

Sapient Workshop

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Agenda

- | 1400-1430 - Introduction of STANREC 4869 – Maarten van den Oever (NCIA), Paul Thomas (DSTL)
- | 1430-1500 - STANREC 4869 implementation guide – Sipke Lautenbach (NCIA)
- | 1500-1530 - STANREC 4869 middleware (KYBER) – Jean Vanhay (NCIA)
- | 1530-1600 – Q&A

SAPIENT, TIE and STANREC 4869

| SAPIENT

- | UK standard developed by DSTL
- | Supporting AI enabled sensors and effectors for situational awareness systems
- | Nationally (UK) adopted as CUAS standard in 2019
- | First tested at TIE 21 in NATO context
 - | Migration to protobuf
- | Migrated to BSI in 2023
 - | BSI FLEX 335

SAPIENT, TIE and STANREC 4869

| TIE exercises

- | Started in 2020
- | First SAPIENT test in 2021
- | A. AC/225-D(2022)0021-AS1, NATO Army Armaments Group (NAAG), Standardization Task, 14 Nov 2022
- | Development of STANREC 4869



SAPIENT, TIE and STANREC 4869

| STANREC 4869

- | Kickoff 2023
- | First draft tested at TIE 24
- | Adopted for rapid development in the air defense domain via the ACT LCI-X series in 2026
 - | Release of implementation recommendations

SAPIENT

- | Suitable standard for the CUAS domain
- | Alignment with other domains in NATO and integration of effectors can be improved
- | STANREC/AEDP 4869 with implementation guide, aims to address this

STANREC 4869

- | AEDP 4869 (Allied Engineering Documentation Publication)
- | BSI FLEX 335 V2.0
 - | No older SAPIENT publications
 - | Only protobuf based, No XML/XSD
- | Implementation guide

AEDP 4869

Objective of AEDP-4869

- | Defines recommended practices for common data messaging within NATO C-UAS domain to enable effective information exchange.

Technical and Implementation Scope

- | Focuses on message structures, architecture, security, lifecycle, and compliance.

Interoperability and Standards Alignment

- | Ensures alignment with BSI Flex 335 and interoperability with NATO and civilian standards like Link 16 and Asterix.

C-UAS Domain Coverage

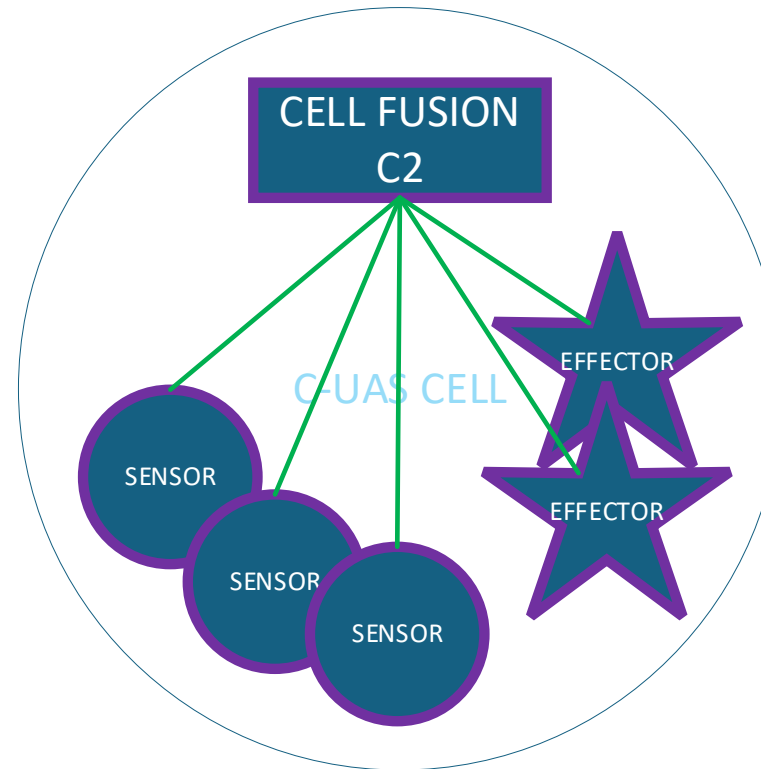
- | Covers exchange of detection, tracking, identification, tasking, and status for heterogeneous sensor and effector systems.

When to implement

| Local / Cell level

— STANREC 4869 node

— datalink

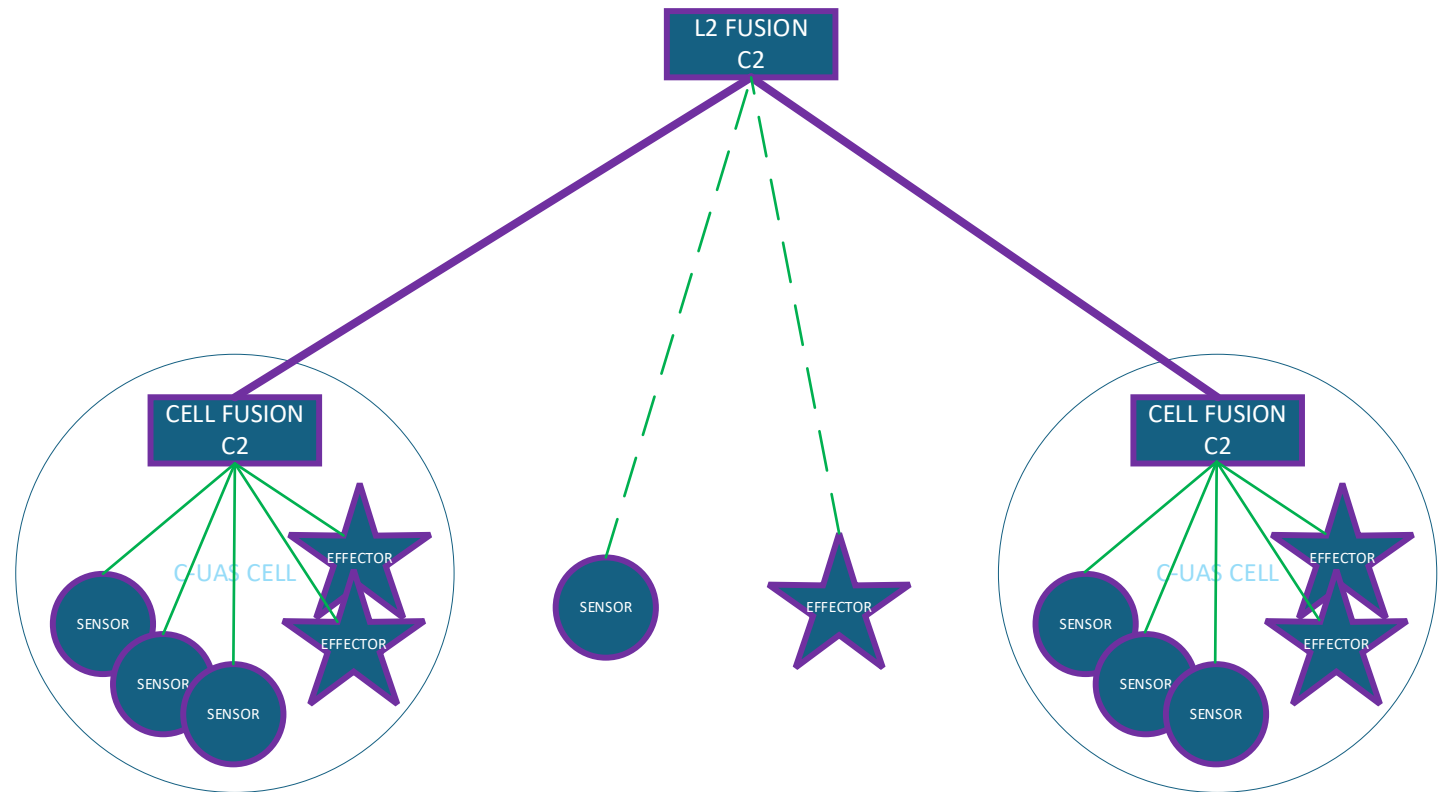


When to implement

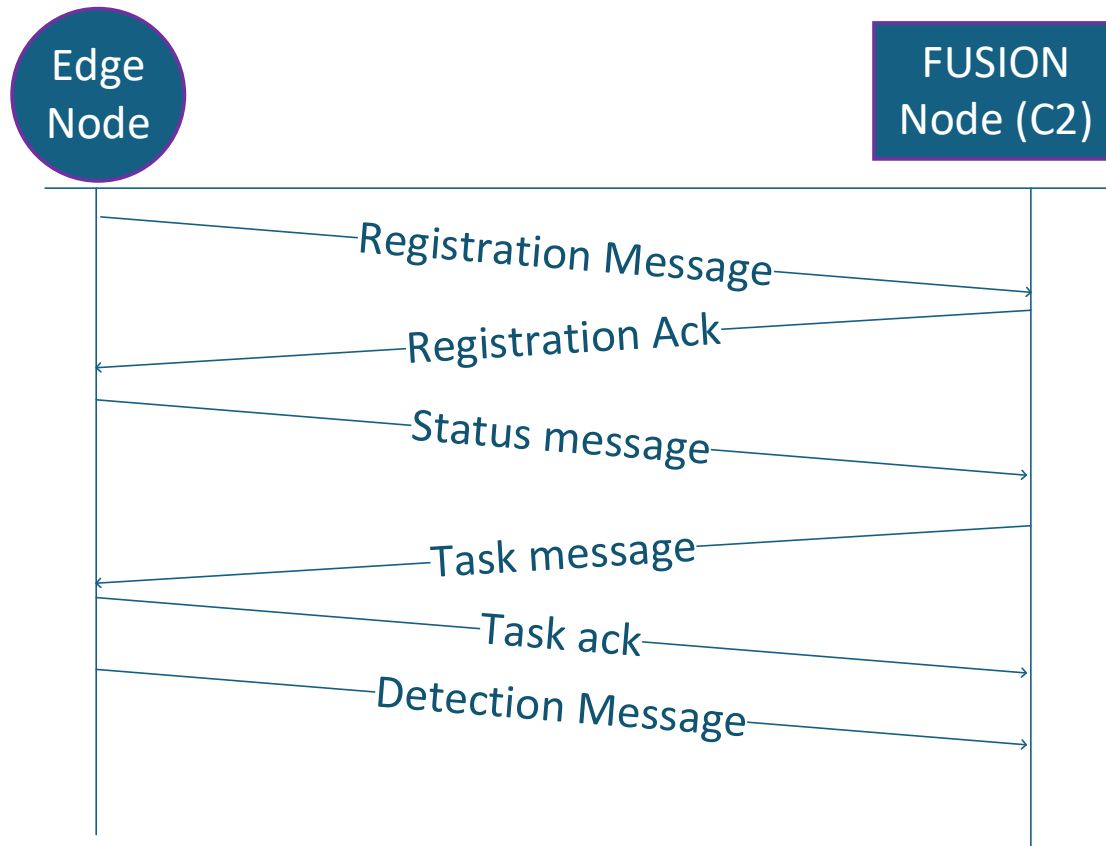
| Hierarchical

— STANREC 4869

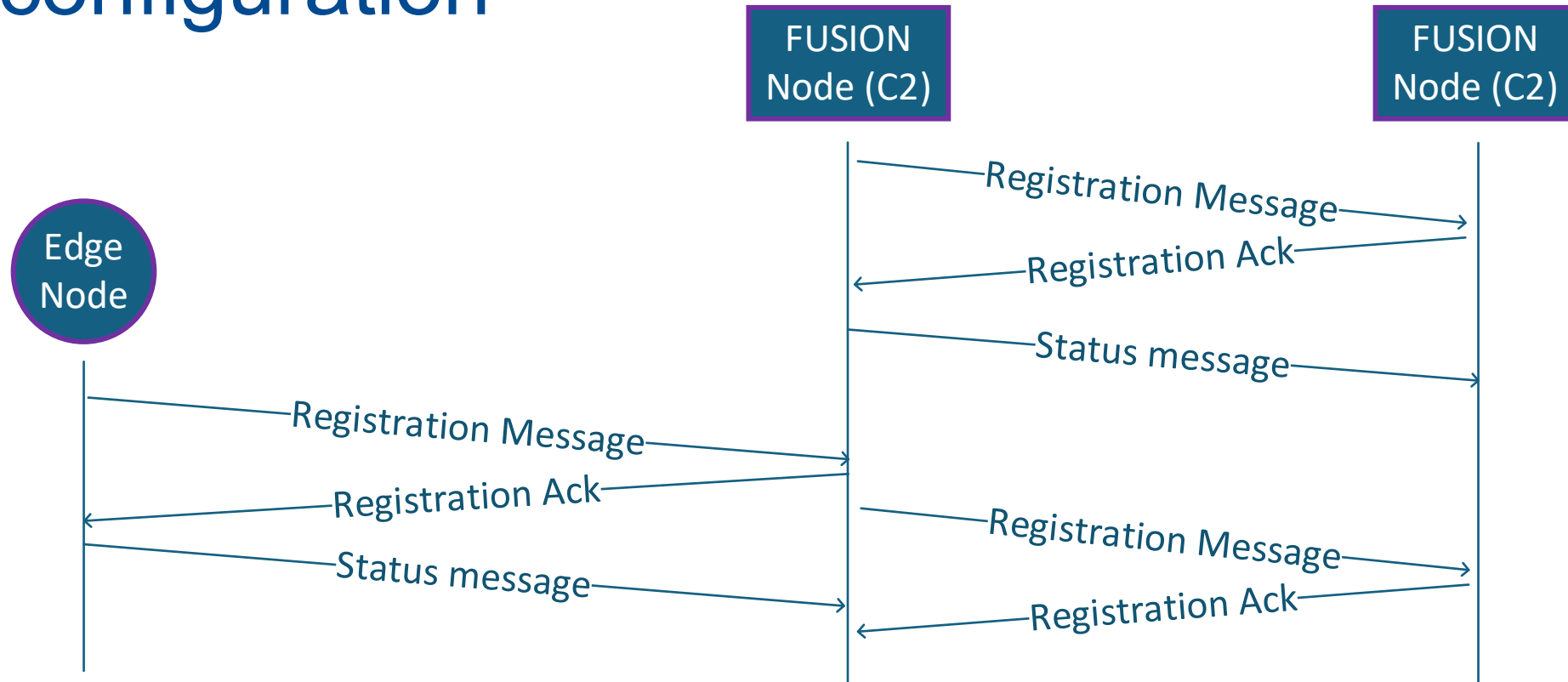
— datalink



Message flow single Edge Node



Simplified message flow hierarchical configuration

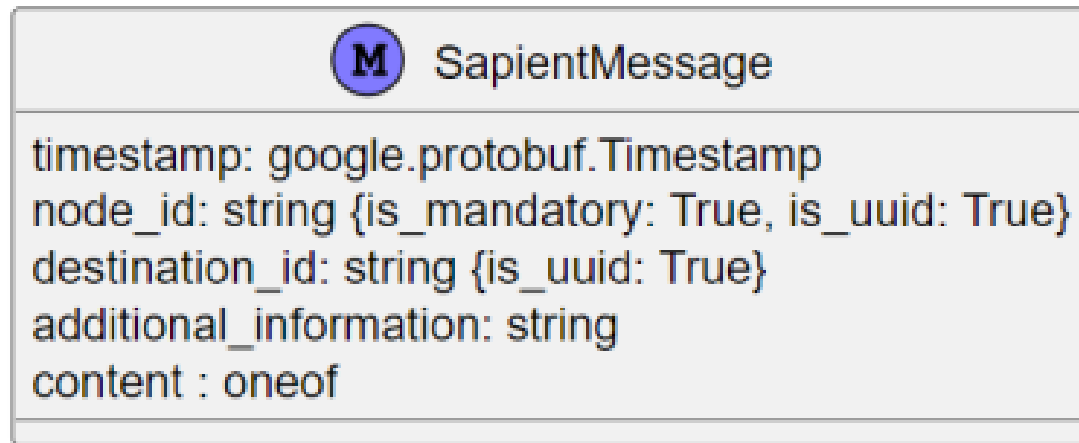


AEDP 4869 implementation

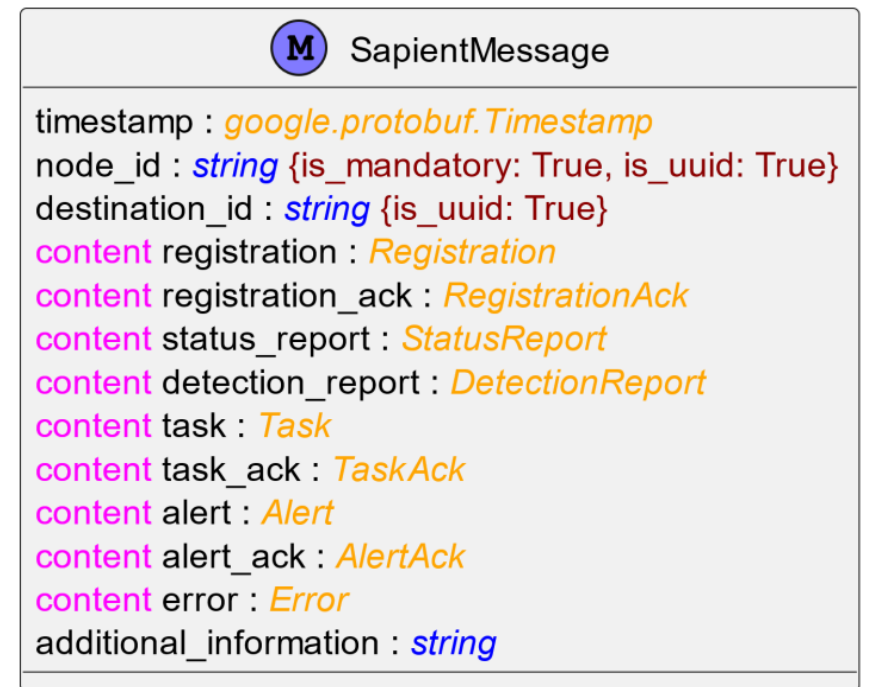
- Introduction of AEDP 4869
- BSI flex 335 V2.0
- Rest of AEDP 4869 + draft implementation guide



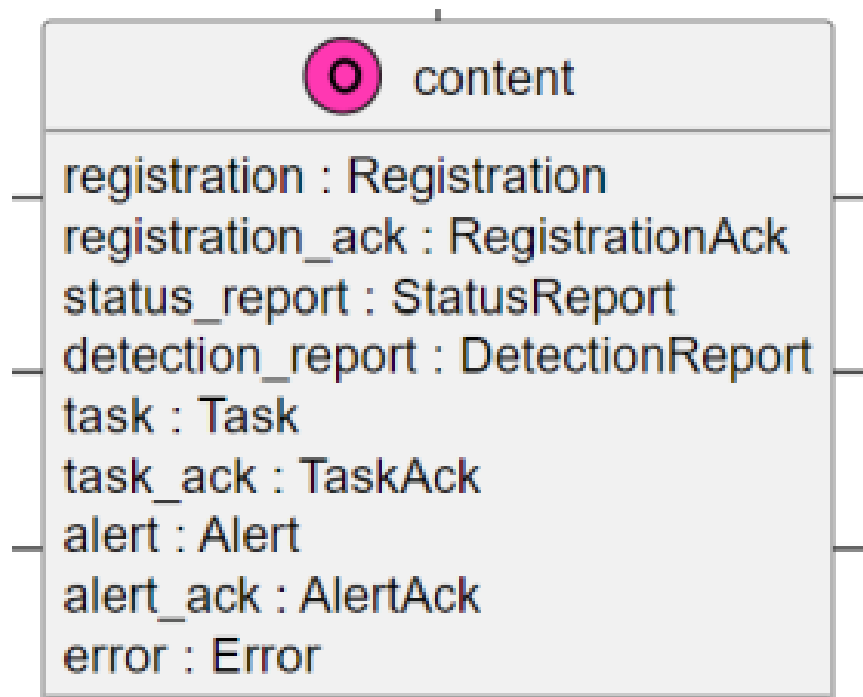
The generic SAPIENT message



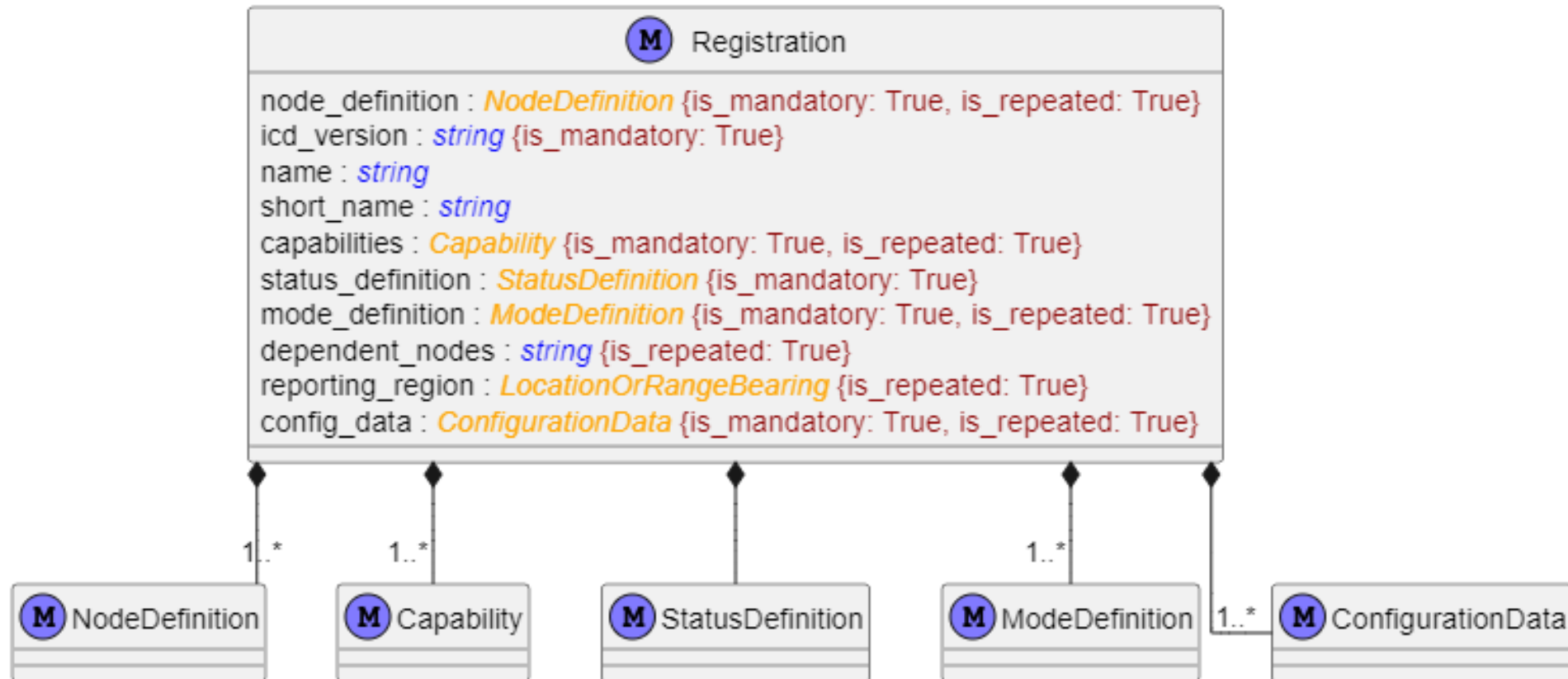
Additional_information: The
NATO Classification of the
message



The specific message



Registration fields



ICD version

| **”BSI Flex 335 V2.0 / NATO STANREC 4869 Ed A V1.0”**

Node definition

- | Other
- | RADAR
- | LIDAR
- | CAMERA, including EO and IR sensors
- | ACOUSTIC
- | PASSIVE_RF
- | KINETIC
- | JAMMER
- | CYBER
- | LDEW
- | RFDEW
- | MOBILE_NODE
- | POINTABLE_NODE
- | FUSION_NODE

Resources

- | The official SAPIENT ICD can be found on the BSI website,
 - | <https://www.bsigroup.com/en-GB/insights-and-media/insights/brochures/bsi-flex-335-interface-of-the-sapient-sensor-management-specification/>
- | STANREC 4869 (AEDP and Implementation suggestions)
 - | <https://coi.nato.int/CUAS/SitePages/Home.aspx?RootFolder=%2FCUAS%2FIndustry%2FExercises%2FBATT26%5FTIE26%2F06%2EStandards&FolderCTID=0x012000F9A02E7FE9116F48A1CA7AE091A59B5E&View=%7BA2B93CC2%2DB708%2D4B61%2D9045%2DEF5F2959020A%7Dn>

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