

NATO Interoperability Standards and Profiles

NISP gives guidelines to capability planners, programme managers and test managers for NATO common funded systems in the short or mid-term timeframes. 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. Other activities, that assure interoperability within the alliance should list their profiles in the NISP.

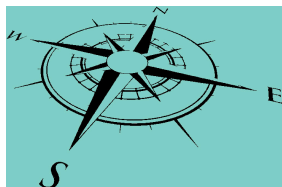
STANAG [is] NATO's abbreviation for STANdardization AGreement, which set up processes, procedures, terms, and conditions for common military or technical procedures or equipment between the member countries of the alliance.

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North Atlantic Treaty Organization (NATO)

Stakeholder(s):

C3B Interoperability Profiles Capability Team

NISP Stakeholders :

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.

NATO Enterprise

Allied Nations

Partner Nations

NISP Stakeholder Groups :

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 Initiative Managers :

national planning and programme managers for their national initiatives

National Planning Managers

National Programme Managers

NATO standardization Organization :

STANAG's are managed by the NATO standardization Organization (NSO). NATO STANAGS's that are promulgated shall be considered mandatory only for NATO commonfunded systems. If NISP references a STANAG, the obligation status for it is only informative. The NSO maintains the obligation status in their own process of standardization.

NATO Common Funded Systems :

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.

Vision

Interoperability among NATO's communications and information systems

Mission

To prescribe technical standards and profiles in support of NATO's missions and operations

Values

Standardization: Standards (their content) are defined and managed in their life cycle by standardization bodies with their own timetable. A standard may have 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. For aspects of obligation status for standards in planning and programmes, see the next paragraph.

Interoperability: Profiles define the specific use of standards at a service interoperability point (SIOP) in a given context. Profiles support prerequisites for programmes or projects and enable interoperability implementation and testing. 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.

Obligations: 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. NATO STANAGS's that are promulgated shall be considered mandatory. Nations are invited to do the same nationally to promote interoperability for federated systems and services. * **Candidate:** The application of profiles and standards shall be planned for future programmes. The standard or profile is mature enough to be used in programmes in 1 to 2 years. This implies, that from a planning perspective, this standard or profile may become mandatory at the time, the programme starts. A candidate standard or profile shall stay in volume 3 no longer than 2 years, unless explicitly marked as an exception to this rule.

Dynamics: 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.

Flexibility: 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.

Relationships: Interoperability Profiles can reference other Interoperability Profiles to allow for maximal reuse.

Reuse

1. Relationships

Document relationships among NATO planning documents

CREATING RELATIONSHIPS TO OTHER CONCEPTS AND PLANNING OBJECTS WITHIN NATO — Different initiatives and organizations have developed new concepts to govern developments in the interoperability domain. These concepts have logical relationship to the NISP.

1.1. Building Blocks

Describe each aspect of the overall model

Architecture Building Block — An Architecture Building block is a constituent of the architecture model that describes a single aspect of the overall model.

1.2. Characteristics

Specify the characteristics of Architecture Building Block (ABBs)

1.2.1. Architecture

Capture architecture requirements; e.g., business, data, application, and technology requirements

1.2.2. Solutions

Direct and guide the development of Solution Building Blocks

1.3. Specifications

Include the specified content

Specification Content — ABB specifications include the following as a minimum:

1.3.1. Functionality & Attributes

Document fundamental functionality and attributes: semantic, unambiguous, including security capability and manageability

1.3.2. Interfaces

Document interfaces: chosen set, supplied

1.3.3. Interoperability & Relationships

Document interoperability and relationship with other building blocks

1.3.4. Dependencies & Interfaces

Document dependent building blocks with required functionality and named user interfaces

1.3.5. Entities & Policies

Map to business/organizational entities and policies

1.4. Networking

Elevate the maturity of federated mission networking capabilities

FMN Spiral Specifications — Federated Mission Networking (FMN) Spiral — Specifications encompass "an evolutionary cycle that will raise the level of maturity of federated mission networking capabilities over time". The FMN spiral specification contain the following sections ... The Mandatory and Candidate FMN Spiral Profiles, in context for FMN Affiliates, are listed in the NISP Volumes 2 and 3.

1.4.1. Architecture

Document the architecture

1.4.2. Instructions

Document instructions

1.4.3. Profiles

Document the profiles

1.4.4. Requirements

Specify the requirements

1.5. Systems & Capabilities

Reference NISP profiles for Common Funded Systems and Capability Packages

Capability Packages — 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. Organization

Highlight the structure of the NISP

ORGANIZATION OF THE NISP INFORMATION — This chapter gives an overview of the new structure of all three volumes.

2.1. Usage

List and categorize the standards and profiles according to their usage in NATO

NISP STRUCTURE — 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 ... Standards and Interoperability Profiles for programmes to start in 1 to 2 years. 034. Volume 2 is normative for NATO common funded systems and Volume 3 is informative.

2.1.1. Concepts & Management

Introduce basic concepts and provide the management framework for the configuration control of the NISP

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.

2.1.2. Standards & Profiles

List agreed interoperability standards and 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.

2.1.3. Near-Term Programmes

Provide Standards and Interoperability Profiles for programmes to start soon

Volume 3 - Candidate Interoperability Standards and Profiles: This Volume provides Standards and Interoperability Profiles for programmes to start in 1 to 2 years.

3. Capabilities

Support interoperability of capability planning systems

INTEROPERABILITY IN SUPPORT OF CAPABILITY PLANNING — The following documents form the foundation to understand the embedding of NISP into NDPP and architecture work:

- Document: Alliance C3 Strategy Information and Communication Technology to prepare NATO 2020 (7 March 2014) Document Reference: Alliance C3 Strategy Document Reference: C-M(2014)0016
- Document: Alliance C3 Policy (25 April 2016) Document Reference: C-M(2015)0041-REV1
- Document: NATO Defence Planning Process (NDPP) Document Reference: PO(2016)0655 (INV)

3.1. Identification, Development & Acquisition

Identify the required capabilities and promote their timely and coherent development and acquisition by Allies and Partners

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

3.2. Standards

Select coherent sets of standards for profiles

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

4. Configuration

Manage configuration

CONFIGURATION MANAGEMENT

4.1. Updating

Update the NISP annually

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

4.1.1. NISP Submission

Submit the revised NISP to the C3 Board

NISP UPDATE PROCESS — 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.

Stakeholder(s):

**Interoperability Profiles Capability Team
(IP CaT)**

C3 Board :

Consultation, Command and Control Board

4.1.2. Database

Consider the database maintained by the IP CaT as the definitive source of standards and profiles.

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

Stakeholder(s):

IP CaT

4.2. Changes

Process requests for changes

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

Stakeholder(s):

IP CaT

4.2.1. NISP Management

Include all information required for the NISP management

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...

4.2.2. RFC Submission

Submit RFCs to the IP CaT

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 the indicated email address with attachments.

Stakeholder(s):

IP CaT

4.2.3. Coordination

Coordinate review of RFCs with the responsible C3 Board substructure organizations

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

4.2.4. Reviews

Review submissions in dialog with national and international bodies.

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.

4.3. Formats

Publish NISP products in several formats

NISP PRODUCTS — 047. The NISP is published in several formats:

- Documentation in HTML and PDF Formats;
- Website and searchable online Database;
- Data export in XML format.

5. Coordination

Coordinate national systems interoperability

Stakeholder(s)

SMEs :

As a result of the C3 Board substructure reorganization, participants in IP CaT are subject matter experts (SME) and are no longer national representatives.

NATIONAL SYSTEMS INTEROPERABILITY COORDINATION — Coordination of profiles and standards between Nations and NATO are critical for interoperability.

5.1. Internal Coordination

Coordinate with national and C3 Board 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:

Stakeholder(s):

SMEs

5.1.1. National Systems

Coordination standards and profiles with national systems

Appropriate and timely coordination of standards and profiles with respect to interoperability with national systems;

5.1.2. SME Input

Coordinate SME input

Coordination of the SME input including coordination with national SMEs of other C3 Board substructure groups; and

Stakeholder(s):

SMEs

C3 Board Substructure Groups

5.1.3. Information & Insight

Provide appropriate technical information and insight based on national market assessment

Providing appropriate technical information and insight based on national market assessment.

5.2. National Coordination

Coordinate interoperability technical standards and profiles at the national level

National level coordination of interoperability technical standards and profiles is the responsibility of the C3 Board. When the NISP is approved by the C3 Board, it will become the NATO Standard covered by STANAG 5524 Edition 2. This STANAG contains the agreement of the participating nations regarding usage of the mandatory standards and profiles in the NISP.

Stakeholder(s):
C3 Board

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6. Guidance

Provide interoperability standards guidance

INTEROPERABILITY STANDARDS GUIDANCE

6.1. References

Reference standards from different standardization bodies

The NISP references Standards from different standardization bodies. 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 Organisation's NATO Standardization Document Database.

Stakeholder(s):

Standardization Bodies

6.2. Publication

Publish interoperability standards

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).

Stakeholder(s):

Combined Communications Electronics Board (CCEB)

6.3. Taxonomy

Organize the standards using NATO's C3 Taxonomy

The NISP organizes the standards using the structure of the latest approved baseline of NATO's C3 Taxonomy... a description of it can be obtained at: 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.

6.4. Content

Include or reference standards or related documents that are generally available for NATO/NATO member nations/CCEB

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

6.5. Exceptions

Make available a subset of documents to nations or organizations joining a specific missions or as members of special working groups

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.

Administrative Information

Start Date: 2018-08-03

End Date:

Publication Date: 2020-04-29

Source: <https://nhqc3s.hq.nato.int/Apps/Architecture/NISP/pdf/NISP-v11-release.pdf>

Submitter:

Given Name: Owen

Surname: Ambur

Email: Owen.Ambur@verizon.net

Phone: