CPWG                 |
| DOM Parsing and Serialization                                      | W3C WD-DOM-Parsing:2016                | SIP-FOR-WEB-APPS | FMN CPWG                 |
| Wireless Markup Language (WML) version 2                           | WAPFORUM WAP-238-WML-20010911-a:2001   | BSP              | NCIA/CES                 |
| <b>Web Hosting Services</b>  |  |                  |                          |

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| <a href="#">SIP for Binding Metadata to HTTP Messages</a>  | FMN SIP for Binding Metadata to HTTP Messages:2021 | FMN4            | FMN CPWG                 |
| <a href="#">SIP for Binding Metadata to SOAP Messages</a>  | FMN SIP for Binding Metadata to SOAP Messages:2021 | FMN4            | FMN CPWG                 |
| <a href="#">Uniform Resource Locators (URL)</a>  | IETF RFC 1738:1994                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">The TLS Protocol Version 1.0</a>   | IETF RFC 2246:1999                                 | SIP-FOR-TLS     | FMN CPWG                 |
| <a href="#">Upgrading to TLS Within HTTP/1.1</a>   | IETF RFC 2817:2000                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">The 'text/html' Media Type</a>   | IETF RFC 2854:2000                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">UTF-8, a transformation format of ISO/IEC 10646</a>                                    | IETF RFC 3629:2003                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">Transport Layer Security Protocol Compression Methods</a>                              | IETF RFC 3749:2004                                 | SIP-FOR-TLS     | FMN CPWG                 |
| <a href="#">Uniform Resource Identifiers (URI): Generic Syntax</a>                                 | IETF RFC 3986:2005                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">Atom Syndication Format, v1.0</a>  | IETF RFC 4287:2005                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">Scripting Media Types</a>  | IETF RFC 4329:2006                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">The Transport Layer Security (TLS) Protocol Version 1.1</a>                            | IETF RFC 4346:2006                                 | SIP-FOR-TLS     | FMN CPWG                 |
| <a href="#">Elliptic Curve Cryptography (ECC) Cipher Suites for Transport Layer Security (TLS)</a> | IETF RFC 4492:2006                                 | SIP-FOR-TLS     | FMN CPWG                 |
| <a href="#">The application/json Media Type for JavaScript Object Notation (JSON)</a>              | IETF RFC 4627:2006                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">Atom Publishing Protocol</a>   | IETF RFC 5023:2007                                 | FMN3, FMN4      | FMN CPWG                 |
| <a href="#">Transport Layer Security (TLS)</a>   | IETF RFC 5246:2008                                 | SIP-FOR-TLS     | C3B CaP4                 |
| <a href="#">Internet X.509 Public Key Infrastructure Certificate and CRL Profile</a>               | IETF RFC 5280:2008                                 | SIP-FOR-TLS     | FMN CPWG                 |
| <a href="#">Internet Calendaring and Scheduling Core Object Specification (iCalendar)</a>          | IETF RFC 5545:2009                                 | FMN4            | FMN CPWG                 |
| <a href="#">Transport Layer Security (TLS) Renegotiation Indication Extension</a>                  | IETF RFC 5746:2010                                 | SIP-FOR-TLS     | FMN CPWG                 |

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| Transport Layer Security (TLS) Extensions: Extension Definitions  | IETF RFC 6066:2011 | SIP-FOR-TLS     | FMN CPWG                 |
| The Secure Sockets Layer (SSL) Protocol Version 3.0   | IETF RFC 6101:2011 | SIP-FOR-TLS     | FMN CPWG                 |
| Representation and Verification of Domain-Based Application Service Identity within Internet Public Key Infrastructure Using X.509 (PKIX) Certificates in the Context of Transport Layer Security (TLS) | IETF RFC 6125:2011 | SIP-FOR-TLS     | FMN CPWG                 |
| Prohibiting Secure Sockets Layer (SSL) Version 2.0  | IETF RFC 6176:2011 | SIP-FOR-TLS     | FMN CPWG                 |
| Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS) Heartbeat Extension   | IETF RFC 6520:2012 | SIP-FOR-TLS     | FMN CPWG                 |
| X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP  | IETF RFC 6960:2013 | SIP-FOR-TLS     | FMN CPWG                 |
| The Transport Layer Security (TLS) Multiple Certificate Status Request Extension  | IETF RFC 6961:2013 | SIP-FOR-TLS     | FMN CPWG                 |
| Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing  | IETF RFC 7230:2014 | FMN3, FMN4      | NCIA/CES                 |
| Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content   | IETF RFC 7231:2014 | FMN3, FMN4      | FMN CPWG                 |
| Hypertext Transfer Protocol (HTTP/1.1): Conditional Requests  | IETF RFC 7232:2014 | FMN3, FMN4      | FMN CPWG                 |
| Hypertext Transfer Protocol (HTTP/1.1): Range Requests  | IETF RFC 7233:2014 | FMN3, FMN4      | FMN CPWG                 |
| Hypertext Transfer Protocol (HTTP/1.1): Caching   | IETF RFC 7234:2014 | FMN3, FMN4      | FMN CPWG                 |
| Hypertext Transfer Protocol (HTTP/1.1): Authentication  | IETF RFC 7235:2014 | FMN3, FMN4      | FMN CPWG                 |
| Encrypt-then-MAC for Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)  | IETF RFC 7366:2014 | SIP-FOR-TLS     | FMN CPWG                 |

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| Recommendations for Secure Use of Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)         | IETF RFC 7525:2015   | SIP-FOR-TLS     | FMN CPWG                 |
| Deprecating Secure Sockets Layer Version 3.0  | IETF RFC 7568:2015   | SIP-FOR-TLS     | FMN CPWG                 |
| Transport Layer Security (TLS) Session Hash and Extended Master Secret Extension                                      | IETF RFC 7627:2015   | SIP-FOR-TLS     | FMN CPWG                 |
| Negotiated Finite Field Diffie-Hellman Ephemeral Parameters for Transport Layer Security (TLS)                        | IETF RFC 7919:2016   | SIP-FOR-TLS     | FMN CPWG                 |
| Transmission Control Protocol   | IETF RFC 793:1981    | SIP-FOR-TLS     | FMN CPWG                 |
| The SSL Protocol  | IETF RFC SSL2:1995   | SIP-FOR-TLS     | FMN CPWG                 |
| Electronic document file format for long-term preservation -- Part 1: Use of PDF 1.4 (PDF/A-1)                        | ISO 19005-1:2005     | FMN3, FMN4      | FMN CPWG                 |
| Electronic document file format for long-term preservation -- Part 2: Use of ISO 32000-1 (PDF/A-2)                    | ISO 19005-2:2011     | FMN3, FMN4      | FMN CPWG                 |
| Document management -- Portable document format -- Part 1: PDF 1.7  | ISO 32000-1:2008     | FMN3, FMN4      | FMN CPWG                 |
| Digital compression and coding of continuous-tone still images: Requirements and guidelines                           | ISO/IEC 10918-1:1994 | FMN3, FMN4      | FMN CPWG                 |
| Digital compression and coding of continuous-tone still images: Extensions  | ISO/IEC 10918-3:1997 | FMN3, FMN4      | FMN CPWG                 |
| Open Document Format for Office Applications (OpenDocument) v1.2 -- Part 1: OpenDocument Schema                       | ISO/IEC 26300-1:2015 | FMN4            | FMN CPWG                 |
| Open Document Format for Office Applications (OpenDocument) v1.2 -- Part 2: Recalculated Formula (OpenFormula) Format | ISO/IEC 26300-2:2015 | FMN4            | FMN CPWG                 |
| Open Document Format for Office Applications (OpenDocument) v1.2 -- Part 3: Packages                                  | ISO/IEC 26300-3:2015 | FMN4            | FMN CPWG                 |



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| Office Open XML File Formats -- Part 1: Fundamentals and Markup Language Reference   | ISO/IEC 29500-1:2012  | FMN3, FMN4      | FMN CPWG                   |
| The Directory: Public-key and attribute certificate frameworks                       | ISO/IEC 9594-8:2008   | BSP             | NCIA/CS                    |
| Confidentiality Metadata Label Syntax  | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1                      | FMN4            | C3B CaP1 DM CaT            |
| Metadata Binding   | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1                      | FMN4            | C3B CaP1 DM CaT            |
| NATO Secondary Imagery Format (NSIF) STANAG 4545 Implementation Guide                | NATO AEDP-04 Ed 2 Ver 1:2013 / STANAG 4545 Ed 2                         | FMN3            | CNAD, AC/224 NAFAG, JCGISR |
| NATO Ground Moving Target Indicator(GMTI) Format                                     | NATO AEDP-07 Ed 2 Ver 1:2010 / STANAG 4607 Ed 3                         | FMN3            | FMN CPWG                   |
| NATO Intelligence, Surveillance And Reconnaissance Tracking Standard                 | NATO AEDP-12 Ed A Ver 1:2014 / STANAG 4676 Ed 1                         | FMN3            | FMN CPWG                   |
| NATO standardization of measurement and signature intelligence (MASINT) Reporting    | NATO AEDP-16 / STANAG (Study) 4716 Ed 1                                 | FMN3            | CNAD, AC/224 NAFAG, JCGISR |
| Captured Persons, Materiel And Documents   | NATO AJP-2.5 Ed A:2007 / STANAG 2195 Ed 2                               | FMN3            | MC, MCJSB, JINT            |
| NATO Message Catalogue <sup>2</sup>  | NATO Study (expected) APP-11 Ed D Ver 2:2017 / STANAG 7149 Ed 6 (study) | FMN3            | MC, MCJSB, IERHWG          |
| US Motion Imagery Standards Board (MISB) - Motion Imaginary Standards Profile-2015.1 | NATO NNSTD MISP-2015.1:2016 / STANAG 4609 Ed 4                          | FMN3            | FMN CPWG                   |
| Air Reconnaissance Intelligence Report Forms   | NATO STANAG 3377 Ed 6:2002  | FMN3            | FMN CPWG                   |



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| WS-SecurityPolicy 1.3  | OASIS<br>wsspol-1.3:2009                     | BSP             | NCIA/CS                  |
|  |  | FMN4            |                          |
| Geography Markup Language (GML) simple features profile Technical Note v 2.0 | OGC 11-044:2011                              | FMN3            | FMN CPWG                 |
| GML application schema for the Simple and GML serializations of GeoRSS       | OGC 1.1:2006                                 | FMN4            | FMN CPWG                 |
| RSS 2.0 Specification  | RSS 2.0:2009                                 | FMN3, FMN4      | FMN CPWG                 |
| Web Services Addressing 1.0 - Core   | W3C REC-ws-addr-core-20060509:2006           | FMN3, FMN4      | FMN CPWG                 |
| Cross-Origin Resource Sharing  | W3C CR-cors-20130129:2013                    | FMN3, FMN4      | FMN CPWG                 |
| Simple Object Access Protocol (SOAP)   | W3C NOTE-SOAP-20000508:2000                  | FMN3, FMN4      | NCIA                     |
| Web Service Description Language (WSDL) 1.1                                  | W3C NOTE-wsdl-20010315:2001                  | FMN3, FMN4      | FMN CPWG                 |
| Web Services Description Language (WSDL) Version 2.0 SOAP 1.1 Binding        | W3C NOTE-wsdl20-soap11-binding-20070626:2007 | FMN3, FMN4      | FMN CPWG                 |
| XHTML™ 1.0 in XML Schema   | W3C NOTE-xhtml1-schema-20020902:2002         | FMN3, FMN4      | FMN CPWG                 |
| Character Model for the World Wide Web 1.0: Fundamentals                     | W3C REC-charmod-20050215:2005                | FMN4            | FMN CPWG                 |
| CSS Namespaces Module Level 3  | W3C REC-css-namespaces-3-20140320:2014       | FMN3, FMN4      | FMN CPWG                 |
| CSS Style Attributes   | W3C REC-css-style-attr-20131107:2013         | FMN3, FMN4      | FMN CPWG                 |
| Cascading Style Sheets, level 2 revision 1                                   | W3C REC-CSS2-2011067:2011                    | FMN3, FMN4      | FMN CPWG                 |
| CSS Color Module Level 3   | W3C REC-css3-color-20110607:2011             | FMN3, FMN4      | FMN CPWG                 |
| Media Queries  | W3C REC-css3-mediaqueries-20120619:2012      | FMN3, FMN4      | FMN CPWG                 |

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| Selectors Level 3  | W3C REC-css3-selectors-20110929:2011 | FMN3, FMN4      | FMN CPWG                 |
| Hypertext Markup Language revision 5 (HTML5)   | W3C REC-html5-20141028:2014          | FMN3, FMN4      | FMN CPWG                 |
| Internationalization Tag Set (ITS) Version 1.0   | W3C REC-its-20070403:2007            | FMN4            | FMN CPWG                 |
| Internationalization Tag Set (ITS) Version 2.0   | W3C REC-its20-20131029:2013          | FMN4            | FMN CPWG                 |
| Ruby Annotation  | W3C REC-ruby-20010531:2001           | FMN4            | FMN CPWG                 |
| eXtensible Markup Language (XML) version 1.0 (Fifth Edition)                                   | W3C REC-xml-20081126:2008            | FMN3, FMN4      | FMN CPWG                 |
| XML Schema Part 1: Structures Second Edition   | W3C REC-xmlschema-1-20041028:2004    | FMN3, FMN4      | FMN CPWG                 |
| XML Schema Part 2: Datatypes Second Edition  | W3C REC-xmlschema-2-20041028:2004    | FMN3, FMN4      | FMN CPWG                 |
| XML Key Management Specification:2005  | W3C xkms2:2005                       | BSP             | NCIA/CES                 |
| <b>Web Presentation Services</b>   |                                      |                 |                          |
| Web Services for Remote Portlets Specification   | OASIS wsrp-specification-1.0:2003    | BSP             | NCIA/CES                 |
| <b>Information Access Services</b>   |                                      |                 |                          |
| MIME Parameter Value and Encoded Word Extensions: Character Sets, Languages, and Continuations | IETF RFC 2231:1997                   | BINDING-REST-V2 | NCIA                     |
| Atom Syndication Format, v1.0  | IETF RFC 4287:2005                   | BSP             | FMN CPWG                 |
| Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing                             | IETF RFC 7230:2014                   | BINDING-REST-V2 | NCIA/CES                 |
| Security Labels in Internet Email  | IETF RFC 7444:2015                   | BINDING-REST-V2 | NCIA                     |
| Information Technology - Security Techniques - Security information objects for access control | ITU-T X.841:2000                     | BINDING-REST-V2 | NCIA                     |

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| Confidentiality Metadata Label Syntax  | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1 | BINDING-REST-V2, BINDING-SOAP    | C3B CaP1 DM CaT   |
| Metadata Binding   | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1 | BINDING-REST-V2, BINDING-SOAP    | C3B CaP1 DM CaT   |
| RSS 2.0 Specification  | RSS 2.0:2009                                       | BSP                              | FMN CPWG          |
| Simple Object Access Protocol (SOAP)   | W3C NOTE-SOAP-20000508:2000                        | BINDING-SOAP                     | NCIA              |
| SOAP Version 1.2 Part 1: Messaging Framework   | W3C REC-soap12-part1-20030624:2003                 | BINDING-SOAP                     | NCIA              |
| Extensible HyperText Markup Language, version 1  | W3C REC-xhtml1-20020801:2002                       | BSP                              | NCIA/CES          |
| XML-Signature Syntax and Processing (Second Edition)   | W3C REC-xmlsig-core-20080610:2008                  | BINDING-SOAP                     | NCIA              |
| <b>Metadata Repository Services</b>  |  |                                  |                   |
| XML Signature Syntax and Processing (2nd ed.):2008   | W3C xmlsig-core:2008                               | BSP                              | NCIA/CES          |
| <b>Information Annotation Services</b>   |  |                                  |                   |
| XMP Specification Part 3, Storage in Files   | ADOBE XMP-part3-2016:2016                          | BINDING-EXTENSIBLE-V2            | NCIA              |
| HMAC: Keyed-Hashing for Message Authentication   | IETF RFC 2104:1997                                 | BINDING-CRYPTO-V2                | NCIA              |
| Key words for use in RFCs to Indicate Requirement Levels                                       | IETF RFC 2119:1997                                 | BINDING-COMMON-XML               | NCIA              |
| MIME Parameter Value and Encoded Word Extensions: Character Sets, Languages, and Continuations | IETF RFC 2231:1997                                 | BINDING-REST-V2, BINDING-SMTP-V2 | NCIA              |
| Content-ID and Message-ID Uniform Resource Locators  | IETF RFC 2392:1998                                 | BINDING-SMTP-V2                  | NCIA/CES          |
| Enhanced Security Services for S/MIME  | IETF RFC 2634:1999                                 | BINDING-XMPP-V2                  | NCIA              |
| Internet X.509 Public Key Infrastructure Certificate and CRL Profile                           | IETF RFC 5280:2008                                 | BINDING-CRYPTO-V2                | FMN CPWG          |

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| <a href="#">Internet Message Format</a>   | IETF RFC 5322:2008   | BINDING-SMTP-V2                         | NCIA                     |
| <a href="#">Extensible Provisioning Protocol (EPP) Domain Name Mapping</a>  | IETF RFC 5731:2009   | BINDING-SMTP-V2                         | NCIA                     |
| <a href="#">Secure/Multipurpose Internet Mail Extensions (S/MIME) Version 3.2 Message Specification</a>   | IETF RFC 5751:2010   | BINDING-CRYPTO-V2                       | NCIA                     |
| <a href="#">Extensible Messaging and Presence Protocol (XMPP): Core</a>   | IETF RFC 6120:2011   | BINDING-XMPP-V2                         | NCIA                     |
| <a href="#">Extensible Messaging and Presence Protocol (XMPP): Instant Messaging and Presence</a>   | IETF RFC 6121:2011   | BINDING-XMPP-V2                         | NCIA                     |
| <a href="#">Extensible Messaging and Presence Protocol (XMPP): Address Format</a>   | IETF RFC 6122:2011   | BINDING-XMPP-V2                         | NCIA                     |
| <a href="#">Additional XML Security Uniform Resource Identifiers (URIs)</a>   | IETF RFC 6931:2013   | BINDING-CRYPTO-V2                       | NCIA                     |
| <a href="#">Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing</a>  | IETF RFC 7230:2014   | BINDING-REST-V2                         | NCIA/CES                 |
| <a href="#">Security Labels in Internet Email</a>   | IETF RFC 7444:2015   | BINDING-REST-V2,<br>BINDING-SMTP-V2     | NCIA                     |
| <a href="#">JSON Web Signature (JWS)</a>  | IETF RFC 7515:2015   | BINDING-CRYPTO-V2                       | NCIA                     |
| <a href="#">Graphic Technology - Extensible metadata platform (XMP) specification - Part 1: Data model, serialization and core properties</a>     | ISO 16684-1:2012     | BINDING-EXTENSIBLE-V2                   | NCIA                     |
| <a href="#">Information Technology - Document Schema Definition Languages (DSDL) - Part 3: Rules-based validation - Schematron Second Edition</a> | ISO 19757-3:2016     | BINDING-COMMON-XML                      | NCIA                     |
| <a href="#">Office Open XML File Formats -- Part 2: Open Packaging Conventions</a>  | ISO/IEC 29500-2:2012 | BINDING-GENERIC-V2,<br>BINDING-OOXML-V2 | NCIA                     |

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| Information Technology - Security Techniques - Security information objects for access control | ITU-T X.841:2000                                   | BINDING-REST-V2  | NCIA                     |
| Confidentiality Metadata Label Syntax  | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1 | BINDING-COMMON-XML, BINDING-CRYPTO-V2, BINDING-EXTENSIBLE-V2, BINDING-GENERIC-V2, BINDING-OOXML-V2, BINDING-REST-V2, BINDING-SIDECAR-V2, BINDING-SMTP-V2, BINDING-SOAP, BINDING-WSMP-V2, BINDING-XMPP-V2 | C3B CaP1 DM CaT          |
| Metadata Binding   | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1 | BINDING-COMMON-XML, BINDING-CRYPTO-V2, BINDING-EXTENSIBLE-V2, BINDING-GENERIC-V2, BINDING-OOXML-V2, BINDING-REST-V2, BINDING-SIDECAR-V2,   | C3B CaP1 DM CaT          |

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|  |   | BINDING-SMTP-V2,<br>BINDING-SOAP,<br>BINDING-WSMP-V2,<br>BINDING-XMPP-V2 |                   |
| Context/value Association using genericode 1.0               | OASIS context-value-association-1.0:2010        | BINDING-COMMON-XML   | NCIA              |
| Code List Representation (Genericode)                        | OASIS cs-genericode-1.0:2007                    | BINDING-COMMON-XML   | NCIA              |
| Web Services Security: SOAP Message Security 1.1             | OASIS wss-v1.1-spec-os-SOAPMessageSecurity:2006 | BINDING-CRYPTO-V2  | NCIA/CES          |
| Simple Object Access Protocol (SOAP)                         | W3C NOTE-SOAP-20000508:2000                     | BINDING-SOAP   | NCIA              |
| XML Security Algorithm Cross-Reference                       | W3C NOTE-xmlsec-algorithms-20130411:2013        | BINDING-CRYPTO-V2  | NCIA              |
| RDF 1.1 Concepts and Abstract Syntax                         | W3C REC-rdf11-concepts-20140225:2014            | BINDING-EXTENSIBLE-V2  | NCIA/CES          |
| RDF Primer   | W3C REC-rdf-primer-20040210:2004                | BINDING-EXTENSIBLE-V2  | NCIA              |
| SOAP Version 1.2 Part 1: Messaging Framework                 | W3C REC-soap12-part1-20030624:2003              | BINDING-SOAP   | NCIA              |
| Associating Style Sheets with XML documents, Version 1.0     | W3C REC-xml-stylesheet-19990629:1999            | BINDING-COMMON-XML   | NCIA/CES          |
| eXtensible Markup Language (XML) version 1.0 (Fifth Edition) | W3C REC-xml-20081126:2008                       | BINDING-EXTENSIBLE-V2  | FMN CPWG          |
| XML-Signature Syntax and Processing (Second Edition)         | W3C REC-xmlsig-core-20080610:2008               | BINDING-CRYPTO-V2,<br>BINDING-SOAP                                       | NCIA              |
| Errata for XML Signature 2nd Edition                         | W3C REC-xmlsig-core-20080610:2014               | BINDING-CRYPTO-V2  | NCIA              |

| <b>Title</b>   | <b>Pubnum</b>                       | <b>Profiles</b>    | <b>Responsible Party</b> |
|--|-------------------------------------|--------------------|--------------------------|
| XML Signature Syntax and Processing Version 1.1                                    | W3C REC-xmlsig-core1-20130411:2013  | BINDING-CRYPTO-V2  | NCIA                     |
| XML Encryption Syntax and Processing   | W3C REC-xmlenc-core-20021210:2002   | BINDING-CRYPTO-V2  | NCIA                     |
| XML Encryption Syntax and Processing Version 1.1                                   | W3C REC-xmlenc-core1-20130411:2013  | BINDING-CRYPTO-V2  | NCIA                     |
| XML Schema Definition Language (XSD) 1.1 Part 1: Structures                        | W3C REC-xmlschema11-1-20120405:2012 | BINDING-COMMON-XML | NATO Archive Committee   |
| XML Path Language 1.0  | W3C REC-xpath-19991119:1999         | BINDING-CRYPTO-V2  | NCIA                     |
| XML Pointer Language (Xpointer)  | W3C wd-xptr-20020816:2002           | BINDING-CRYPTO-V2  | NCIA                     |
| Open XML SPIF  | XML SPIF xmlspif:2010               | BINDING-COMMON-XML | NCIA                     |
| XEP-0060: Publish-Subscribe  | XMPP XEP-0060:2010                  | BINDING-XMPP-V2    | NCIA                     |
| XEP-0258: Security Labels in XMPP  | XMPP XEP-0258:2013                  | BINDING-XMPP-V2    | NCIA                     |
| <b>Directory Services</b>  |                                     |                    |                          |
| Common Directory Services and Procedures   | CCEB ACP 133(C):2007                | BSP                | C3B NACP CaT             |
| The TLS Protocol Version 1.0   | IETF RFC 2246:1999                  | SIP-FOR-TLS        | FMN CPWG                 |
| Definition of the inetOrgPerson LDAP Object Class                                  | IETF RFC 2798:2000                  | FMN3, FMN4         | FMN CPWG                 |
| LDAP Data Interchange Format (LDIF)  | IETF RFC 2849:2000                  | FMN4               | FMN CPWG                 |
| Transport Layer Security Protocol Compression Methods                              | IETF RFC 3749:2004                  | SIP-FOR-TLS        | FMN CPWG                 |
| The Transport Layer Security (TLS) Protocol Version 1.1                            | IETF RFC 4346:2006                  | SIP-FOR-TLS        | FMN CPWG                 |
| Elliptic Curve Cryptography (ECC) Cipher Suites for Transport Layer Security (TLS) | IETF RFC 4492:2006                  | SIP-FOR-TLS        | FMN CPWG                 |
| LDAP: Technical Specification Road Map   | IETF RFC 4510:2006                  | FMN4               | FMN CPWG                 |



| <b>Title</b>  | <b>Pubnum</b>      | <b>Profiles</b> | <b>Responsible Party</b> |
|---|--------------------|-----------------|--------------------------|
| LDAP: The Protocol  | IETF RFC 4511:2006 | FMN4            | FMN CPWG                 |
| LDAP: Directory Information Models  | IETF RFC 4512:2006 | FMN4            | FMN CPWG                 |
| LDAP: Authentication Methods and Security Mechanisms  | IETF RFC 4513:2006 | FMN4            | FMN CPWG                 |
| LDAP: String Representation of Distinguished Names  | IETF RFC 4514:2006 | FMN4            | FMN CPWG                 |
| LDAP: String Representation of Search Filters   | IETF RFC 4515:2006 | FMN4            | FMN CPWG                 |
| LDAP: Uniform Resource Locator  | IETF RFC 4516:2006 | FMN4            | FMN CPWG                 |
| LDAP: Syntaxes and Matching Rules   | IETF RFC 4517:2006 | FMN4            | FMN CPWG                 |
| LDAP: Internationalized String Preparation  | IETF RFC 4518:2006 | FMN4            | FMN CPWG                 |
| LDAP: Schema for User Applications  | IETF RFC 4519:2006 | FMN3, FMN4      | FMN CPWG                 |
| Transport Layer Security (TLS)  | IETF RFC 5246:2008 | SIP-FOR-TLS     | C3B CaP4                 |
| Internet X.509 Public Key Infrastructure Certificate and CRL Profile  | IETF RFC 5280:2008 | SIP-FOR-TLS     | FMN CPWG                 |
| Transport Layer Security (TLS) Renegotiation Indication Extension   | IETF RFC 5746:2010 | SIP-FOR-TLS     | FMN CPWG                 |
| Transport Layer Security (TLS) Extensions: Extension Definitions  | IETF RFC 6066:2011 | SIP-FOR-TLS     | FMN CPWG                 |
| The Secure Sockets Layer (SSL) Protocol Version 3.0   | IETF RFC 6101:2011 | SIP-FOR-TLS     | FMN CPWG                 |
| Representation and Verification of Domain-Based Application Service Identity within Internet Public Key Infrastructure Using X.509 (PKIX) Certificates in the Context of Transport Layer Security (TLS) | IETF RFC 6125:2011 | SIP-FOR-TLS     | FMN CPWG                 |
| Prohibiting Secure Sockets Layer (SSL) Version 2.0  | IETF RFC 6176:2011 | SIP-FOR-TLS     | FMN CPWG                 |
| Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS) Heartbeat Extension   | IETF RFC 6520:2012 | SIP-FOR-TLS     | FMN CPWG                 |



| Title  | Pubnum                     | Profiles           | Responsible Party |
|--|----------------------------|--------------------|-------------------|
| X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP   | IETF RFC 6960:2013         | SIP-FOR-TLS        | FMN CPWG          |
| The Transport Layer Security (TLS) Multiple Certificate Status Request Extension   | IETF RFC 6961:2013         | SIP-FOR-TLS        | FMN CPWG          |
| Encrypt-then-MAC for Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)                           | IETF RFC 7366:2014         | SIP-FOR-TLS        | FMN CPWG          |
| Recommendations for Secure Use of Transport Layer Security (TLS) and Datagram Transport Layer Security (DTLS)              | IETF RFC 7525:2015         | SIP-FOR-TLS        | FMN CPWG          |
| Deprecating Secure Sockets Layer Version 3.0   | IETF RFC 7568:2015         | SIP-FOR-TLS        | FMN CPWG          |
| Transport Layer Security (TLS) Session Hash and Extended Master Secret Extension   | IETF RFC 7627:2015         | SIP-FOR-TLS        | FMN CPWG          |
| Negotiated Finite Field Diffie-Hellman Ephemeral Parameters for Transport Layer Security (TLS)                             | IETF RFC 7919:2016         | SIP-FOR-TLS        | FMN CPWG          |
| Transmission Control Protocol  | IETF RFC 793:1981          | SIP-FOR-TLS        | FMN CPWG          |
| The SSL Protocol   | IETF RFC SSL2:1995         | SIP-FOR-TLS        | FMN CPWG          |
| <b>Relational Database Services</b>  |                            |                    |                   |
| Open Database Connectivity (ODBC) 3.8  | Microsoft MSDN-ODBCPR:1996 | BSP                | NCIA/CES          |
| Joint C3 Information Exchange Data Model (JC3IEDM)   | NATO STANAG 5525 Ed 1:2007 | BSP                | C3B CaP1 DM CaT   |
| <b>Mediation Services</b>  |                            |                    |                   |
| Profile for the Use of S/MIME protocols Cryptographic Message Syntax (CMS) and Enhanced Security Services (ESS) for S/MIME | NATO STANAG 4631 Ed 1:2008 | BSP                | C3B CaP1          |
| <b>Data Format Transformation Services</b>   |                            |                    |                   |
| Key words for use in RFCs to Indicate Requirement Levels   | IETF RFC 2119:1997         | BINDING-COMMON-XML | NCIA              |

| <b>Title</b>  | <b>Pubnum</b>                                      | <b>Profiles</b>    | <b>Responsible Party</b> |
|---|--|--------------------|--------------------------|
| Information Technology - Document Schema Definition Languages (DSDL) - Part 3: Rules-based validation - Schematron Second Edition   | ISO 19757-3:2016                                   | BINDING-COMMON-XML | NCIA                     |
| Confidentiality Metadata Label Syntax   | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1 | BINDING-COMMON-XML | C3B CaP1 DM CaT          |
| Metadata Binding  | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1 | BINDING-COMMON-XML | C3B CaP1 DM CaT          |
| Context/value Association using genericode 1.0  | OASIS context-value-association-1.0:2010           | BINDING-COMMON-XML | NCIA                     |
| Code List Representation (Genericode)   | OASIS cs-genericode-1.0:2007                       | BINDING-COMMON-XML | NCIA                     |
| Associating Style Sheets with XML documents, Version 1.0  | W3C REC-xml-stylesheet-19990629:19990629           | BINDING-COMMON-XML | NCIA/CES                 |
| XML Schema Definition Language (XSD) 1.1 Part 1: Structures   | W3C REC-xmlschema11-1-20120405:20120405            | BINDING-COMMON-XML | NATO Archive Committee   |
| Open XML SPIF   | XML SPIF xmlspif:2010                              | BINDING-COMMON-XML | NCIA                     |
| <b>Infrastructure Services</b>  |  |                    |                          |
| RTP: A Transport Protocol for Real-Time Applications  | IETF RFC 3550:2003                                 | BSP                | FMN CPWG                 |
| Network News Transfer Protocol (NNTP)   | IETF RFC 3977:2006                                 | BSP                | NCIA/CES                 |
| Digital compression and coding of continuous-tone still images: Registration of JPEG profiles, SPIFF profiles, SPIFF tags, SPIFF colour spaces, APPn markers, SPIFF compression types and Registration Authorities (REGAUT) | ISO/IEC 10918-4:1999                               | BSP                | NCIA/CES                 |
| Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s; PCM Part 3: audio   | ISO/IEC 11172-3:1993                               | BSP                | NCIA/NSII                |

| <b>Title</b>   | <b>Pubnum</b>                                   | <b>Profiles</b> | <b>Responsible Party</b>   |
|--|---|-----------------|----------------------------|
| Generic Coding of Moving Pictures and Associated Audio (MPEG-2)  | ISO/IEC 13818:2000                              | BSP             | NCIA/CES                   |
| Coding of Moving Pictures and Audio (MPEG-4)   | ISO/IEC 14496:1999                              | BSP             | NCIA/CES                   |
| Open Virtualization Format (OVF) specification   | ISO/IEC 17203:2017                              | BSP             | NCIA/CES                   |
| Information Technology - Cloud Computing - Interoperability and Portability  | ISO/IEC 19941:2017                              | BSP             | NCIA/CES                   |
| Information technology - Distributed Application Platforms and Services (DAPS) - General technical principles of Service Oriented Architecture | ISO/IEC 30102:2012                              | BSP             | NCIA/CES                   |
| 7 kHz Audio-Coding within 64 kbit/s  | ITU-T G.722:2012                                | BSP             | FMN CPWG                   |
| Coding of speech at 8 kbit/s using conjugate-structure algebraic-code-excited linear prediction (CS-ACELP)                                     | ITU-T G.729:2012                                | BSP             | FMN CPWG                   |
| Video coding for low bit rate communication  | ITU-T H.263:2005                                | BSP             | FMN CPWG                   |
| Advanced video coding for generic audiovisual services   | ITU-T H.264:2017                                | BSP             | FMN CPWG                   |
| NATO Advanced Data Storage Interface (NADSI) Requirements And Implementation Guide   | NATO AEDP-06 Ed B Ver 4:2020 / STANAG 4575 Ed 4 | BSP             | CNAD, AC/224 NAFAG, JCGISR |
| NATO Ground Moving Target Indicator(GMTI) Format   | NATO AEDP-07 Ed 2 Ver 1:2010 / STANAG 4607 Ed 3 | BSP             | FMN CPWG                   |
| Air Reconnaissance Primary Imagery Data Standard   | NATO AEDP-09 Ed 1:2009 / STANAG 7023 Ed 4       | BSP             | CNAD, AC/224 NAFAG, JCGISR |
| Imagery Air Reconnaissance Tape Recorder Interface   | NATO AEDP-11 Ed 1:2001 / STANAG 7024 Ed 2       | BSP             | CNAD, AC/224 NAFAG, JCGISR |

| <b>Title</b>  | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b>            |
|---|--|-----------------|-------------------------------------|
| Motion Imagery Standards Profile  | NATO NNSTD<br>MISP-2019.1:2018 /<br>STANAG 4609 Ed 5 | BSP             | CNAD,<br>AC/224<br>NAFAG,<br>JCGISR |
| Exchange of Imagery   | NATO STANAG<br>3764 Ed 6:2015                        | BSP             | MC,<br>MCJSB,<br>JINT JISRP         |
| Parameters and Coding Standards for<br>800 bps Digital Speech Encoder/<br>Decoder               | NATO STANAG<br>4479 Ed 1:2002                        | BSP             | C3B CaP1<br>Blos Comms              |
| NATO Standard ISR Library<br>Interface (NSILI)  | NATO STANAG<br>4559 Ed 3:2010                        | BSP             | FMN CPWG                            |
| NATO Imagery Interpretability<br>Rating Scale (NIIRS)   | NATO STANAG<br>7194 Ed 1:2009                        | BSP             | MC,<br>MCJSB,<br>JINT JISRP         |
| X Window System, Version 11,<br>release 7.5:2009  | X-CONSORTIUM<br>X11R7.5:2009                         | BSP             | NCIA/CES                            |
| <b>Infrastructure CIS Security Services</b>   |  |                 |                                     |
| IP Encapsulating Security Payload<br>(ESP)  | IETF RFC 4303:2005                                   | FMN4            | FMN CPWG                            |
| IKE and IKEv2 Authentication<br>Using the Elliptic Curve Digital<br>Signature Algorithm (ECDSA) | IETF RFC 4754:2007                                   | FMN4            | C3B CaP4                            |
| Elliptic Curve Groups modulo a<br>Prime (ECP Groups) for IKE and<br>IKEv2                       | IETF RFC 5903:2010                                   | FMN4            | FMN CPWG                            |
| Internet Key Exchange Protocol<br>Version 2 (IKEv2)   | IETF RFC 7296:2014                                   | FMN4            | FMN CPWG                            |
| Signature Authentication in the<br>Internet Key Exchange Version 2<br>(IKEv2)                   | IETF RFC 7427:2015                                   | FMN4            | FMN CPWG                            |
| Generic Raw Public-Key Support for<br>IKEv2   | IETF RFC 7670:2016                                   | FMN4            | FMN CPWG                            |
| <b>Authentication Services</b>  |  |                 |                                     |
| A summary of the X.500(96) User<br>Schema for Use with LDAPv3                                   | IETF RFC 2256:1997                                   | FMN3, FMN4      | FMN CPWG                            |

| <b>Title</b>   | <b>Pubnum</b>              | <b>Profiles</b> | <b>Responsible Party</b> |
|--|----------------------------|-----------------|--------------------------|
| Definition of the inetOrgPerson LDAP Object Class  | IETF RFC 2798:2000         | FMN3, FMN4      | FMN CPWG                 |
| Uniform Resource Identifiers (URI): Generic Syntax   | IETF RFC 3986:2005         | FMN3, FMN4      | FMN CPWG                 |
| LDAP: Schema for User Applications   | IETF RFC 4519:2006         | FMN3, FMN4      | FMN CPWG                 |
| Internet Message Format  | IETF RFC 5322:2008         | FMN3, FMN4      | NCIA                     |
| OASIS Security Services (SAML)   | OASIS saml:2009            | FMN3            | NCIA                     |
| OASIS SAML Metadata Interoperability Profile   | OASIS SAML V2.0:2005       | FMN4            | FMN CPWG                 |
| <b>Digital Certificate Services</b>  |                            |                 |                          |
| More Modular Exponential (MODP) Diffie-Hellman groups for Internet Key Exchange (IKE)                                  | IETF RFC 3526:2003         | FMN3, FMN4      | FMN CPWG                 |
| LDAP: X.509 Certificate Schema   | IETF RFC 4523:2006         | FMN3            | FMN CPWG                 |
| Internet X.509 Public Key Infrastructure Certificate and CRL Profile   | IETF RFC 5280:2008         | FMN3, FMN4      | FMN CPWG                 |
| X.509 Internet Public Key Infrastructure Online Certificate Status Protocol - OCSP                                     | IETF RFC 6960:2013         | FMN4            | FMN CPWG                 |
| Textual Encodings of PKIX, PKCS, and CMS Structures  | IETF RFC 7468:2015         | FMN4            | FMN CPWG                 |
| Information technology - Open Systems Interconnection - The Directory: Public-key and attribute certificate frameworks | ITU-T X.509:2016           | FMN3, FMN4      | FMN CPWG                 |
| Secure Hash Standard (SHS)   | NIST FIPS PUB 180-4:2015   | FMN3, FMN4      | C3B CaP4                 |
| Digital Signature Standard (DSS)   | NIST FIPS PUB 186-4:2013   | FMN3, FMN4      | FMN CPWG                 |
| Advanced Encryption Standard (AES)   | NIST FIPS PUB 197:2001     | FMN3, FMN4      | FMN CPWG                 |
| Recommendation for Pair-Wise Key-Establishment Schemes Using Discrete Logarithm Cryptography                           | NIST SP 800-56A Rev 3:2018 | FMN3, FMN4      | FMN CPWG                 |

| <b>Title</b>   | <b>Pubnum</b>                                      | <b>Profiles</b>   | <b>Responsible Party</b> |
|--|--|-------------------|--------------------------|
| Recommendation for Pair-Wise KeyEstablishment Schemes Using Integer Factorization Cryptography | NIST SP 800-56B Rev 1:2014                         | FMN3              | FMN CPWG                 |
| Recommendation for Pair-Wise Key Establishment Using Integer Factorization Cryptography        | US DoC NIST SP 800-56B:2019                        | FMN4              | FMN CPWG                 |
| <b>Infrastructure Cryptography Services</b>  |  |                   |                          |
| HMAC: Keyed-Hashing for Message Authentication   | IETF RFC 2104:1997                                 | BINDING-CRYPTO-V2 | NCIA                     |
| Internet X.509 Public Key Infrastructure Certificate and CRL Profile                           | IETF RFC 5280:2008                                 | BINDING-CRYPTO-V2 | FMN CPWG                 |
| Secure/Multipurpose Internet Mail Extensions (S/MIME) Version 3.2 Message Specification        | IETF RFC 5751:2010                                 | BINDING-CRYPTO-V2 | NCIA                     |
| Additional XML Security Uniform Resource Identifiers (URIs)                                    | IETF RFC 6931:2013                                 | BINDING-CRYPTO-V2 | NCIA                     |
| JSON Web Signature (JWS)   | IETF RFC 7515:2015                                 | BINDING-CRYPTO-V2 | NCIA                     |
| Confidentiality Metadata Label Syntax  | NATO ADatP-4774 Ed A Ver 1:2017 / STANAG 4774 Ed 1 | BINDING-CRYPTO-V2 | C3B CaP1 DM CaT          |
| Metadata Binding   | NATO ADatP-4778 Ed A Ver 1:2018 / STANAG 4778 Ed 1 | BINDING-CRYPTO-V2 | C3B CaP1 DM CaT          |
| Web Services Security: SOAP Message Security 1.1   | OASIS wss-v1.1-spec-os-SOAPMessageSecurity:2006    | BINDING-CRYPTO-V2 | NCIA/CES                 |
| XML Security Algorithm Cross-Reference   | W3C NOTE-xmlsec-algorithms-20130411:2013           | BINDING-CRYPTO-V2 | NCIA                     |
| XML-Signature Syntax and Processing (Second Edition)   | W3C REC-xmlsig-core-20080610:2008                  | BINDING-CRYPTO-V2 | NCIA                     |
| Errata for XML Signature 2nd Edition   | W3C REC-xmlsig-core-20080610:2014                  | BINDING-CRYPTO-V2 | NCIA                     |
| XML Signature Syntax and Processing Version 1.1  | W3C REC-xmlsig-core1-20130411:2013                 | BINDING-CRYPTO-V2 | NCIA                     |

| <b>Title</b>   | <b>Pubnum</b>                      | <b>Profiles</b>   | <b>Responsible Party</b> |
|--|------------------------------------|-------------------|--------------------------|
| XML Encryption Syntax and Processing                             | W3C REC-xmlenc-core-20021210:2002  | BINDING-CRYPTO-V2 | NCIA                     |
| XML Encryption Syntax and Processing Version 1.1                 | W3C REC-xmlenc-core1-20130411:2013 | BINDING-CRYPTO-V2 | NCIA                     |
| XML Path Language 1.0  | W3C REC-xpath-19991119:1999        | BINDING-CRYPTO-V2 | NCIA                     |
| XML Pointer Language (Xpointer)                                  | W3C wd-xptr-20020816:2002          | BINDING-CRYPTO-V2 | NCIA                     |
| <b>Virtualization Management Services</b>                        |                                    |                   |                          |
| Information technology — Virtualization Management Specification | ISO/IEC 19099:2014                 | BSP               | NCIA/CES                 |
| <b>Infrastructure Processing Services</b>                        |                                    |                   |                          |
| Open Virtualization Format Specification, v.2.0.1                | DMTF DSP0243:2013                  | BSP               | C3B CaP1                 |
| X Window System, Version 11, release 7.5:2009                    | X-CONSORTIUM X11R7.5:2009          | BSP               | NCIA/CES                 |
| <b>Virtualized Processing Services</b>                           |                                    |                   |                          |
| Open Virtualization Format Specification, v.2.0.1                | DMTF DSP0243:2013                  | FMN4              | C3B CaP1                 |
| Open Virtualization Format (OVF) specification                   | ISO/IEC 17203:2017                 | BSP               | NCIA/CES                 |
| Virtual Hard Disk Image Format Specification                     | Microsoft :2006                    | FMN4              | FMN CPWG                 |
| Virtual Disk Format 5.0  | VMware :2011                       | FMN4              | FMN CPWG                 |
| <b>Virtualized Storage Services</b>                              |                                    |                   |                          |
| Information technology - Cloud Data Management Interface (CDMI)  | ISO/IEC 17826:2016                 | BSP               | NCIA/CES                 |
| <b>File System Storage Services</b>                              |                                    |                   |                          |
| Data Protocols for Multimedia Conferencing                       | ITU-T T.120:2007                   | BSP               | NCIA/NSII                |
| <b>Domain Name Services</b>                                      |                                    |                   |                          |
| Domain names - concepts and facilities                           | IETF RFC 1034:1987                 | FMN3, FMN4        | FMN CPWG                 |
| Domain names - implementation and specification                  | IETF RFC 1035:1987                 | FMN3, FMN4        | FMN CPWG                 |



| <b>Title</b>  | <b>Pubnum</b>      | <b>Profiles</b> | <b>Responsible Party</b> |
|---|--------------------|-----------------|--------------------------|
| Clarifications to the DNS Specification   | IETF RFC 2181:1997 | FMN3, FMN4      | FMN CPWG                 |
| A DNS RR for specifying the location of services (DNS SRV)                              | IETF RFC 2782:2000 | FMN3, FMN4      | FMN CPWG                 |
| Distributing Authoritative Name Servers via Shared Unicast Addresses                    | IETF RFC 3258:2002 | FMN3, FMN4      | FMN CPWG                 |
| DNS Security Introduction and Requirements  | IETF RFC 4033:2005 | FMN4            | NCIA/CS                  |
| Resource Records for the DNS Security Extensions  | IETF RFC 4034:2005 | FMN4            | FMN CPWG                 |
| Protocol Modifications for the DNS Security Extensions                                  | IETF RFC 4035:2005 | FMN4            | FMN CPWG                 |
| Use of SHA-256 in DNSSEC Delegation Signer (DS) Resource Records (RRs)                  | IETF RFC 4509:2006 | FMN4            | FMN CPWG                 |
| Operation of Anycast Services   | IETF RFC 4786:2006 | FMN3, FMN4      | FMN CPWG                 |
| DNS Security (DNSSEC) Hashed Authenticated Denial of Existence                          | IETF RFC 5155:2008 | FMN4            | FMN CPWG                 |
| Use of SHA-2 Algorithms with RSA in DNSKEY and RRSIG Resource Records for DNSSEC        | IETF RFC 5702:2009 | FMN4            | FMN CPWG                 |
| DNS Zone Transfer Protocol (AXFR)   | IETF RFC 5936:2010 | FMN3, FMN4      | FMN CPWG                 |
| DNS Transport over TCP - Implementation Requirements                                    | IETF RFC 5966:2010 | FMN3, FMN4      | FMN CPWG                 |
| Unique Origin Autonomous System Numbers (ASNs) per Node for Globally Anycasted Services | IETF RFC 6382:2011 | FMN3, FMN4      | FMN CPWG                 |
| Extension Mechanisms for DNS (EDNS(0))  | IETF RFC 6891:2013 | FMN3, FMN4      | FMN CPWG                 |
| Architectural Considerations of IP Anycast  | IETF RFC 7094:2014 | FMN3, FMN4      | FMN CPWG                 |
| <b>Distributed Time Services</b>  |                    |                 |                          |
| Precision Time Protocol (PTP)   | IEEE 1588:2008     | BSP             | NCIA/NSII                |
| Network Time Protocol (NTP)   | IETF RFC 5905:2010 | FMN3, FMN4      | FMN CPWG                 |



| Title   | Pubnum              | Profiles   | Responsible Party |
|---|---------------------|------------|-------------------|
| Standard-frequency and time-signal emissions. Annex 1: Coordinated universal time (UTC) | ITU-R TF 460-6:2002 | FMN3, FMN4 | FMN CPWG          |
| Working with Time Zones   | W3C timezone:2005   | BSP        | NCIA/Sstrat/Sea   |

### 3.3.3. Communications Services

| Title  | Pubnum                | Profiles | Responsible Party |
|--|-----------------------|----------|-------------------|
| <b>Communications Services</b>   |                       |          |                   |
| Interface standard for LC connectors with protective housings related to IEC 61076-3-106                         | IEC 61754-20-100:2012 | BSP      | FMN CPWG          |
| Station and Media Access Control Connectivity Discovery  | IEEE 802.1AB:2009     | BSP      | NCIA/NSII         |
| Media Access Control (MAC) Bridges   | IEEE 802.1D:2004      | BSP      | NCIA/NSII         |
| Virtual Bridged Local Area Networks  | IEEE 802.1Q:2005      | BSP      | NCIA/NSII         |
| Rapid Reconfiguration of Spanning Tree   | IEEE 802.1W:2002      | BSP      | NCIA/NSII         |
| Single-mode fiber using 1,310 nm wavelength  | IEEE 802.3-2012:2012  | BSP      | FMN CPWG          |
| An Application of the BGP Community Attribute in Multi-Home Routing  | IETF RFC 1998:1996    | BSP      | NCIA              |
| A Flexible Method for Managing the Assignment of Bits of an IPv6 Address Block                                   | IETF RFC 3531:2003    | BSP      | NCIA              |
| Considerations for Internet group Management protocols (IGMP) and Multicast listener Discovery Snooping Switches | IETF RFC 4541:2006    | BSP      | NCIA              |
| IPv6 Stateless Address Autoconfiguration   | IETF RFC 4862:2007    | BSP      | NCIA              |

| <b>Title</b>  | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b>     |
|---|--|-----------------|------------------------------|
| NATO Pre Placed Key (PPK) Key Material Format and Fill Checks Specification Rev.1.0                             | CIS3 C&IP<br>SCIP-233.104                                | FMN4            | C3B CaP1<br>N&S CaT          |
| X.509 Elliptic Curve (EC) Key Material Format Specification   | CIS3 C&IP<br>SCIP-233.109:2014                           | FMN4            | C3B CaP1<br>N&S CaT          |
| NATO Point-to-Point and Multipoint PPK-Processing Specification Rev.1.0   | CIS3 C&IP<br>SCIP-233.304                                | FMN4            | C3B CaP1<br>N&S CaT          |
| ECDH Key Agreement and TEK Derivation rev.1.1   | CIS3 C&IP<br>SCIP-233.307:2011                           | FMN4            | C3B CaP1<br>N&S CaT          |
| Interoperable Terminal Priority (TP) Community of Interest (COI) Specification rev.1.0                          | CIS3 C&IP<br>SCIP-233.350:2012                           | FMN4            | C3B CaP1<br>N&S CaT          |
| Application State Vector Processing Specification rev.1.2   | CIS3 C&IP<br>SCIP-233.401:2012                           | FMN4            | C3B CaP1<br>N&S CaT          |
| NATO Fixed Filler Generation Specification Rev. 1.0.  | CIS3 C&IP<br>SCIP-233.422                                | FMN4            | C3B CaP1<br>N&S CaT          |
| Universal Fixed Filler Generation Specification Rev. 1.0.   | CIS3 C&IP<br>SCIP-233.423:2011                           | FMN4            | C3B CaP1<br>N&S CaT          |
| Point-to-Point Cryptographic Verification Specification Rev. 1.1.   | CIS3 C&IP<br>SCIP-233.441                                | FMN4            | C3B CaP1<br>N&S CaT          |
| Point-to-Point Cryptographic Verification w/Signature rev.1.0   | CIS3 C&IP<br>SCIP-233.444:2011                           | FMN4            | C3B CaP1<br>N&S CaT          |
| AES-256 Encryption Algorithm Specification Rev. 1.0.  | CIS3 C&IP<br>SCIP-233.601:2011                           | FMN4            | C3B CaP1<br>N&S CaT          |
| Generic cabling for customer premises   | ISO/IEC 11801:2002                                       | BSP             | FMN CPWG                     |
| Characteristics of a single-mode optical fibre and cable  | ITU-T G.652:2016   | BSP             | FMN CPWG                     |
| Characteristics of a Robust, Non-Hopping Serial Tone Modulator/Demodulator For Severely Degraded HF Radio Links | NATO AComP-4415<br>Ed A Ver 1:2015 /<br>STANAG 4415 Ed 2 | BSP             | C3B CaP1<br>Blos Comms       |
| Multi-hop IP Networking with legacy UHF Radios: Mobile ad hoc relay Line of Sight Networking (MARLIN)           | NATO AComP-4691<br>Ed A Ver 1:2016 /<br>STANAG 4691 Ed 2 | BSP             | C3B CaP1<br>LOS Comms<br>CaT |

| <b>Title</b>   | <b>Pubnum</b>              | <b>Profiles</b> | <b>Responsible Party</b>     |
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| Have Quick   | NATO STANAG 4246 Ed 3:2009 | BSP             | C3B CaP1<br>LOS Comms<br>CaT |
| Characteristics of 1200/2400/ 3600 bps single tone modulators for HF Radio links   | NATO STANAG 4285 Ed 1:1989 | BSP             | C3B CaP1<br>Blos Comms       |
| Standards to Achieve Communication Between Single Channel Tactical Combat Net Radio Equipment and Frequency Hopping Radios Operating in the same VHF (30-108 MHz) Band | NATO STANAG 4292 Ed 2:1987 | BSP             | C3B CaP1<br>LOS Comms<br>CaT |
| Saturn   | NATO STANAG 4372 Ed 3:2008 | BSP             | C3B CaP1<br>LOS Comms<br>CaT |
| Minimum Technical Equipment Standards For Naval HF Shore-to-Ship Broadcast Systems   | NATO STANAG 4481 Ed 1:2002 | BSP             | C3B CaP1<br>Blos Comms       |
| Characteristics of single tone modulators/demodulators for maritime HF radio links with 1240 Hz bandwidth  | NATO STANAG 4529 Ed 1:1998 | BSP             | C3B CaP1<br>Blos Comms       |
| Technical Standards for an Automatic Radio Control System (ARCS) for HF Communication Links  | NATO STANAG 4538 Ed 1:2009 | BSP             | C3B CaP1<br>Blos Comms       |
| Digital Interoperability between UHF communications terminals - Integrated Waveform (IWF)  | NATO STANAG 4681 Ed 1:2015 | BSP             | C3B CaP1<br>SATCOM<br>CaT    |
| Minimum Standards for Naval low Frequency (LF) Shore-to-Ship Surface Broadcast Systems   | NATO STANAG 5065 Ed 1:1999 | BSP             | C3B CaP1<br>Blos Comms       |
| Profile for HF radio data communications   | NATO STANAG 5066 Ed 3:2015 | BSP             | C3B CaP1<br>Blos Comms       |
| <b>Communications Access Services</b>  |                            |                 |                              |
| System Segment Specification for the Multifunctional Information Distribution System (MIDS) Low-   | CJCSM SSS- M-10001:2011    | BSP             | NCIA/NSII                    |

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|--|--|-----------------|----------------------------|
| Volume Terminal and Ancillary Equipment, Rev. EG   |  |                 |                            |
| Physical/electrical characteristics of hierarchical digital interfaces                               | ITU-T G.703:2001                                       | BSP             | NCIA/NSII                  |
| Interoperable Data Links for Imaging Systems   | NATO AEDP-7085 Ed A Ver 1:2011 / STANAG 7085 Ed 3      | BSP             | CNAD, AC/224 NAFAG, JCGISR |
| Tactical Data Exchange - Link 1 (Point-to-Point)   | NATO ATDLP-5.01 Ed A Ver 2:2020 / STANAG 5501 Ed 7     | BSP             | C3B CaP1 TDL CaT           |
| Tactical Data Exchange - Link 11/11B   | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP             | C3B CaP1 TDL CaT           |
| Technical Characteristics of the Multifunctional Information Distribution System (MIDS) - VOL I & II | NATO STANAG 4175 Ed 5:2014                             | BSP             | C3B CaP1 TDL CaT           |
| Standard Interfaces of UAV Control System (UCS) for NATO UAV Interoperability                        | NATO STANAG 4586 Ed 3:2012                             | BSP             | CNAD, AC/141 NNAG, JCGUAS  |
| NATO Improved Link Eleven (NILE) - Link 22   | NATO STANAG 5522 Ed 2:2008                             | BSP             | C3B CaP1 TDL CaT           |
| <b>Network Access Control Services</b>   |  |                 |                            |
| IP Encapsulating Security Payload (ESP)  | IETF RFC 4303:2005                                     | FMN4            | FMN CPWG                   |
| IKE and IKEv2 Authentication Using the Elliptic Curve Digital Signature Algorithm (ECDSA)            | IETF RFC 4754:2007                                     | FMN4            | C3B CaP4                   |
| Elliptic Curve Groups modulo a Prime (ECP Groups) for IKE and IKEv2                                  | IETF RFC 5903:2010                                     | FMN4            | FMN CPWG                   |
| Internet Key Exchange Protocol Version 2 (IKEv2)   | IETF RFC 7296:2014                                     | FMN4            | FMN CPWG                   |

| <b>Title</b>   | <b>Pubnum</b>             | <b>Profiles</b> | <b>Responsible Party</b> |
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| Signature Authentication in the Internet Key Exchange Version 2 (IKEv2)                                    | IETF RFC 7427:2015        | FMN4            | FMN CPWG                 |
| Generic Raw Public-Key Support for IKEv2   | IETF RFC 7670:2016        | FMN4            | FMN CPWG                 |
| <b>Tactical Messaging Access Services</b>  |                           |                 |                          |
| Call Sign Book for Ships   | CCEB ACP 113(AD):2012     | BSP             | C3B NACP CaT             |
| Information Assurance for Allied Communications and Information Systems                                    | CCEB ACP 122(D):1982      | BSP             | C3B NACP CaT             |
| Instructions For The Life Cycle Management Of Allied Communications Publications (ACPS)                    | CCEB ACP 198(O):2018      | BSP             | C3B NACP CaT             |
| Maritime And Mobile Tacticalwide Area Networking (MTWAN) In The Maritime Environment - Operating Guidance  | CCEB ACP 200 V1(D):2013   | BSP             | C3B NACP CaT             |
| Maritime Tactical Wide Area Networking (MTWAN) Technical Instructions                                      | CCEB ACP 200 V2(C):2010   | BSP             | C3B NACP CaT             |
| Maritime And Mobile Tactical Wide Area Networking (MTWAN) In The Maritime Environment - Technical Guidance | CCEB ACP 200 V2(D):2015   | BSP             | C3B NACP CaT             |
| Communications Instructions Internet Protocol (IP) Services  | CCEB ACP 201(A):2017      | BSP             | C3B NACP CaT             |
| Address Indicating Groups - Instructions and Assignments   | NATO ACP 100 NS-1(P):2009 | BSP             | C3B NACP CaT             |
| NATO Routing Indicator Book, NATO Supplement-1   | NATO ACP 117 NS-1(R):2013 | BSP             | C3B NACP CaT             |
| Handling of ATOMAL Information Within Classified Communications Centres, NATO Supplement-2                 | NATO ACP 122 NS-2(A):1979 | BSP             | C3B NACP CaT             |
| NATO Naval and Maritime Air Communications Instructions and Organisation                                   | NATO ACP 176 NS-1(F):2018 | BSP             | C3B NACP CaT             |

| <b>Title</b>   | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b> |
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| Instructions for the Life Cycle Management of Allied Communications Publications (ACPs) - General & NATO Supps | NATO ACP 198 NS-1(G):2012                              | BSP             | C3B NACP CaT             |
| Tactical Data Exchange - Link 1 (Point-to-Point)   | NATO ATDLP-5.01 Ed A Ver 2:2020 / STANAG 5501 Ed 7     | BSP             | C3B CaP1 TDL CaT         |
| Tactical Data Exchange - Link 11/11B   | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP             | C3B CaP1 TDL CaT         |
| Joint Range Extension Application Protocol (JREAP) <sup>1</sup>  | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4  | BSP             | C3B CaP1 TDL CaT         |
| Standards for Interface of Data Links 1, 11, and 11B Through a Buffer  | NATO ATDLP-6.01 Ed A Ver 1:2016 / STANAG 5601 Ed 7     | BSP             | C3B CaP1 TDL CaT         |
| Technical Characteristics of the Multifunctional Information Distribution System (MIDS) - VOL I & II           | NATO STANAG 4175 Ed 5:2014                             | BSP             | C3B CaP1 TDL CaT         |
| NATO Multi-channel Tactical Digital Gateway - System Standards   | NATO STANAG 4206 Ed 3:1999                             | BSP             | C3B CaP1 N&S CaT         |
| NATO Multi-channel Digital Gateway-Multiplex Group Framing Standards   | NATO STANAG 4207 Ed 3:2000                             | BSP             | C3B CaP1 N&S CaT         |
| International Routing and Directory for Tactical Communications Systems  | NATO STANAG 4214 Ed 2:2005                             | BSP             | C3B CaP1 N&S CaT         |
| The NATO Military Communications Directory System  | NATO STANAG 5046 Ed 4:2015                             | BSP             | C3B CaP1 N&S CaT         |
| NATO Improved Link Eleven (NILE) - Link 22   | NATO STANAG 5522 Ed 2:2008                             | BSP             | C3B CaP1 TDL CaT         |
| Standards for Data Forwarding between Tactical Data Systems employing Link 11/11B, Link 16 and Link 22         | NATO STANAG 5616 Ed 5:2011                             | BSP             | C3B CaP1 TDL CaT         |

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|--|--------------------|------------|-------------------|
| <b>Packet-based Access Services</b>  |                    |            |                   |
| Quality of service ranking and measurement methods for digital video services delivered over broadband IP networks | ITU-T J.241:2005   | BSP        | FMN CPWG          |
| IP packet transfer and availability performance parameters   | ITU-T Y.1540:2016  | BSP        | FMN CPWG          |
| Network performance objectives for IP-based services   | ITU-T Y.1541:2011  | BSP        | FMN CPWG          |
| Framework for achieving end-to-end IP performance objectives   | ITU-T Y.1542:2010  | BSP        | FMN CPWG          |
| <b>IPv4 Routed Access Services</b>   |                    |            |                   |
| Host Extensions for IP Multicasting  | IETF RFC 1112:1989 | FMN3, FMN4 | FMN CPWG          |
| Path MTU Discovery   | IETF RFC 1191:1990 | FMN4       | FMN CPWG          |
| Address Allocation for Private Internets   | IETF RFC 1918:1996 | FMN4       | FMN CPWG          |
| BGP Communities Attribute  | IETF RFC 1997:1996 | FMN3, FMN4 | FMN CPWG          |
| Internet Group Management Protocol, Version 2  | IETF RFC 2236:1997 | FMN4       | NCIA/NSII         |
| Administratively Scoped IP Multicast   | IETF RFC 2365:1998 | FMN3, FMN4 | FMN CPWG          |
| Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers                            | IETF RFC 2474:1998 | FMN3, FMN4 | FMN CPWG          |
| Internet Group Management Protocol, Version 3  | IETF RFC 3376:2002 | FMN3, FMN4 | FMN CPWG          |
| Multicast Source Discovery Protocol (MSDP)   | IETF RFC 3618:2003 | FMN3, FMN4 | FMN CPWG          |
| Border Gateway Protocol 4 (BGP-4)  | IETF RFC 4271:2006 | FMN3, FMN4 | FMN CPWG          |
| BGP Extended Communities Attribute   | IETF RFC 4360:2006 | FMN3, FMN4 | FMN CPWG          |
| Configuration Guidelines for DiffServ Service Classes  | IETF RFC 4594:2006 | FMN3, FMN4 | FMN CPWG          |
| Classless Inter-domain Routing (CIDR): The Internet Address Assignment and Aggregation Plan                        | IETF RFC 4632:2006 | FMN3, FMN4 | FMN CPWG          |



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|---|--------------------|-----------------|--------------------------|
| Multiprotocol Extensions for BGP-4  | IETF RFC 4760:2007 | FMN3, FMN4      | FMN CPWG                 |
| The Generalized TTL Security Mechanism (GTSM)   | IETF RFC 5082:2007 | FMN3, FMN4      | FMN CPWG                 |
| Capabilities Advertisement with BGP-4   | IETF RFC 5492:2009 | FMN3, FMN4      | FMN CPWG                 |
| 4-Octet AS Specific BGP Extended Community  | IETF RFC 5668:2009 | FMN4            | FMN CPWG                 |
| IANA Guidelines for IPv4 Multicast Address Assignments                                  | IETF RFC 5771:2010 | FMN3, FMN4      | FMN CPWG                 |
| Bidirectional Forwarding Detection (BFD)  | IETF RFC 5880:2010 | FMN4            | FMN CPWG                 |
| Bidirectional Forwarding Detection (BFD) for IPv4 and IPv6 (Single Hop)                 | IETF RFC 5881:2010 | FMN4            | FMN CPWG                 |
| Bidirectional Forwarding Detection (BFD) for Multihop Paths                             | IETF RFC 5883:2010 | FMN4            | FMN CPWG                 |
| Autonomous-System-Wide Unique BGP Identifier for BGP-4                                  | IETF RFC 6286:2011 | FMN3, FMN4      | FMN CPWG                 |
| Overview of the Internet Multicast Addressing Architecture                              | IETF RFC 6308:2011 | FMN3, FMN4      | FMN CPWG                 |
| BGP Support for Four-Octet Autonomous System (AS) Number Space                          | IETF RFC 6793:2012 | FMN3, FMN4      | FMN CPWG                 |
| IANA Registries for BGP Extended Communities  | IETF RFC 7153:2014 | FMN3, FMN4      | FMN CPWG                 |
| Revised Error Handling for BGP UPDATE Messages  | IETF RFC 7606:2015 | FMN3, FMN4      | FMN CPWG                 |
| Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised) | IETF RFC 7761:2016 | FMN3, FMN4      | FMN CPWG                 |
| Transmission of IP Packets over Ethernet Networks                                       | IETF RFC 894:1984  | FMN4            | NCIA/NSII                |
| Internet Standard Subnetting Procedure  | IETF RFC 950:1985  | FMN4            | NCIA/NSII                |
| Quality of service ranking and measurement methods for digital                          | ITU-T J.241:2005   | FMN3, FMN4      | FMN CPWG                 |



| <b>Title</b>   | <b>Pubnum</b>                                       | <b>Profiles</b> | <b>Responsible Party</b>  |
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| video services delivered over broadband IP networks  |   |                 |                           |
| Performance objectives and procedures for provisioning and maintenance of IP-based networks                    | ITU-T M.2301:2002                                   | FMN3, FMN4      | FMN CPWG                  |
| IP packet transfer and availability performance parameters   | ITU-T Y.1540:2016                                   | FMN3, FMN4      | FMN CPWG                  |
| Network performance objectives for IP-based services   | ITU-T Y.1541:2011                                   | FMN3, FMN4      | FMN CPWG                  |
| Framework for achieving end-to-end IP performance objectives   | ITU-T Y.1542:2010                                   | FMN3, FMN4      | FMN CPWG                  |
| Interoperability Point Quality of Service (IP QoS)   | NATO AComP-4711 Ed A Ver 1:2018 / STANAG 4711 Ed 1  | FMN3, FMN4      | C3B CaP1 N&S CaT          |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Network Access | NATO AEP-76 Vol5 Ed A Ver 2:2017 / STANAG 4677 Ed 1 | FMN4            | CNAD, AC/225 NAAG, LCGDSS |
| <b>Native Circuit-based Access Services</b>  |   |                 |                           |
| The NATO Military Communications Directory System  | NATO STANAG 5046 Ed 4:2015                          | BSP             | C3B CaP1 N&S CaT          |
| <b>Voice Access Services</b>   |   |                 |                           |
| The 600 Bit/S, 1200 Bit/S AND 2400 Bit/S NATO Interoperable Narrow Band Voice Coder                            | NATO STANAG 4591 Ed 1:2008                          | BSP             | C3B CaP1 N&S CaT          |
| <b>Transport Services</b>  |   |                 |                           |
| PPP LCP Extensions   | IETF RFC 1570:1994                                  | BSP             | NCIA/NSII                 |
| The Point-to-Point Protocol (PPP)  | IETF RFC 1661:1994                                  | BSP             | NCIA/NSII                 |
| RIP Version 2 MIB Extensions   | IETF RFC 1724:1994                                  | BSP             | NCIA/SMC                  |
| Application of the Border Gateway Protocol in the Internet   | IETF RFC 1772:1995                                  | BSP             | FMN CPWG                  |
| Requirements for IP Version 4 Routers  | IETF RFC 1812:1995                                  | BSP             | FMN CPWG                  |
| The PPP Multilink Protocol (MP)  | IETF RFC 1990:1996                                  | BSP             | NCIA/NSII                 |
| BGP Communities Attribute  | IETF RFC 1997:1996                                  | BSP             | FMN CPWG                  |

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|---|--------------------|-----------------|--------------------------|
| ISO Transport Service on top of TCP (ITOT)  | IETF RFC 2126:1997 | BSP             | NCIA/NSII                |
| Resource ReSerVation Protocol (RSVP) -- Version 1 Functional Specification              | IETF RFC 2205:1997 | BSP             | NCIA/NSII                |
| OSPF Version 2 (STD-54)   | IETF RFC 2328:1998 | BSP             | NCIA/NSII                |
| RIP Version 2   | IETF RFC 2453:1998 | BSP             | FMN CPWG                 |
| Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers | IETF RFC 2474:1998 | BSP             | FMN CPWG                 |
| Traditional IP Network Address Translation (NAT)  | IETF RFC 3022:2001 | BSP             | NCIA/NSII                |
| Layer Two Tunnelling Protocol (L2TP) Differentiated Services Extension                  | IETF RFC 3308:2002 | BSP             | NCIA/NSII                |
| IP Mobility Support for IPv4  | IETF RFC 3344:2002 | BSP             | NCIA/NSII                |
| Multicast Source Discovery Protocol (MSDP)  | IETF RFC 3618:2003 | BSP             | FMN CPWG                 |
| Virtual Router Redundancy Protocol  | IETF RFC 3768:2004 | BSP             | NCIA/NSII                |
| Encapsulating MPLS in IP or Generic Routing Encapsulation (GRE)                         | IETF RFC 4023:2005 | BSP             | NCIA/NSII                |
| Border Gateway Protocol 4 (BGP-4)   | IETF RFC 4271:2006 | BSP             | FMN CPWG                 |
| BGP Extended Communities Attribute  | IETF RFC 4360:2006 | BSP             | FMN CPWG                 |
| Configuration Guidelines for DiffServ Service Classes                                   | IETF RFC 4594:2006 | BSP             | FMN CPWG                 |
| Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised) | IETF RFC 4601:2006 | BSP             | FMN CPWG                 |
| Multiprotocol Extensions for BGP-4  | IETF RFC 4760:2007 | BSP             | FMN CPWG                 |
| Capabilities Advertisement with BGP-4   | IETF RFC 5492:2009 | BSP             | FMN CPWG                 |
| 4-Octet AS Specific BGP Extended Community  | IETF RFC 5668:2009 | BSP             | FMN CPWG                 |
| User Datagram Protocol (UDP)  | IETF RFC 768:1980  | BSP             | NCIA/NSII                |

| <b>Title</b>  | <b>Pubnum</b>                                      | <b>Profiles</b> | <b>Responsible Party</b> |
|---|--|-----------------|--------------------------|
| Intermediate System to Intermediate System intra-domain routing information exchange protocol for use in conjunction with the protocol for providing the connectionless-mode network service (ISO 8473) | ISO/IEC 10589:2002                                 | BSP             | NCIA/NSII                |
| Microsoft Windows Sockets (Winsock) Version 2.2.2   | Microsoft Winsock2Spec:1997                        | BSP             | NCIA/CES                 |
| Networking Framework for All-IP Transport Services (NETIP)  | NATO AComP-4731 Ed A Ver 1:2017 / STANAG 4731 Ed 1 | BSP             | C3B CaP1 N&S CaT         |
| <b>Transport CIS Security Services</b>  |  |                 |                          |
| CIS Security Technical and Implementation Directive on Cryptographic Security and Mechanisms for the Protection of NATO Information within NNN & IO CIS   | C3B AC/322-D(2015)0031:2015                        | FMN4            | FMN CPWG                 |
| The Secure Real-time Transport Protocol (SRTP)  | IETF RFC 3711:2004                                 | FMN4            | FMN CPWG                 |
| Session Description Protocol (SDP) Security Descriptions for Media Streams  | IETF RFC 4568:2006                                 | FMN4            | FMN CPWG                 |
| Transport Layer Security (TLS)  | IETF RFC 5246:2008                                 | FMN4            | C3B CaP4                 |
| Negotiated Finite Field Diffie-Hellman Ephemeral Parameters for Transport Layer Security (TLS)  | IETF RFC 7919:2016                                 | FMN4            | FMN CPWG                 |
| CSfC Multi-Site Connectivity Capability Package   | NSA MSCCP v1.0:2017                                | FMN4            | FMN CPWG                 |
| <b>Packet-based Transport Services</b>  |  |                 |                          |
| Interface standard for LC connectors with protective housings related to IEC 61076-3-106  | IEC 61754-20-100:2012                              | FMN3, FMN4      | FMN CPWG                 |
| IEEE Standard for Ethernet  | IEEE 802.3:2018                                    | FMN3, FMN4      | FMN CPWG                 |
| Host Extensions for IP Multicasting   | IETF RFC 1112:1989                                 | FMN4            | FMN CPWG                 |
| Path MTU Discovery  | IETF RFC 1191:1990                                 | FMN4            | FMN CPWG                 |

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|---|--------------------|-----------------|--------------------------|
| Address Allocation for Private Internets  | IETF RFC 1918:1996 | FMN4            | FMN CPWG                 |
| IP Encapsulation within IP  | IETF RFC 2003:1996 | BSP             | NCIA/NSII                |
| Routing Information Protocol next generation for IPv6 (RIPng)                               | IETF RFC 2080:1997 | FMN3, FMN4      | NCIA/NSII                |
| Internet Group Management Protocol, Version 2   | IETF RFC 2236:1997 | BSP, FMN4       | NCIA/NSII                |
| RIP Version 2   | IETF RFC 2453:1998 | FMN3, FMN4      | FMN CPWG                 |
| Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers     | IETF RFC 2474:1998 | FMN3, FMN4      | FMN CPWG                 |
| Generic Routing Encapsulation (GRE)   | IETF RFC 2784:2000 | FMN3, FMN4      | FMN CPWG                 |
| IANA Assigned Numbers   | IETF RFC 3232:2002 | BSP             | NCIA/NSII                |
| The Use of Galois/Counter Mode (GCM) in IPsec Encapsulating Security Payload (ESP)          | IETF RFC 4106:2005 | FMN4            | FMN CPWG                 |
| IP Encapsulating Security Payload (ESP)   | IETF RFC 4303:2005 | FMN3, FMN4      | FMN CPWG                 |
| Configuration Guidelines for DiffServ Service Classes                                       | IETF RFC 4594:2006 | FMN3, FMN4      | FMN CPWG                 |
| Classless Inter-domain Routing (CIDR): The Internet Address Assignment and Aggregation Plan | IETF RFC 4632:2006 | FMN4            | FMN CPWG                 |
| IKE and IKEv2 Authentication Using the Elliptic Curve Digital Signature Algorithm (ECDSA)   | IETF RFC 4754:2007 | FMN3, FMN4      | C3B CaP4                 |
| Using HMAC-SHA-256, HMAC-SHA-384, and HMAC-SHA-512 with IPsec                               | IETF RFC 4868:2007 | FMN4            | FMN CPWG                 |
| IANA Guidelines for IPv4 Multicast Address Assignments                                      | IETF RFC 5771:2010 | FMN4            | FMN CPWG                 |
| Elliptic Curve Groups modulo a Prime (ECP Groups) for IKE and IKEv2                         | IETF RFC 5903:2010 | FMN3, FMN4      | FMN CPWG                 |
| Suite B Cryptographic Suites for IPsec  | IETF RFC 6379:2011 | FMN4            | FMN CPWG                 |

| <b>Title</b>   | <b>Pubnum</b>        | <b>Profiles</b> | <b>Responsible Party</b> |
|--|----------------------|-----------------|--------------------------|
| Internet Key Exchange Protocol Version 2 (IKEv2)   | IETF RFC 7296:2014   | FMN3, FMN4      | FMN CPWG                 |
| Signature Authentication in the Internet Key Exchange Version 2 (IKEv2)  | IETF RFC 7427:2015   | FMN3, FMN4      | FMN CPWG                 |
| Generic Raw Public-Key Support for IKEv2   | IETF RFC 7670:2016   | FMN3, FMN4      | FMN CPWG                 |
| Internet Protocol, version 4   | IETF RFC 791:1981    | BSP             | NCIA/NSII                |
| Algorithm Implementation Requirements and Usage Guidance for the Internet Key Exchange Protocol Version 2 (IKEv2)  | IETF RFC 8247:2017   | FMN4            | FMN CPWG                 |
| Ethernet Address Resolution Protocol   | IETF RFC 826:1982    | FMN3, FMN4      | NCIA/NSII                |
| Transmission of IP Packets over Ethernet Networks  | IETF RFC 894:1984    | FMN4            | NCIA/NSII                |
| Internet Standard Subnetting Procedure   | IETF RFC 950:1985    | FMN4            | NCIA/NSII                |
| Requirements for Internet Hosts - Communication Layers   | IETF STD 89:1989     | BSP             | NCIA/NSII                |
| Information technology -- Generic cabling for customer premises -- Part 1: General requirements                    | ISO/IEC 11801-1:2017 | FMN3, FMN4      | FMN CPWG                 |
| Characteristics of a single-mode optical fibre and cable   | ITU-T G.652:2016     | FMN3, FMN4      | FMN CPWG                 |
| Quality of service ranking and measurement methods for digital video services delivered over broadband IP networks | ITU-T J.241:2005     | FMN3, FMN4      | FMN CPWG                 |
| Performance objectives and procedures for provisioning and maintenance of IP-based networks                        | ITU-T M.2301:2002    | FMN3, FMN4      | FMN CPWG                 |
| IP packet transfer and availability performance parameters   | ITU-T Y.1540:2016    | FMN3, FMN4      | FMN CPWG                 |
| Network performance objectives for IP-based services   | ITU-T Y.1541:2011    | FMN3, FMN4      | FMN CPWG                 |

| <b>Title</b>   | <b>Pubnum</b>                                       | <b>Profiles</b> | <b>Responsible Party</b>  |
|--|---|-----------------|---------------------------|
| Framework for achieving end-to-end IP performance objectives   | ITU-T Y.1542:2010                                   | FMN3, FMN4      | FMN CPWG                  |
| Connectors, Fiber Optic, Circular, Environmental Resistant, Hermaphroditic, General Specification for. D       | MIL-STD DTL 83526:2006                              | FMN4            | FMN CPWG                  |
| Standard for optical connector medium-rate and high-rate military tactical link                                | NATO AComP-4290 Ed A Ver 2:2018 / STANAG 4290 Ed 2  | FMN4            | C3B CaP1 N&S CaT          |
| Interoperability Point Quality of Service (IP QoS)   | NATO AComP-4711 Ed A Ver 1:2018 / STANAG 4711 Ed 1  | FMN3, FMN4      | C3B CaP1 N&S CaT          |
| Specifications Defining the Joint Dismounted Soldier System Interoperability Network (JDSSIN) - Network Access | NATO AEP-76 Vol5 Ed A Ver 2:2017 / STANAG 4677 Ed 1 | FMN4            | CNAD, AC/225 NAAG, LCGDSS |
| <b>Circuit-based Transport Services</b>  |   |                 |                           |
| The NATO Military Communications Directory System  | NATO STANAG 5046 Ed 4:2015                          | BSP             | C3B CaP1 N&S CaT          |
| <b>Packet Routing Services</b>   |   |                 |                           |
| Host Extensions for IP Multicasting  | IETF RFC 1112:1989                                  | FMN3, FMN4      | FMN CPWG                  |
| BGP Communities Attribute  | IETF RFC 1997:1996                                  | FMN3, FMN4      | FMN CPWG                  |
| Administratively Scoped IP Multicast   | IETF RFC 2365:1998                                  | FMN3, FMN4      | FMN CPWG                  |
| Internet Group Management Protocol, Version 3  | IETF RFC 3376:2002                                  | FMN3, FMN4      | FMN CPWG                  |
| Multicast Source Discovery Protocol (MSDP)   | IETF RFC 3618:2003                                  | FMN3, FMN4      | FMN CPWG                  |
| Border Gateway Protocol 4 (BGP-4)  | IETF RFC 4271:2006                                  | FMN3, FMN4      | FMN CPWG                  |
| BGP Extended Communities Attribute   | IETF RFC 4360:2006                                  | FMN3, FMN4      | FMN CPWG                  |
| Classless Inter-domain Routing (CIDR): The Internet Address Assignment and Aggregation Plan                    | IETF RFC 4632:2006                                  | FMN3, FMN4      | FMN CPWG                  |
| Multiprotocol Extensions for BGP-4   | IETF RFC 4760:2007                                  | FMN3, FMN4      | FMN CPWG                  |

| <b>Title</b>   | <b>Pubnum</b>                 | <b>Profiles</b> | <b>Responsible Party</b> |
|--|-------------------------------|-----------------|--------------------------|
| The Generalized TTL Security Mechanism (GTSM)  | IETF RFC 5082:2007            | FMN3, FMN4      | FMN CPWG                 |
| Capabilities Advertisement with BGP-4  | IETF RFC 5492:2009            | FMN3, FMN4      | FMN CPWG                 |
| 4-Octet AS Specific BGP Extended Community   | IETF RFC 5668:2009            | FMN4            | FMN CPWG                 |
| IANA Guidelines for IPv4 Multicast Address Assignments   | IETF RFC 5771:2010            | FMN3, FMN4      | FMN CPWG                 |
| Bidirectional Forwarding Detection (BFD)   | IETF RFC 5880:2010            | FMN4            | FMN CPWG                 |
| Bidirectional Forwarding Detection (BFD) for IPv4 and IPv6 (Single Hop)                          | IETF RFC 5881:2010            | FMN4            | FMN CPWG                 |
| Bidirectional Forwarding Detection (BFD) for Multihop Paths                                      | IETF RFC 5883:2010            | FMN4            | FMN CPWG                 |
| Autonomous-System-Wide Unique BGP Identifier for BGP-4   | IETF RFC 6286:2011            | FMN3, FMN4      | FMN CPWG                 |
| Overview of the Internet Multicast Addressing Architecture                                       | IETF RFC 6308:2011            | FMN3, FMN4      | FMN CPWG                 |
| BGP Support for Four-Octet Autonomous System (AS) Number Space                                   | IETF RFC 6793:2012            | FMN3, FMN4      | FMN CPWG                 |
| IANA Registries for BGP Extended Communities   | IETF RFC 7153:2014            | FMN3, FMN4      | FMN CPWG                 |
| Revised Error Handling for BGP UPDATE Messages   | IETF RFC 7606:2015            | FMN3, FMN4      | FMN CPWG                 |
| Protocol Independent Multicast - Sparse Mode (PIM-SM): Protocol Specification (Revised)          | IETF RFC 7761:2016            | FMN3, FMN4      | FMN CPWG                 |
| Standard for Interconnection of IPv4 Networks at Mission Secret and Unclassified Security Levels | NATO STANAG 5067 Ed 1:2015    | BSP             | C3B CaP1<br>N&S CaT      |
| <b>Transmission Services</b>   |                               |                 |                          |
| Generic Specification for Optical Waveguide Fibers   | EIA TIA/<br>EIA-492000-A:1997 | BSP             | NCIA/NSII                |



| Title   | Pubnum   | Profiles | Responsible Party            |
|---|--|----------|------------------------------|
| VLF / LF MSK Multi Channel Broadcast  | NATO AComP-4724<br>Ed A Ver 1:2015 /<br>STANAG 4724 Ed 1 | BSP      | C3B CaP1<br>Blos Comms       |
| Single and Multichannel VLF and LF On-Line Broadcast and Off-Line OOK Systems   | NATO STANAG<br>5030 Ed 4:1995                            | BSP      | C3B CaP1<br>Blos Comms       |
| <b>Wired Transmission Services</b>  |  |          |                              |
| Standard for optical connector medium-rate and high-rate military tactical link | NATO AComP-4290<br>Ed A Ver 2:2018 /<br>STANAG 4290 Ed 2 | BSP      | C3B CaP1<br>N&S CaT          |
| <b>Wired Local Area Transmission Services</b>                                   |  |          |                              |
| Standard for optical connector medium-rate and high-rate military tactical link | NATO AComP-4290<br>Ed A Ver 2:2018 /<br>STANAG 4290 Ed 2 | BSP      | C3B CaP1<br>N&S CaT          |
| <b>Wired Metropolitan Area Transmission Services</b>                            |  |          |                              |
| Standard for optical connector medium-rate and high-rate military tactical link | NATO AComP-4290<br>Ed A Ver 2:2018 /<br>STANAG 4290 Ed 2 | BSP      | C3B CaP1<br>N&S CaT          |
| <b>Wired Wide Area Transmission Services</b>                                    |  |          |                              |
| Standard for optical connector medium-rate and high-rate military tactical link | NATO AComP-4290<br>Ed A Ver 2:2018 /<br>STANAG 4290 Ed 2 | BSP      | C3B CaP1<br>N&S CaT          |
| <b>Wireless LOS Mobile Transmission Services</b>                                |  |          |                              |
| Bluetooth 4.2   | Bluetooth SIG<br>bluetooth42:2014                        | BSP      | NCIA/NSII                    |
| <b>Wireless LOS Mobile Narrowband Transmission Services</b>                     |  |          |                              |
| Technical standards for single channel UHF radio equipment                      | NATO AComP-4205<br>Ed A Ver 1:2018 /<br>STANAG 4205 Ed 4 | BSP      | C3B CaP1<br>LOS Comms<br>CaT |
| Technical standards for single channel HF radio equipment                       | NATO STANAG<br>4203 Ed 3:2007                            | BSP      | C3B CaP1<br>Blos Comms       |
| Technical standards for single channel VHF radio equipment                      | NATO STANAG<br>4204 Ed 3:2008                            | BSP      | C3B CaP1<br>LOS Comms<br>CaT |
| Overall Super High Frequency (SHF) Military Satellite Communications            | NATO STANAG<br>4484 Ed 3:2015                            | BSP      | C3B CaP1<br>SATCOM<br>CaT    |



| Title  | Pubnum   | Profiles | Responsible Party         |
|--|--|----------|---------------------------|
| (MILSATCOM) Interoperability Standards   |  |          |                           |
| <b>Wireless LOS Mobile Wideband Transmission Services</b>  |  |          |                           |
| Technical Characteristics of the Multifunctional Information Distribution System (MIDS) - VOL I & II   | NATO STANAG 4175 Ed 5:2014                         | BSP      | C3B CaP1<br>TDL CaT       |
| <b>Wireless BLOS Static Wideband Transmission Services</b>   |  |          |                           |
| Interoperability standard for Satellite Broadcast Services (SBS))  | NATO STANAG 4622 Ed 1:2018                         | BSP      | C3B CaP1<br>SATCOM<br>CaT |
| <b>Wireless BLOS Mobile Transmission Services</b>  |  |          |                           |
| Super High Frequency (SHF) Military Satellite Communications (MILSATCOM) Frequency Division Multiple Access (FDMA) Non-EPM Modem for Services Conforming to Class-B Of STANAG 4484 | NATO AComP-4486 Ed A Ver 1:2016 / STANAG 4486 Ed 4 | BSP      | C3B CaP1<br>SATCOM<br>CaT |
| Digital interoperability between EHF Tactical Satellite Communications Terminals   | NATO STANAG 4233 Ed 1:1998                         | BSP      | C3B CaP1<br>SATCOM<br>CaT |
| SHF Milsatcom Non-EPM Modem for Services Conforming to Class-A Of STANAG 4484  | NATO STANAG 4485 Ed 2:2015                         | BSP      | C3B CaP1<br>SATCOM<br>CaT |
| Extremely High Frequency(EHF) Military Satellite Communications(MILSATCOM) Interoperability Standards for Medium Data Rate Services  | NATO STANAG 4522 Ed 1:2006                         | BSP      | C3B CaP1<br>SATCOM<br>CaT |
| <b>Wireless BLOS Mobile Narrowband Transmission Services</b>   |  |          |                           |
| Technical standards for single channel HF radio equipment  | NATO STANAG 4203 Ed 3:2007                         | BSP      | C3B CaP1<br>Blos Comms    |

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## CHAPTER 4. AGREED PROFILES

### 4.1. INTRODUCTION

018. The NATO Interoperability Standards and Profiles include the set of Agreed Profiles listed below.

**Table 4.1. Agreed Profiles**

| Service Area   | Title   |
|--|---|
| <b>Abstract</b>  |   |
| URI  | ID  |
| <b>Federated Mission Networking</b>  | FMN Spiral 3 Profile  |
| This document defines the Standards Profile for Federated Mission Networking (FMN) Spiral 3. The FMN Standards Profiles provides a suite of interoperability standards and other standardized profiles for interoperability of selected community of interest services, core services and communications services in a federation of mission networks. It places the required interoperability requirements, standards and specifications in context for FMN Affiliates. |   |
| <a href="#">FMN Spiral 3 Profile</a>   | FMN3  |
| <b>Federated Mission Networking</b>  | FMN Spiral 4 Profile  |
| Federated Mission Networking is founded on a service-oriented approach. The interoperability standards applicable to these services are identified and specified in line with the C3 Taxonomy. Similarly, the breakdown of the standards profiles more or less follows the taxonomy.   |   |
| <a href="#">FMN Spiral 4 Overview of Standards and Profiles</a>  | FMN4  |
| <b>Architecture</b>  | Profile for the Architecture development  |
| This profile lists recommended standards for miscellaneous architecture related subjects.  |   |
| <a href="#">architecture-profile.pdf</a>   | ARCHITECTURE  |
| <b>Archive</b>   | Profile for the Long Term Preservation of NATO Digital Information of Permanent value |
| Outlines the file formats and package structures approved by the Archives Committee for the long-term preservation of NATO digital information of permanent value.   |   |
| <a href="#">NISP-V2-archive-profile.pdf</a>  | ARCHIVE-ARCHIVE   |
| <b>Security Services</b>   | Service Interface Profile Security Services   |

| Service Area   | Title   |
|--|---|
| <b>Abstract</b>  |   |
| <b>URI</b>   | <b>ID</b>   |
| This Service Interface Profile (SIP) describes the key elements that make up the NNEC Core Enterprise Services (CES) Security Services.  |   |
| <a href="#">AI_TECH_2016.06.02.01_SIP.pdf</a>  | SIP-SEC   |
| <b>REST Security Services</b>  | Service Interface Profile For REST Security Services        |
| This specification provides the profile for securing representational state transfer (REST) web services (known as RESTful web services) that are deployed within the NNEC web service infrastructure. It specifies security requirements that need to be accounted for depending on the environment in which the services are being deployed, and the level of assurance required for protecting those services. This profile covers the required security protection profile for a Client to access protected resources on a Resource Server using REST. |   |
| <a href="#">AI_TECH_2016.06.02.02_SIP.pdf</a>  | SIP-REST  |
| <b>Security Token Services</b>   | Service Interface Profile For Security Token Services       |
| The purpose of this Service Interface Profile (SIP) is to specify how the security token service component of the Core Enterprise Services (CES) Security Services may be called.  |   |
| <a href="#">AI_TECH_2016.06.02.03_SIP.pdf</a>  | SIP-TOKEN   |
| <b>Policy Enforcement Points</b>   | Service Interface Profile For Policy Enforcement Points     |
| The purpose of this Service Interface Profile (SIP), which should be read along with the Agency Directive 06.05.04.02.H 2, "Service Interface Profile for Security Services" [NCIA AD 06.05.04.02.H], is to specify how services may be called that are protected by the Core Enterprise Services (CES) Security Services.   |   |
| <a href="#">AI_TECH_2016.06.02.04_SIP.pdf</a>  | SIP-POLICY-ENFORCE  |
| <b>Enterprise Directory Services</b>   | Service Interface Profile For Enterprise Directory Services |
| The purpose of this Service Interface Profile (SIP) is to specify the interface of the directory service itself.   |   |
| <a href="#">AI_TECH_2016.06.02.05_SIP.pdf</a>  | SIP-ENTR-DIR  |
| <b>Messaging</b>   | Service Interface Profile For Messaging                     |
| This specification provides the interface control for simple object access protocol (SOAP) web services that are deployed within the NNEC web service infrastructure.  |   |
| <a href="#">AI_TECH_2016.06.02.06_SIP.pdf</a>  | SIP-MESG  |

| Service Area   | Title   |
|--|---|
| <b>Abstract</b>  |   |
| URI  | ID  |
| <b>REST Messaging</b>  | Service Interface Profile For REST Messaging  |
| This specification provides the profile for securing representational state transfer (REST) web services (known as RESTful web services) that are deployed within the NNEC web service infrastructure. This covers only the call from a Web Service Consumer to a Web Service Provider using REST, and the response from the service provider. It includes how the message must be structured and the elements that must be contained within the call. |   |
| <a href="#">AI_Tech_2016.06.02.07_SIP.pdf</a>  | SIP-REST-MSG  |
| <b>Publish-Subscribe Services</b>  | Service Interface Profile For Publish-Subscribe Services                                      |
| This document gives directives along with clarifications and amendments to the [OASIS WS-BaseNotification, 2006] and [OASIS WS-BrokeredNotification, 2006] specification on how to implement a notification broker/subscription manager to promote interoperability between the publish/subscribe engines and generic message subscribers. Some extensions to the protocol have been introduced in order to meet NATO requirements.                    |   |
| <a href="#">AI_Tech_2016.06.02.08_SIP.pdf</a>  | SIP-PUBSUB  |
| <b>Publish-Subscribe Notification Broker With Subscription Manager</b>   | Service Interface Profile For Publish-Subscribe Notification Broker With Subscription Manager |
| This document is part of a Service Interface Profile (SIP) for Publish/Subscribe Core Enterprise Services (CES) and should be read together with the main document [NCIA AD 06.05.04.02.E]. It gives guidance on implementation of a WS-Notification compliant notification broker. It is REQUIRED that each notification broker implementation also includes the subscription manager functionality.  |   |
| <a href="#">AI_Tech_2016.06.02.09_SIP.pdf</a>  | SIP-PUBSUB-NOTIF-BROOKER  |
| <b>Publish-Subscribe Notification Consumer</b>   | Service Interface Profile For Publish-Subscribe Notification Consumer                         |
| This document is part of a Service Interface Profile (SIP) for publish/subscribe Core Enterprise Services (CES) and should be read together with the main document "Service Interface Profile for Publish/Subscribe Services" [NCIA AD 06.05.04.02.E]. It gives guidance on implementation of a WS-Notification-compliant notification consumer.   |   |
| <a href="#">AI_Tech_2016.06.02.10_SIP.pdf</a>  | SIP-PUBSUB-NOTIF-CONSUMER   |
| <b>A Notification Cache Service</b>  | Service Interface Profile For A Notification Cache Service                                    |

| Service Area  | Title  |
|---|--|
| <b>Abstract</b>   |  |
| <b>URI</b>  | <b>ID</b>  |
| This Service Interface Profile (SIP) describes the key elements that make up the NNEC Core Enterprise Services (CES) Notification Cache service. It describes and profiles the operations which a Notification Cache service offers together with the associated message formats, and serves as a template and guideline for implementations.                   |  |
| <a href="#">AI_TECH_2016.06.02.11_SIP.pdf</a>   | SIP-NOTIF-CACHE  |
| <b>Basic Collaboration Services</b>   | Service Interface Profile For Basic Collaboration Services                               |
| This Collaboration Service Interface Profile (SIP) is focused on instant messaging and is based on the extensible messaging and presence protocol (XMPP).   |  |
| <a href="#">AI_TECH_2016.06.02.12_SIP.pdf</a>   | SIP-BCS  |
| <b>Core And Advanced Instant Messaging Collaboration Services</b>   | Service Interface Profile For Core And Advanced Instant Messaging Collaboration Services |
| This document specifies the Service Interface Profile (SIP) for a number of instant messaging services that can be implemented and used by any XMPP entity (XMPP Client or XMPP Server) on the XMPP network.  |  |
| <a href="#">AI_TECH_2016.06.02.13_SIP.pdf</a>   | SIP-MESG-COL-SERV  |
| <b>Geospatial Services – Map Rendering Service</b>  | Service Interface Profile For Geospatial Services – Map Rendering Service                |
| This document gives guidance on the implementation of a Map Rendering Service, being a special kind of a Geospatial Service.  |  |
| <a href="#">AI_TECH_2016.06.02.14_SIP.pdf</a>   | SIP-GEO-MRS  |
| <b>Recognized Air Picture Data Services</b>   | Service Interface Profile for Recognized Air Picture Data                                |
| This Service Interface Profile provides detailed information, guidance, instructions, standards and criteria to define the minimum set of data elements that are required to be available for operational or technical reasons so that correctly formatted technical message can be generated to establish a Recognized Air Picture in a federated environment. |  |
| <a href="#">FMN Spiral 3 Profile including SIP for RAPD</a>   | SIP-RECOGNIZED-AIR-PICTURE-DATA  |
| <b>Service Management Services</b>  | Service Interface Profile for Service Management and Control                             |
| This Service Interface Profile provides guidance and technical details to the procedures, supporting services, infrastructure and data attributes required to implement Service   |  |

| Service Area  | Title  |
|---|--|
| <b>Abstract</b>   |  |
| <b>URI</b>  | <b>ID</b>  |
| Management and Control (SMC) services in Mission Networks. As such, this document contributes to the establishment of capabilities in support of Federated Mission Networking (FMN) as an affordable, effective and efficient means to enable sharing of information in a coalition environment.  |  |
| <a href="#">FMN Spiral 3 Profile including SIP for SMC</a>  | SIP-FOR-SMC  |
| <b>Transport Layer Security</b>   | Service Interface Profile for Transport Layer Security |
| This Service Interface Profile (SIP) provides detailed information, guidance, instructions, standards and criteria to be used as a for the usage of Transport Layer Security (TLS) protocol to provide authentication, confidentiality and integrity services for protecting the communication between a consumer and a provider. This publication is a living document and will be periodically reviewed and updated to reflect technology developments, emerging best practices, evolving standards and new or deprecated cryptographic schemes and algorithms. |  |
| <a href="#">FMN Spiral 3 Profile including SIP for TLS</a>  | SIP-FOR-TLS  |
| <b>Web Applications</b>   | Service Interface Profile for Web Applications         |
| This Service Interface Profile (SIP) provides detailed information, guidance, instructions, standards and criteria to be used for development, delivery and consumption of Web applications and dynamic Web sites. This publication is a living document and will be periodically reviewed and updated to reflect technology developments and emerging best practices.  |  |
| <a href="#">FMN Spiral 3 Profile including SIP for Web Apps</a>   | SIP-FOR-WEB-APPS                                       |
| <b>Cryptographic Services</b>   | Cryptographic Artefact Binding Profiles                |
| Profile the use of cryptographic protocols, which can be used to implement support for different cryptographic techniques and mechanisms, for generating cryptographic artefacts to be stored in a cryptographic binding.   |  |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex A   | BINDING-CRYPTO-V2                                      |
| <b>Informal Messaging Services</b>  | Simple Mail Transfer Protocol (SMTP) Binding Profile   |
| This profile specifies the mechanism for binding metadata to Internet Email (both formal and informal) including MIME entities.   |  |

| Service Area   | Title   |
|--|---|
| <b>Abstract</b>  |   |
| <b>URI</b>   | <b>ID</b>   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex B  | BINDING-SMTP-V2   |
| <b>XMPP Services</b>   | Extensible Message and Presence Protocol (XMPP) Binding Profile |
| Confidentiality metadata labels can be supported in XMPP stanzas as indicated by XEP-0258 whereby a mechanism for carrying Enhanced Security Services (ESS) Security labels is standardized. This profile extends the XEP-0258 specification to support carrying an Embedded or Detached BDO for Message stanzas. This profile supports the XMPP use cases for one-to-one instant messaging and multi-user chat.   |   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex C  | BINDING-XMPP-V2   |
| <b>Metadata Services</b>   | Office Open XML (OOXML) Formats Binding Profile                 |
| This profile for the OOXML describes how metadata can be maintained.   |   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex D  | BINDING-OOXML-V2  |
| <b>SOAP Services</b>   | Simple Object Access Protocol (SOAP) Profile                    |
| This profilesupports for both SOAP 1.1 and SOAP 1.2. To support information sharing between partners it may be necessary to locate a Binding Data Object (BDO) in the SOAP protocol layer. Metadata may be bound to the whole data object (SOAP message) or may be bound to subsets of the SOAP message (data object(s) in the SOAP body). In an environment where data objects must have bound metadata, the resource identified in the URI will already contain a BDO (detached, encapsulating or embedded). |   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex E  | BINDING-SOAP  |
| <b>REST Services</b>   | Representational State Transfer (REST) Profile                  |
| In an environment where data objects must have bound metadata, the resource identified in the URI will already contain a BDO (detached, encapsulating or embedded). As such, there is no requirement for metadata binding that is specific for REST. However, to support information sharing between partners it may be necessary to locate a Binding Data Object (BDO) in the HTTP protocol layer.  |   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex F  | BINDING-REST-V2   |



| Service Area   | Title   |
|--|---|
| <b>Abstract</b>  |   |
| <b>URI</b>   | <b>ID</b>   |
| <b>Generic Packaging Services</b>  | Generic Open Packaging Convention (OPC) Binding Profile |
| This profile defines a generic packaging mechanism, based upon the Open Packaging Container (OPC) defined in ISO/IEC 29500-2:2008, to associate any arbitrary file that do not use the Office Open XML (OOXML) format or have no specific profile for supporting the Binding Information with their own file format.   |   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex G  | BINDING-GENERIC-V2                                      |
| <b>Sidecar Services</b>  | Sidecar Files Binding Profile                           |
| Sidecar files allow the association of metadata with a data object for which there is no profile.  |   |
| <a href="#">Sidecar_Files_Binding_Profilev1.0.pdf</a> - Annex H  | BINDING-SIDECAR-V2                                      |
| <b>XMP Services</b>  | Extensible Metadata Platform (XMP) Binding Profile      |
| This Binding Profile for XMP describes how metadata should be incorporated within an XMP packet as a structured value.   |   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex I  | BINDING-EXTENSIBLE-V2                                   |
| <b>WSMP Services</b>   | Web Service Messaging Profile (WSMP) Profile            |
| The Web Service Messaging Profile (WSMP) defines a set of service profiles to exchange arbitrary XML-based messages. WSMP is extensible and may be used by any Community of Interest (COI). This profile supports the requirement to explicitly bind metadata to data (or subsets thereof) whereby the data is XML-based and exchanged between service consumers and service providers using the WSMP message wrapper mechanism. |   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex J  | BINDING-WSMP  |
| <b>XML Artifacts Profile</b>   | Common XML artefacts 2.0                                |
| This profile supports the requirement to bind metadata to data (or subsets thereof) whereby the data is XML-encoded in one of the following schemas: XML Schema, ISO Schematron, XML Stylesheet, Generic Codelist, Context/Value Association or Security Policy Information File.  |   |
| <a href="#">TN-1491_Edition2-Binding_Profiles_v1.0-Signed.pdf</a> - Annex K  | BINDING-COMMON-XML                                      |

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# **NATO STANDARD**

## **ADatP-34**

### **NATO Interoperability Standards and Profiles**

#### **Volume 3**

#### **Candidate Interoperability Standards and Profiles**

#### **Edition N Version 1**

**26 May 2021**



### **NORTH ATLANTIC TREATY ORGANIZATION ALLIED DATA PUBLICATION**

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DRAFT

## **NATO LETTER OF PROMULGATION**

The enclosed Allied Data Publication ADatP-34, Edition N, Version 1 NATO Interoperability Standards and Profiles, which has been approved by the nations in the C3B, is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 5524.

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## RECORD OF SPECIFIC RESERVATIONS

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# CHAPTER 1. STANDARDS

## 1.1. INTRODUCTION

001. The purpose of this chapter is to specify the candidate NISP standards. The document organizes these standards, following baseline 3.1 NATO's C3 Taxonomy, as endorsed by the NATO C3 Board per AC/322-D(2019)0034-AS1(INV) on 26 August 2019. A graphical representation of this taxonomy is included in volume 1.

002. For some standards it was not clear yet which service identified in the C3 Taxonomy should be used. Therefore, as an interim solution, the taxonomy was extended with e.g. user-defined "Cloud Services". In a separate section, all standards are listed for which could not yet be defined how they should be linked to the C3 Taxonomy.

003. The standards are presented in tabular form. Each table represent a subtree from the C3 taxonomy and each table line (marked in bold and spanning all columns in the table) represents a taxonomy node from the subtree. Under each taxonomy node title, all standards which are mapped to the node are listed with the following attributes: title of the standard; where possible, a link to the standard; publication number of the standard; a list of all the capability profiles where the standard is used; and finally the "responsible party" which is the domain expert that advises NATO about the standard. In general, a taxonomy node is only listed if at least one standard is assigned to this taxonomy node.

004. When STANAG X Ed Y is in ratification process, this is indicated by STANAG (RD) X Ed Y, and when it is a study draft, this is indicated by STANAG (Study) X Ed Y.

### 1.1.1. Releasability Statement

005. In principle, NISP only contains or references standards or related documents, which are generally available for NATO/NATO member nations/CCEB.

## 1.2. USER APPLICATIONS

| Title | Pubnum | Profiles | Responsible Party |
|-------|--------|----------|-------------------|
|       |        |          |                   |

## 1.3. TECHNICAL SERVICES

006. The "Technical Services" include those services required to enable "User Applications". They are part of the "Back-End Capabilities" while "User Applications" are part of "User-Facing Capabilities".

007. According to the C3 Taxonomy, they consist of "Community Of Interest (COI) Services", "Core Services" and "Communications Services". The complete collection of Technical Services is sometimes referred to as the "Technical Services Framework" (TSF) or "NNEC Services Framework" (NSF).

008. In addition to the "Technical Services" identified in the C3 Taxonomy, a taxonomy layer "Cloud Computing" has been added. This enables a more useful categorization of cloud-based standards (currently only included as candidate standards).

### 1.3.1. Community Of Interest (COI) Services

| Title   | Pubnum  | Profiles | Responsible Party   |
|---|---|----------|---------------------|
| <b>Symbology Services</b>   |   |          |                     |
| <a href="#">NATO Vector Graphics Specification 2.0.2</a>                            | NATO ADatP-4733 Ed A Ver 1:2017 / STANAG (Study) 4733 Ed 1        | BSP      | C3B CaP1            |
| <a href="#">NATO Transformational Baseline 3.0:2009 (ACT)</a>                       | NATO TIDE/TTB:2009  | BSP      | NCIA/CES            |
| <a href="#">GML in JPEG 2000 for Geographic Imagery (GMLJP2)</a>                    | OGC 05-047r3:2006   | BSP      | FMN CPWG            |
| <b>Track Management Services</b>  |   |          |                     |
| <a href="#">Technical Characteristics of Reverse IFF using Mode 5 Waveform</a>      | NATO Study (expected) AEtP-4722 Ed. A Ver. 1 / STANAG 4722 Ed 1   | BSP      | C3B CaP2            |
| <a href="#">Identification Data Combining Process</a>                               | NATO Study (expected) AIDPP-01 Ed. A version 1 / STANAG 4162 Ed 3 | BSP      | C3B CaP2            |
| <a href="#">Tactical Data Exchange - Link 11/11B</a>                                | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10            | BSP      | C3B CaP1<br>TDL CaT |
| <a href="#">Tactical Data Exchange - Link 16</a>                                    | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8             | BSP      | C3B CaP1<br>TDL CaT |
| <a href="#">Tactical Data Exchange - Link-22 - ATDLP-5.22 Edition B<sup>1</sup></a> | NATO Study (expected) STANAG                                      | BSP      | C3B CaP1<br>TDL CaT |

| Title                                   | Pubnum                       | Profiles | Responsible Party |
|---|------------------------------|----------|-------------------|
|   | 5522 Ed 6 /<br>ATDLP-5.22(B) |          |                   |
| <b>Modeling and Simulation Services</b> |                              |          |                   |

<sup>1</sup>STANAG 5522 Ed 6 / ATDLP 5.22(B) - The extant edition is Ed 2. Ed 6 will be out for promulgation using Fast Track procedure during 2020.

### 1.3.2. Core Services

| Title   | Pubnum                                   | Profiles | Responsible Party                   |
|---|--|----------|-------------------------------------|
| <b>Business Support CIS Security Services</b>                             |  |          |                                     |
| Common Biometric Exchange Formats Framework (CBEFF)                       | ANSI incits-398:2008                     | BSP      | NCIA/JISR                           |
| Electronic Biometric Transmission Specification (EBTS)                    | FBI IAFIS-<br>DOC-01078-8.1:2008         | BSP      | CNAD,<br>AC/224<br>NAFAG,<br>JCGISR |
| <b>Communication and Collaboration Services</b>                           |  |          |                                     |
| HyperText Markup Language (HTML), Version 5.0, Reference Specification    | W3C WD-<br>html5-20121025:2012           | BSP      | NCIA/CES                            |
| <b>Fax Services</b>   |  |          |                                     |
| Procedures for real-time Group 3 facsimile communication over IP networks | ITU-T T.38:2010                          | BSP      | NCIA/NSII                           |
| <b>Geospatial Services</b>  |  |          |                                     |
| OpenGIS Web Processing Service  | OGC 05-007r7:2007                        | BSP      | NCIA/AWG                            |
| <b>Geospatial Web Coverage Services</b>                                   |  |          |                                     |
| Web Coverage Service Implementation Standard v1.1.2                       | OGC 07-067r5:2007                        | BSP      | NCIA/AWG                            |
| <b>Geospatial Coordinate Services</b>                                     |  |          |                                     |
| OpenGIS Coordinate Transformation Services                                | OGC 01-009:2001                          | BSP      | NCIA/AWG                            |
| <b>Information Management Services</b>                                    |  |          |                                     |
| Application Vulnerability Description Language (AVDL) version 1.0         | OASIS AVDL<br>Specification -<br>01:2004 | BSP      | NCIA/CS                             |

| Title  | Pubnum   | Profiles | Responsible Party |
|--|--|----------|-------------------|
| <b>Formal Messaging Services</b>   |  |          |                   |
| Registration of Military Message Handling System (MMHS) Header Fields for Use in Internet Mail | IETF RFC 6477:2012                                     | BSP      | NCIA/CES          |
| Tactical Data Exchange - Link 11/11B   | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP      | C3B CaP1 TDL CaT  |
| Tactical Data Exchange - Link 16   | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8  | BSP      | C3B CaP1 TDL CaT  |
| Joint Range Extension Application Protocol (JREAP) <sup>1</sup>                                | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4  | BSP      | C3B CaP1 TDL CaT  |
| Tactical Data Exchange - Link-22 - ATDLP-5.22 Edition B <sup>1</sup>                           | NATO Study (expected) STANAG 5522 Ed 6 / ATDLP-5.22(B) | BSP      | C3B CaP1 TDL CaT  |
| SOAP Messages with Attachments (SwA) Profile 1.1   | OASIS wss-v1.1-spec-os-SwAProfile:2006                 | BSP      | NCIA/CES          |
| Variable Message Format (VMF) <sup>2</sup>   | US DoD MIL-STD-6017D:2017                              | BSP      | C3B CaP1          |
| <b>Platform Services</b>   |  |          |                   |
| WS-BrokeredNotification 1.3  | OASIS wsn-ws_brokered_notification-1.3-spec-os:2006    | BSP      | NCIA/CES          |
| Web Services Business Process Execution Language (WSBPEL) version 2.0                          | OASIS ws-bpel:2007                                     | BSP      | NCIA/CES          |
| WS-BaseNotification  | OASIS ws-notif:2006                                    | BSP      | NCIA/CES          |
| WS-Topics 1.3  | OASIS wsn-ws_topics-1.3-spec-os:2006                   | BSP      | NCIA/CES          |
| Web Services Addressing 1.0 - Core   | W3C REC-ws-addr-core-20060509:2006                     | BSP      | FMN CPWG          |

| <b>Title</b>  | <b>Pubnum</b>   | <b>Profiles</b> | <b>Responsible Party</b>            |
|---|---|-----------------|-------------------------------------|
| Attachments Profile Version 1.0   | WS-I<br>AttachmentsProfile-1.0-2006-04-20:2004          | BSP             | NCIA/CES                            |
| WS-I Basic Profile 1.2  | WS-I BP12:2010  | BSP             | NCIA/CES                            |
| WS-I Basic Profile 2.0  | WS-I wsbp:2010  | BSP             | NCIA/CES                            |
| Simple SOAP Binding Profile Version 1.0   | WS-I<br>SimpleSoapBindingProfile-1.0-2004-08-24:2004    | BSP             | NCIA/CES                            |
| <b>Security Token Services</b>  |   |                 |                                     |
| RADIUS and IPv6   | IETF RFC 3162:2001                                      | BSP             | NCIA/NSII                           |
| Single Sign On  | Open Group<br>P702:1997                                 | BSP             | C3B CaP4                            |
| <b>Policy Decision Point Services</b>   |   |                 |                                     |
| Data Format for the Interchange of Fingerprint Facial, and Scar Mark and Tattoo (SMT) Information | ANSI/NIST ITL<br>1-2000:2000                            | BSP             | NCIA/JISR                           |
| Biometric data interchange formats -- Part 2:   | ISO/IEC<br>19794-2:2007                                 | BSP             | NCIA/JISR                           |
| Biometric data interchange formats -- Part 5: Face image data                                     | ISO/IEC<br>19794-5:2007                                 | BSP             | NCIA/JISR                           |
| Biometric data interchange formats -- Part 6: Iris image data                                     | ISO/IEC<br>19794-6:2007                                 | BSP             | NCIA/JISR                           |
| NATO Public Key Infrastructure (NPKI) Certificate Policy (CertP) Rev2.                            | NATO AC/322-<br>D(2004)0024REV2:2008                    | BSP             | C3B NPMA                            |
| eXtensible Access Control Markup Language core specification                                      | OASIS xacml-3.0-<br>core-spec-os:2013                   | BSP             | NCIA/CS                             |
| DOD EBTS  | US DoD DIN:<br>DOD_BTFS_TS_EBTS_<br>Nov06_01.02.00:2006 | BSP             | CNAD,<br>AC/224<br>NAFAG,<br>JCGISR |
| DOD EBTS  | US DoD DIN:<br>DOD_BTFS_TS_EBTS_<br>Mar09_02.00.00:2009 | BSP             | CNAD,<br>AC/224<br>NAFAG,<br>JCGISR |
| <b>Platform SMC Services</b>  |   |                 |                                     |
| Common Information Model (CIM) v2.2   | DMTF DSP0004:1999                                       | BSP             | C3B CaP1<br>SMC CaT                 |

| <b>Title</b>  | <b>Pubnum</b>                      | <b>Profiles</b> | <b>Responsible Party</b> |
|---|------------------------------------|-----------------|--------------------------|
| Web Services for Management (WS-Management) Specification                             | DMTF DSP0226:2010                  | BSP             | C3B CaP1<br>SMC CaT      |
| WS-Management CIM Binding Specification   | DMTF DSP0227:2010                  | BSP             | C3B CaP1<br>SMC CaT      |
| Remote Network Monitoring Management Information Base, RMON-MIB version 2 using SMIV2 | IETF RFC 2021:1997                 | BSP             | NCIA/SMC                 |
| IP Version 6 Management Information Base for the Transmission Control Protocol        | IETF RFC 2452:1998                 | BSP             | NCIA/NSII                |
| IP Version 6 Management Information Base for the User Datagram Protocol               | IETF RFC 2454:1998                 | BSP             | NCIA/NSII                |
| IPv6 MIB  | IETF RFC 2465:1998                 | BSP             | NCIA/SMC                 |
| ICMPv6 MIB  | IETF RFC 2466:1998                 | BSP             | NCIA/SMC                 |
| Multicast Group Membership Discovery MIB  | IETF RFC 5519:2009                 | BSP             | NCIA/NSII                |
| Enhanced Telecom Operations Map   | TM-FORUM eTOM Rel.13:2012          | BSP             | NCIA/SMC                 |
| <b>Service Discovery Services</b>   |                                    |                 |                          |
| DNS-Based Service Discovery   | IETF RFC 6763:2013                 | BSP             | NCIA/CES                 |
| TIDE Service Discovery  | NATO TIDE/TIDE-ID-SP:2008          | BSP             | NCIA/CES                 |
| OASIS ebXML Messaging Services Specification  | OASIS ebms2:2002                   | BSP             | NCIA/CES                 |
| Web Services Dynamic Discovery Version 1.1  | OASIS wsdd-discovery-1.1-spec:2009 | BSP             | NCIA/CES                 |
| Web Services Description Language (WSDL) Version 2.0 Part 1: Core Language            | W3C REC-wsdl20-20070626:2007       | BSP             | NCIA/Sstrat/Sea          |
| <b>Message-Oriented Middleware Services</b>   |                                    |                 |                          |
| SOAP Version 1.2  | W3C SOAP Version 1.2:2001          | BSP             | NCIA/CES                 |
| <b>Web Platform Services</b>  |                                    |                 |                          |

| <b>Title</b>   | <b>Pubnum</b>                                    | <b>Profiles</b> | <b>Responsible Party</b> |
|--|--|-----------------|--------------------------|
| <a href="#">Content-ID and Message-ID Uniform Resource Locators</a>                      | IETF RFC 2392:1998                               | BSP             | NCIA/CES                 |
| <a href="#">XML Linking Language (XLink) Version 1.1</a>                                 | W3C REC- xlink11-20100506:2010                   | BSP             | NCIA/CES                 |
| <a href="#">Extensible Markup Language (XML) version 1.1 (Second Edition)</a>            | W3C REC- xml11-20060816:2006                     | BSP             | NCIA/CES                 |
| <b>Web Presentation Services</b>   |  |                 |                          |
| <a href="#">Web Services for Remote Portlets Specification</a>                           | OASIS wsrp-specification-2.0:2008                | BSP             | NCIA/CES                 |
| <b>Information Discovery Services</b>  |  |                 |                          |
| <a href="#">OpenSearch 1.1 Draft 6</a>   | Opensearch opensearch11d6:2005                   | BSP             | FMN CPWG                 |
| <b>Information Access Services</b>   |  |                 |                          |
| <a href="#">MIME Encapsulation of Aggregate Documents, such as HTML (MHTML)</a>          | IETF RFC 2557:2006                               | BSP             | NCIA/CES                 |
| <a href="#">A Standards Based Approach for Geo-enabling RSS feeds, v1.0</a>              | OGC 06-050r3:2006                                | BSP             | NCIA/AWG                 |
| <a href="#">XForms 1.0</a>   | W3C REC- xforms-20031014:2003                    | BSP             | NCIA/CES                 |
| <b>Metadata Repository Services</b>  |  |                 |                          |
| <a href="#">Web Services Metadata Exchange (WS-MetadataExchange)</a>                     | W3C REC-ws-metadata-exchange-20111213:2011       | BSP             | NCIA/CES                 |
| <b>Directory Services</b>  |  |                 |                          |
| <a href="#">Common Directory Services and Procedures</a>                                 | CCEB ACP 133(D):2009                             | BSP             | C3B NACP CaT             |
| <b>Choreography Services</b>   |  |                 |                          |
| <a href="#">W3C Web Service Choreography Interface version 1.0</a>                       | W3C NOTE- wsci-20020808:2002                     | BSP             | NCIA/CES                 |
| <b>Mediation Services</b>  |  |                 |                          |
| <a href="#">Services to forward Friendly Force Information to Weapon Delivery Assets</a> | NATO ADatP-37 Ed A Ver 1:2018 / STANAG 5528 Ed 1 | BSP             | C3B CaP2                 |
| <b>Data Format Transformation Services</b>   |  |                 |                          |

| Title   | Pubnum   | Profiles | Responsible Party     |
|---|--|----------|-----------------------|
| XML Query Language (XQuery)   | W3C WD-xquery-20030502:2003                      | BSP      | NCIA/CES              |
| <b>Infrastructure Services</b>  |  |          |                       |
| Real Time Control Protocol (RTCP) attribute in Session Description Protocol (SDP) | IETF RFC 3605:2003                               | BSP      | NCIA/NSII             |
| The Secure Real-time Transport Protocol (SRTP)                                    | IETF RFC 3711:2004                               | BSP      | FMN CPWG              |
| NATO Imagery Interpretability Rating Scale (NIIRS)                                | NATO AIntP-07 Ed A Ver 1:2018 / STANAG 7194 Ed 2 | BSP      | MC, MCJSB, JINT JISRP |
| Distributed File System (DFS) DCE DFS   | Open Group F209a:1997                            | BSP      | NCIA/CES              |
| <b>Infrastructure Networking Services</b>   |  |          |                       |
| Default Address Selection for Internet Protocol version 6 (IPv6)                  | IETF RFC 6724:2012                               | BSP      | NCIA                  |
| Very high speed digital subscriber line transceivers 2 (VDSL2)                    | ITU-T G. 993-2:2011                              | BSP      | NCIA/NSII             |
| Server Message Block (SMB)  | Microsoft MS-SMB - 20130118:2013                 | BSP      | NCIA/CES              |
| X/Open Network File System (C702 Protocols for Inter-working: XNFS, Version 3W)   | Open Group C702:1998                             | BSP      | NCIA/CES              |
| DCE 1.1: Remote Procedure Call  | Open Group C706:1997                             | BSP      | NCIA/CES              |
| <b>Host Configuration Services</b>  |  |          |                       |
| Dynamic Host Configuration Protocol for IPv6 (DHCPv6)                             | IETF RFC 3315:2003                               | BSP      | NCIA/NSII             |
| IPv6 Prefix Options for Dynamic Host Configuration Protocol (DHCP) version 6      | IETF RFC 3633:2003                               | BSP      | NCIA/NSII             |
| <b>Data Transfer Services</b>   |  |          |                       |
| FTP Extensions for IPv6 and NATs  | IETF RFC 2428:1998                               | BSP      | NCIA/NSII             |
| <b>Domain Name Services</b>   |  |          |                       |



| Title   | Pubnum                  | Profiles | Responsible Party |
|---|-------------------------|----------|-------------------|
| DNS Configuration options for Dynamic Host Configuration Protocol for IPv6 (DHCPv6) | IETF RFC 3646:2003      | BSP      | NCIA/NSII         |
| Network Information Service (NIS) Configuration Options for DHCPv6                  | IETF RFC 3898:2004      | BSP      | NCIA/NSII         |
| A Method for Storing IPsec Keying Material in DNS                                   | IETF RFC 4025:2005      | BSP      | NCIA/CS           |
| Multicast DNS   | IETF RFC 6762:2013      | BSP      | NCIA/NSII         |
| <b>Distributed Time Services</b>  |                         |          |                   |
| DCE 1.1: Time Services  | Open Group<br>C310:1994 | BSP      | NCIA/CES          |

<sup>1</sup>The SIP for Recognized Air Picture Data refers to ATDLP-5.18 Ed B Version 1 instead of ATDLP-5.18 Ed B Version 2

<sup>2</sup>Except Appendix B, List of Geographical Data Field Identifiers (DFIs)

### 1.3.3. Communications Services

| Title   | Pubnum                            | Profiles | Responsible Party |
|---|-----------------------------------|----------|-------------------|
| <b>Communications Services</b>                      |                                   |          |                   |
| High Rate Ultra-Wide Band PHY and MAC Standard      | ECMA<br>ECMA-368:2008             | BSP      | NCIA/NSII         |
| Broadband Radio Access Networks (BRAN) HiperMAN     | ETSI TS 102<br>624-1:2009         | BSP      | NCIA/NSII         |
| ZigBee  | IEEE 802.15.4:2005                | BSP      | NCIA/NSII         |
| Mobile WiMax  | IEEE 802.16e:2005                 | BSP      | NCIA/NSII         |
| Wireless Broadband                                  | IEEE 802.16e:2004                 | BSP      | NCIA/NSII         |
| Multiple Spanning Trees                             | IEEE 802.1S:2002                  | BSP      | NCIA/NSII         |
| Mobile Broadband Wireless Access (Draft)            | IEEE 802.20:2006                  | BSP      | NCIA/NSII         |
| Dynamic Source Routing (DSR) Draft- version 1.0     | IETF draft-ietf-manet-dsr-09:2003 | BSP      | NCIA/NSII         |
| Ad-hoc On-Demand Distance Vector Routing (AODV)     | IETF RFC 3561:2003                | BSP      | NCIA/NSII         |
| IPv6 over Low Power Wireless Personal Area Networks | IETF RFC 4919:2007                | BSP      | NCIA/NSII         |

| <b>Title</b>   | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b>           |
|--|--|-----------------|------------------------------------|
| Technical Standards for an Automatic Radio Control System (ARCS) for HF Communication Links <sup>1</sup>                                     | NATO Study (expected) STANAG 4538 Ed 2                 | BSP             | C3B CaP1<br>Blos Comms             |
| <a href="#">Interoperability Standard for Satellite SHF Deployable Terminals Control and Command Services</a>                                | NATO STANAG 4706 Ed 1:2018                             | BSP             | C3B CaP1<br>SATCOM<br>CaT          |
| <a href="#">Common Alerting Protocol Version 1.2</a>   | OASIS CAP 1.2:2010                                     | BSP             | NCIA/Sstrat/<br>Sea                |
| <a href="#">The Open Grid Services Architecture (OGSA) version 1.5</a>   | OGF draft-ogf-ogsa-spec-1.5-011:2006                   | BSP             | NCIA/CES                           |
| <a href="#">Wireless USB Specification</a>   | USB.ORG wusb:2005                                      | BSP             | NCIA/CES                           |
| <b>Communications Access Services</b>  |  |                 |                                    |
| Standard Interfaces Of Unmanned Aircraft (UA) CONTROL System (UCS) for NATO UA Interoperability - Interface Control Document                 | NATO AEP-84 Vol 1 Ed.A Ver 1:2017 / STANAG 4586 Ed 4   | BSP             | CNAD,<br>AC/141<br>NNAG,<br>JCGUAS |
| Standard Interfaces Of Unmanned Aircraft (Ua) Control System (UCS) for NATO UA Interoperability - Interface Control Document                 | NATO AEP-84 Vol 2 Ed.A Ver 1:2017 / STANAG 4586 Ed 4   | BSP             | CNAD,<br>AC/141<br>NNAG,<br>JCGUAS |
| <a href="#">Tactical Data Exchange - Link 11/11B</a>   | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP             | C3B CaP1<br>TDL CaT                |
| <a href="#">Joint Range Extension Application Protocol (JREAP)<sup>1</sup></a>   | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4  | BSP             | C3B CaP1<br>TDL CaT                |
| Technical Characteristics of the Multifunctional Information Distribution System (MIDS) - VOL I & VOL II - ATDLP-1.75 Edition A <sup>2</sup> | NATO Study (expected) STANAG 4175 Ed 6                 | BSP             | C3B CaP1<br>TDL CaT                |
| <b>Tactical Messaging Access Services</b>  |  |                 |                                    |
| <a href="#">Call Sign Book for Ships</a>   | CCEB ACP 113(AJ):2019                                  | BSP             | C3B NACP<br>CaT                    |

| <b>Title</b>   | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b> |
|--|--|-----------------|--------------------------|
| Information Assurance for Allied Communications and Information Systems  | CCEB ACP 122(G):2015                                   | BSP             | C3B NACP CaT             |
| Address Indicating Groups - Instructions and Assignments   | NATO ACP 100 NS-1(Q)                                   | BSP             | C3B NACP CaT             |
| Instructions for the Life Cycle Management of Allied Communications Publications (ACPs), NATO Supplement-1                                   | NATO ACP 198 NS-1(H):2014                              | BSP             | C3B NACP CaT             |
| Tactical Data Exchange - Link 11/11B   | NATO ATDLP-5.11 Ed B Ver 1:2019 / STANAG FT 5511 Ed 10 | BSP             | C3B CaP1 TDL CaT         |
| Tactical Data Exchange - Link 16   | NATO ATDLP-5.16 Ed B Ver 1:2019 / STANAG 5516 FT Ed 8  | BSP             | C3B CaP1 TDL CaT         |
| Joint Range Extension Application Protocol (JREAP) <sup>1</sup>  | NATO ATDLP-5.18 Ed B Ver 2:2019 / STANAG FT 5518 Ed 4  | BSP             | C3B CaP1 TDL CaT         |
| Technical Characteristics of the Multifunctional Information Distribution System (MIDS) - VOL I & VOL II - ATDLP-1.75 Edition A <sup>2</sup> | NATO Study (expected) STANAG 4175 Ed 6                 | BSP             | C3B CaP1 TDL CaT         |
| Standards for Data Forwarding between Tactical Data Systems  | NATO Study (expected) STANAG 5616 Ed 7                 | BSP             | C3B CaP1 TDL CaT         |
| <b>IPv4 Routed Access Services</b>   |  |                 |                          |
| IP QoS for the NII   | NCIA TN-1417   | BSP             | C3B CaP1 N&S CaT         |
| <b>IPv6 Routed Access Services</b>   |  |                 |                          |
| Interoperability Point Quality of Service (IP QoS)   | NATO AComP-4711 Ed A Ver 1:2018 / STANAG 4711 Ed 1     | BSP             | C3B CaP1 N&S CaT         |
| <b>Transport Services</b>  |  |                 |                          |
| Routing Information Protocol next generation for IPv6 (RIPng)  | IETF RFC 2080:1997                                     | BSP             | NCIA/NSII                |

| <b>Title</b>  | <b>Pubnum</b>  | <b>Profiles</b> | <b>Responsible Party</b> |
|---|--|-----------------|--------------------------|
| IP Version 6 over PPP   | IETF RFC 2472:1998                                       | BSP             | NCIA/NSII                |
| Generic Packet Tunneling in IPv6  | IETF RFC 2473:1998                                       | BSP             | NCIA/NSII                |
| Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing                                       | IETF RFC 2545:1999                                       | BSP             | FMN CPWG                 |
| Stateless IP/ICMP Translation Algorithm (SIIT)  | IETF RFC 2765:2000                                       | BSP             | NCIA/NSII                |
| Mobility Support in IPv6  | IETF RFC 3775:2004                                       | BSP             | NCIA/NSII                |
| Using IPsec to Protect Mobile IPv6 Signaling Between Mobile Nodes and Home Agents                         | IETF RFC 3776:2004                                       | BSP             | NCIA/CS                  |
| Border Gateway Multicast Protocol (BGMP)  | IETF RFC 3913:2004                                       | BSP             | NCIA/NSII                |
| Protocol Independent Multicasting Dense Mode (PIM-DM)   | IETF RFC 3973:2005                                       | BSP             | NCIA/NSII                |
| Mobile IPv6 Fast Handovers  | IETF RFC 5568:2009                                       | BSP             | NCIA/NSII                |
| Simplified Multicast Forwarding (SMF)   | IETF RFC 6621:2012                                       | BSP             | NCIA/NSII                |
| BGP Support for Four-Octet Autonomous System (AS) Number Space  | IETF RFC 6793:2012                                       | BSP             | FMN CPWG                 |
| IP QoS for the NII  | NCIA TN-1417   | BSP             | C3B CaP1<br>N&S CaT      |
| <b>Packet-based Transport Services</b>  |  |                 |                          |
| Mobile IPv6 Support for Dual Stack Hosts and Routers  | IETF RFC 5555:2009                                       | BSP             | NCIA/NSII                |
| IP QoS for the NII  | NCIA TN-1417   | BSP             | C3B CaP1<br>N&S CaT      |
| <b>Packet Routing Services</b>  |  |                 |                          |
| Interoperability Point Quality of Service (IP QoS)  | NATO AComP-4711<br>Ed A Ver 1:2018 /<br>STANAG 4711 Ed 1 | BSP             | C3B CaP1<br>N&S CaT      |
| Standard for Interconnection of IPv4 and IPv6 Networks at Mission Secret and Unclassified Security Levels | NATO AComP-5067<br>Ed A Ver 1 / STANAG<br>(RD) 5067 Ed 2 | BSP             | C3B CaP1<br>N&S CaT      |
| <b>Packet-based Aggregation Services</b>  |  |                 |                          |

| Title  | Pubnum   | Profiles | Responsible Party   |
|--|--|----------|---------------------|
| Interoperability Point Quality of Service (IP QoS)   | NATO AComP-4711 Ed A Ver 1:2018 / STANAG 4711 Ed 1 | BSP      | C3B CaP1 N&S CaT    |
| <b>Packet-based Broadcast Services</b>   |  |          |                     |
| Interoperability Point Quality of Service (IP QoS)   | NATO AComP-4711 Ed A Ver 1:2018 / STANAG 4711 Ed 1 | BSP      | C3B CaP1 N&S CaT    |
| <b>Wireless LOS Mobile Transmission Services</b>   |  |          |                     |
| Bluetooth Core Specification v5.0  | Bluetooth SIG Core Version 5.0:2016                | BSP      | NCIA/NSII           |
| <b>Wireless LOS Mobile Narrowband Transmission Services</b>  |  |          |                     |
| Voice Coding Algorithm   | NATO STANAG 4444 Ed 2:2015                         | BSP      | C3B CaP1 Blos Comms |
| <b>Wireless LOS Mobile Wideband Transmission Services</b>  |  |          |                     |
| Technical Characteristics of the Multifunctional Information Distribution System (MIDS) - VOL I & VOL II - ATDLP-1.75 Edition A <sup>2</sup> | NATO Study (expected) STANAG 4175 Ed 6             | BSP      | C3B CaP1 TDL CaT    |

<sup>1</sup>The extant edition is Ed 1<sup>2</sup>The extant edition is Ed 5

### 1.3.4. Extended C3 Taxonomy

009. The following table list taxonomy nodes, which will be part of a future version of the C3 taxonomy. They are part of this document, because stakeholders have decided to using an unofficial classification scheme for a specific purpose.

## 1.4. UNASSIGNED STANDARDS

010. The following standards have been declared candidate standards for NATO common funded systems. However, no information of how to map the standards to the C3 Taxonomy have been provided.

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## **CHAPTER 2. CANDIDATE PROFILES**

### **2.1. INTRODUCTION**

011. There is currently no candidate profiles in NISP.

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