
**Space data and information transfer
systems — Spacecraft onboard
interface services — Message
transfer service**

*Systèmes de transfert des informations et données spatiales —
Services d'interfaces à bord des véhicules spatiaux — Service de
transfert de messages*



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The Consultative Committee for Space Data Systems

Recommendation for Space Data System Practices

**SPACECRAFT ONBOARD
INTERFACE SERVICES—
MESSAGE TRANSFER
SERVICE**

RECOMMENDED PRACTICE

CCSDS 875.0-M-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 *Organization and Processes for the Consultative Committee for Space Data Systems* (CCSDS A02.1-Y-3), 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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FOREWORD

This document is a technical Recommended Practice for use in developing flight and ground systems for space missions and has been prepared by the Consultative Committee for Space Data Systems (CCSDS). The Message Transfer Service described herein is intended for missions that are cross-supported between Agencies of the CCSDS, in the framework of the Spacecraft Onboard Interface Services (SOIS) CCSDS area.

This Recommended Practice specifies services and service interfaces provided by the SOIS Message Transfer Service, which provides a standard service for mediating the transfer of discrete data, i.e., messages, between onboard software users in a (potentially) distributed onboard system regardless of the particular type of data link or protocol being used for communication.

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DOCUMENT CONTROL

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1 INTRODUCTION

1.1 PURPOSE AND SCOPE OF THIS DOCUMENT

This document is one of a family of documents specifying the Spacecraft Onboard Interface Services (SOIS)-compliant services to be provided in support of onboard applications.

The purpose of this document is to define services and service interfaces provided by the SOIS Message Transfer Service. Its scope is to specify the service only and not to specify methods of providing the service, although use of the SOIS subnetwork services is assumed.

This document conforms to the principles set out in the SOIS Green Book (reference [C2]) and should not be applied without first consulting this reference.

1.2 APPLICABILITY

This document applies to any mission or equipment claiming to provide a SOIS-compatible Message Transfer Service.

1.3 RATIONALE

SOIS provides service interface specifications in order to promote interoperability and development reuse via peer-to-peer and vertical standardization.

1.4 DOCUMENT STRUCTURE

This document has six major sections and five annexes:

- this section, containing administrative information, definitions, and references;
- section 2, containing general concepts and assumptions;
- section 3, containing the Message Transfer Service specification;
- section 4, containing the protocol definition, i.e., interoperable protocol between service implementations, so as to allow interoperability between them;
- section 5, containing the Protocol Data Units (PDUs) associated with the protocol definition in section 4;
- section 6, containing the Management Information Base (MIB) for this service;
- annex A, comprising the Service Conformance Statement Proforma;
- annex B, discussing security considerations;
- annex C, containing a list of informative references;