**MULTILATERAL INTEROPERABILITY PROGRAMME (MIP)**

****

**MIP4 Information Exchange Specification (MIP4-IES)**

**Guidelines of Mapping between MIP4 IES and APP-11 Messages**

**11 Feb 2021**

This document is a supplementary set of guidelines to MIP4-IES.

**DOCUMENT CONTROL**

**Change Management**

|  |  |
| --- | --- |
| Change Control Authority | MIP Integrated Product Team 4 (IPT4) Change Manager, webmaster@mip-interop.org |
| Release Authority | MIP Program Management Group (PMG), pmgchair@mip-interop.org |
| Latest Public Release | [www.mip-interop.org](https://www.mip-interop.org) | Public Document Library | 07-MIP4-IES |
| Latest MIP Release | [www.mip-interop.org](https://www.mip-interop.org) | Members Only site | Documents | 04 IPT-4 (account required) |
| Current Working Draft (for comments) | [MIP4-IES Collaborative Environment](https://docs.google.com/document/d/1PU6YIuehAa5EEedk-FK5JB3klumGoIb9N2NxKmBD1WE/edit?usp=sharing) (account required) |

**Version History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Version** | **Author** | **Date** | **Reason for Change** |
| 1 | Peter Hansen | Feb 11 | Initial version |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Table of Contents**

[1 Introduction](#_6062ou3evfq0)

[1.1 Purpose](#_isqr20p9vkh)

[1.2 Scope](#_ixrovhfa1c1u)

[1.3 Target Audience](#_g20hr9eqqe5l)

[2 APP-11D(1) OWNSITREP](#_2p7pvqw156v2)

[2.1 Major Differences between MIP4-IES and OWNSITREP](#_kvnmus1y0t92)

[2.2 Comparison Table](#_b2pymfshzuak)

# 1 Introduction

## 1.1 Purpose

To document how MIP4-IES covers the semantics of selected APP-11 message types.

## 1.2 Scope

APP-11 message sets and fields are compared with the information elements of MIP4-IES.

MIP4-IES is based on MIP Information Model (MIM), and in that respect it is the MIM information elements that essentially are subject for this documentation.

MIP4-IES and APP-11 each belong to two fundamentally different paradigms:

* APP-11 is report-based (‘push’) and mimics human-to-human reporting. Each report is an independent and self-contained entity that is machine processable as well as human readable. MIP4-IES exchanges, on a continuous basis (Publish/Subscribe), inter-referenced information for machine-processing, only.
* The fields of APP-11 are organised into message sets, with ‘soft’ semantic relationships among the individual fields. MIM, on the other hand, is object-oriented where ‘rules’ are modelled as logic. This means that even if APP-11 and MIM should support the same semantic information element/field, rules and logic may very well differ significantly.
* APP-11 supports large free-text fields. MIM and thus MIP4-IES does not. Consequently, APP-11 fields like General Text (GENTEXT), Amplification (AMPN), Narrative (NARR) and Remarks (RMKS) are not supported by MIM and thus should not expected to be mappable to MIP4-IES. MIM and thus MIP-4 IES do provide free text comments fields to Concepts, however not to the same extent as APP-11.

Because of the above listed general differences, a one-to-one mapping between any APP-11 message type and MIP4-IES is not possible. However, for some specific information elements or fields there are communalities that enable a partial mapping.

For selected APP-11 message types and with the starting-point of their text fields, and to the extent possible, this document provides a mapping matrix as below.

|  |  |  |
| --- | --- | --- |
| APP-11 Text Field | Comments | Mapping |
|  |  | [no colour] Field is only applicable for APP-11 |
|  |  | Values can in general be mapped with MIP4-IES |
|  |  | Limited amount of compatibility |
|  |  | The field (often free text) falls outside of the concepts of MIP4-IES |

## 1.3 Target Audience

This document is targeted at interoperability stakeholders who:

* In further details wish to understand the similarities between MIP4-IES and APP-11.
* Wish to implement a mapping mechanism between MIP4-IES and APP-11 messages, eventually national C2IS domain models. This document may provide supplementary assistance for such development.

# 2 APP-11(D)(1) OWNSITREP

# 2.1 Major Differences between MIP4-IES and OWNSITREP

* An OWNSITREP message provides an independent ‘snapshot’ of Own forces’ situation. MIP4-IES can provide a Recognised Ground Picture (RGP) of Own forces’ situations but as a dynamic picture where Battle Space Objects (BSOs) are interdependent.
* Compared to APP-11(D)(1) OWNSITREP and in its context, MIM and thus MIP4-IES has limited support, making mapping more challenging, of operational concepts for:
  + Link Status
  + Combat Effectiveness whereas MIP4-IES operates in a slightly other paradigm as “Operational Status” and thus not directly mappable with APP-11.
  + Enemy Strength, as OWNSITREP also reports about enemy forces, seen from Own Forces’ perspective, as MIM does not provide a direct linkage between Own and Enemy Forces in the same way as APP-11 does.

# 2.2 Comparison Table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| OWNSITREP | | | |  |  |
|  | (Header) | | | Header of the message (generic structure). |  |
|  |  | EXER | |  |
|  |  | OPER | |  |
|  |  | MSGID | |  |
|  |  | REF | |  |
|  |  | GEODATUM | |  |
|  |  | DTG | |  |
|  |  | ORGIDDFT | |  |
|  |  | MAPNOGD | |  |
|  | (1.1) PARTTITL “OWN FORCES TASK ORGANIZATION” | | | This part reports about the force structure of the unit doing the reporting (can be displayed as a TaskOrg tree). |  |
|  |  | ORGID | |  |  |
|  |  | CMDREL | |  |  |
|  |  |  | ORGIDSUB |  |  |
|  |  |  | CMDREL |  |  |
|  |  |  | TIME |  |  |
|  | GENTEXT “COMMANDERS ASSESSMENT OWN FORCES TASK ORGANIZATION” | | | Assessment attached to the TaskOrg. |  |
|  | (2.1) PARTTITL “OWN FORCES PRESENCE REPORT” | | | This part reports about the own units being reported (can be displayed as an Overlay). |  |
|  |  | ORGID | |  |  |
|  |  | TPERID | |  |  |
|  |  |  | LOCNFSTS |  |  |
|  |  |  | TPERID |  |  |
|  |  |  | ACTIVITY |  |  |
|  |  |  | OPMOVEMT |  |  |
|  | GENTEXT “COMMANDERS ASSESSMENT OWN FORCES PRESENCE REPORTS” | | | Assessment attached to the Overlay. |  |
|  | (3.1) PARTTITL “OWN FORCES UNIT STATUS” | | | This part reports about the combat effectiveness, the quantity of main equipment and link status of the units being reported (only the combat effectiveness can be displayed in an overlay, the rest probably needs to be displayed in tabular form).  This part also reports about the enemy units facing the reported own units. |  |
|  |  | ORGID | |  |  |
|  |  | CEFT | |  |  |
|  |  | EQUIP | |  |  |
|  |  | 1LNKSTAT | |  |  |
|  |  |  | EORGID | This relates to the enemy units  In some cases, it may be depicted as an overlay but only if the units are unambiguously located. Otherwise, it would have to be displayed in a tabular form. |  |
|  |  |  | ESTRENTH |  |
|  |  |  | EMAT |  |
|  |  |  | LOCATION |  |
|  |  |  | LOCAMPN |  |
|  |  |  | TIME |  |
|  |  |  | ACTIVITY |  |
|  |  |  | GENTEXT “ATTITUDE AND INTENTION” |  |
|  | GENTEXT “COMMANDERS ASSESSMENT OWN FORCES UNIT STATUS” | | | Assessment attached to the Overlay and associated Table. |  |
|  | (4.1) PARTTITL “CONTROL AND COORDINATION LINES” | | | This part reports about the control features managed by the various own units (can be displayed as an Overlay). |  |
|  |  | ORGID | |  |  |
|  |  |  | LINETYPE |  |  |
|  |  |  | LOCNF |  |  |
|  |  |  | ORGIDBDY |  |  |
|  |  |  | TPERID |  |  |
|  |  |  | QSTRTIME |  |  |
|  | GENTEXT “CDR ASSESS OWN SITUATION” | | | Assessment attached to the own situation as a whole. |  |