
**Space data and information transfer
systems — Mission operations message
abstraction layer**

*Systèmes de transfert des informations et données spatiales — Couche
d'abstraction des messages des opérations de mission*

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2. www.iso.org/directives

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ISO 18202 was prepared by the Consultative Committee for Space Data Systems (CCSDS) (as CCSDS 521.0-B-1, September 2010) and was adopted (without modifications except those stated in Clause 2 of this International Standard) by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 13, *Space data and information transfer systems*. 2013

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Space data and information transfer systems — Mission operations message abstraction layer

1 Scope

This International Standard defines the Mission Operations (MO) Message Abstraction Layer (MAL) in conformance with the service framework specified in *Mission Operations Services Concept*, CCSDS 520.0-G-3, Mission Operations Services Concept.

The MO MAL is a framework that provides generic service patterns to the Mission Operation services defined in *Mission Operations Services Concept*, CCSDS 520.0-G-3. These Mission Operations services are defined in terms of the MAL.

This International Standard defines, in an abstract manner, the MAL in terms of:

- a) the concepts that it builds upon;
- b) the basic types it provides;
- c) the message headers required by the layer;
- d) the relationship between, and the valid sequence of, the messages and resulting behaviours.

It does not specify:

- a) individual implementations or products;
- b) the implementation of entities or interfaces within real systems;
- c) the methods or technologies required for communications.

The scope and field of application are furthermore detailed in subclause 1.3 of the enclosed CCSDS publication.

2 Requirements

Requirements are the technical recommendations made in the following publication (reproduced on the following pages), which is adopted as an International Standard:

CCSDS 521.0-B-1, September 2010, Mission operations message abstraction layer.

For the purposes of international standardization, the modifications outlined below shall apply to the specific clauses and paragraphs of publication CCSDS 521.0-B-1.

Pages i to vi

This part is information which is relevant to the CCSDS publication only.

Add the following information to the reference indicated:

[1] Document CCSDS 520.1-M-1, July 2010, is equivalent to ISO 18201:2013.

3 Revision of publication CCSDS 521.0-M-1

It has been agreed with the Consultative Committee for Space Data Systems that Subcommittee ISO/TC 20/SC 13 will be consulted in the event of any revision or amendment of publication CCSDS 521.0-M-1. To this end, NASA will act as a liaison body between CCSDS and ISO.

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Recommendation for Space Data System Standards

**MISSION OPERATIONS
MESSAGE ABSTRACTION
LAYER**

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RECOMMENDED STANDARD

CCSDS 521.0-B-1

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September 2010

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MISSION OPERATIONS MESSAGE ABSTRACTION LAYER

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Issue:	Recommended Standard, Issue 1
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This document has been approved for publication by the Management Council of the Consultative Committee for Space Data Systems (CCSDS) and represents the consensus technical agreement of the participating CCSDS Member Agencies. The procedure for review and authorization of CCSDS documents is detailed in the *Procedures Manual for the Consultative Committee for Space Data Systems*, and the record of Agency participation in the authorization of this document can be obtained from the CCSDS Secretariat at the address below.

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STATEMENT OF INTENT

The Consultative Committee for Space Data Systems (CCSDS) is an organization officially established by the management of its members. The Committee meets periodically to address data systems problems that are common to all participants, and to formulate sound technical solutions to these problems. Inasmuch as participation in the CCSDS is completely voluntary, the results of Committee actions are termed **Recommended Standards** and are not considered binding on any Agency.

This **Recommended Standard** is issued by, and represents the consensus of, the CCSDS members. Endorsement of this **Recommendation** is entirely voluntary. Endorsement, however, indicates the following understandings:

- o Whenever a member establishes a CCSDS-related **standard**, this **standard** will be in accord with the relevant **Recommended Standard**. Establishing such a **standard** does not preclude other provisions which a member may develop.
- o Whenever a member establishes a CCSDS-related **standard**, that member will provide other CCSDS members with the following information:
 - The **standard** itself.
 - The anticipated date of initial operational capability.
 - The anticipated duration of operational service.
- o Specific service arrangements shall be made via memoranda of agreement. Neither this **Recommended Standard** nor any ensuing **standard** is a substitute for a memorandum of agreement.

No later than five years from its date of issuance, this **Recommended Standard** will be reviewed by the CCSDS to determine whether it should: (1) remain in effect without change; (2) be changed to reflect the impact of new technologies, new requirements, or new directions; or (3) be retired or canceled.

In those instances when a new version of a **Recommended Standard** is issued, existing CCSDS-related member standards and implementations are not negated or deemed to be non-CCSDS compatible. It is the responsibility of each member to determine when such standards or implementations are to be modified. Each member is, however, strongly encouraged to direct planning for its new standards and implementations towards the later version of the Recommended Standard.

CCSDS RECOMMENDED STANDARD FOR
MISSION OPERATIONS MESSAGE ABSTRACTION LAYER**FOREWORD**

Through the process of normal evolution, it is expected that expansion, deletion, or modification of this document may occur. This Recommended Standard is therefore subject to CCSDS document management and change control procedures, which are defined in the *Procedures Manual for the Consultative Committee for Space Data Systems*. Current versions of CCSDS documents are maintained at the CCSDS Web site:

<http://www.ccsds.org/>

Questions relating to the contents or status of this document should be addressed to the CCSDS Secretariat at the address indicated on page i.

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CCSDS RECOMMENDED STANDARD FOR
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