
**Space data and information transfer
systems — Protocol specification for space
communications — File protocol**

*Systèmes de transfert des informations et données spatiales —
Spécification d'un protocole pour communications spatiales — Protocole de
classement*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 15894 was prepared by the Consultative Committee for Space Data Systems (CCSDS) (as CCSDS 717.0-B-1) and was adopted (without modifications except those stated in clause 3 of this International Standard) by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 13, *Space data and information transfer systems*.

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Space data and information transfer systems — Protocol specification for space communications — File protocol

1 Scope

This International Standard specifies the requirements for the services and protocols of the space communications protocol specification (SCPS) file transfer service. These requirements are to allow independent implementations of this protocol in space and ground segments of the SCPS network to interoperate.

This International Standard addresses those considerations attending communications between space platforms and ground systems, and between space platforms.

2 Conformance

This International Standard is applicable to all systems that claim conformance to the ISO/CCSDS SCPS file protocol.

3 Requirements

Requirements are the technical recommendations made in the following publication (reproduced on the following pages), which is adopted as an International Standard by ISO 15894:2000.

CCSDS 717.0-B-1, May 1999, *Recommendation for space data system standards — Space communications protocol specification (SCPS) — File protocol (SCPS-FP)*.

For the purposes of international standardization, the modifications outlined below shall apply to the specific clauses and paragraphs of publication CCSDS 717.0-B-1.

Pages i to v

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

Page 1-3

Add the following information to the references indicated in paragraph 1.6:

- [3] Document CCSDS 102.0-B-4, November 1995, is equivalent to ISO 13419:1997.
- [4] Document CCSDS 714.0-B-1, May 1999, is equivalent to ISO 15893:2000.

4 Revision of publication CCSDS 717.0-B-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 717.0-B-1. To this end, NASA will act as a liaison body between CCSDS and ISO.

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Consultative Committee for Space Data Systems

**RECOMMENDATION FOR SPACE
DATA SYSTEM STANDARDS**

**SPACE COMMUNICATIONS
PROTOCOL SPECIFICATION (SCPS)—**

FILE PROTOCOL

STANDARD PREVIEW

(SCPS-FP)

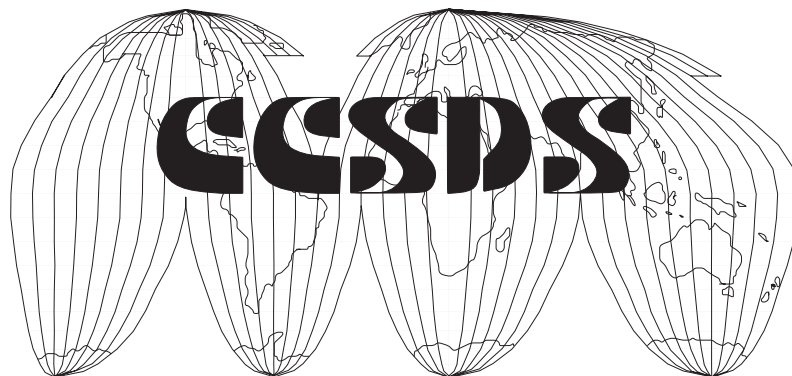
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CCSDS RECOMMENDATION FOR SCPS FILE PROTOCOL (SCPS-FP)

AUTHORITY

Issue:	Blue Book, Issue 1
Date:	May 1999
Location:	Newport Beach, California, USA

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 Recommendations is detailed in reference [B1], 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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This Recommendation is published and maintained by:

CCSDS Secretariat
 Program Integration Division (Code MT)
 National Aeronautics and Space Administration
 Washington, DC 20546, USA

CCSDS RECOMMENDATION FOR SCPS FILE PROTOCOL (SCPS-FP)

STATEMENT OF INTENT

The Consultative Committee for Space Data Systems (CCSDS) is an organization officially established by the management of member space Agencies. 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 **Recommendations** and are not considered binding on any Agency.

This **Recommendation** is issued by, and represents the consensus of, the CCSDS Plenary body. Agency endorsement of this **Recommendation** is entirely voluntary. Endorsement, however, indicates the following understandings:

- o Whenever an Agency establishes a CCSDS-related **standard**, this **standard** will be in accord with the relevant **Recommendation**. Establishing such a **standard** does not preclude other provisions which an Agency may develop.
- o Whenever an Agency establishes a CCSDS-related **standard**, the Agency will provide other CCSDS member Agencies 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 **Recommendation** nor any ensuing **standard** is a substitute for a memorandum of agreement.

No later than five years from its date of issuance, this **Recommendation** 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 **Recommendation** is issued, existing CCSDS-related Agency standards and implementations are not negated or deemed to be non-CCSDS compatible. It is the responsibility of each Agency to determine when such standards or implementations are to be modified. Each Agency is, however, strongly encouraged to direct planning for its new standards and implementations towards the later version of the Recommendation.

CCSDS RECOMMENDATION FOR SCPS FILE PROTOCOL (SCPS-FP)

FOREWORD

The Space Communications Protocol Specification (SCPS) File Protocol (SCPS-FP) provides End-to-End Application-Layer Services for flight missions in the space environment. It is based on Internet File Transfer Protocol (FTP) and is generally interoperable with it. It does, however, extend and modify FTP in order to meet the unique requirements of space flight operations. This document anticipates reader familiarity with FTP and, therefore, addresses only those capabilities that have been added to FTP.

Through the process of normal evolution, it is expected that expansion, deletion, or modification of this document may occur. This Recommendation is therefore subject to CCSDS document management and change control procedures as defined in reference [B1]. Current versions of CCSDS documents are maintained at the CCSDS Web site:

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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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At time of publication, the active Member and Observer Agencies of the CCSDS were

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- Centre National d'Etudes Spatiales (CNES)/France.
- Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR)/Germany.
- European Space Agency (ESA)/Europe.
- Instituto Nacional de Pesquisas Espaciais (INPE)/Brazil.
- National Aeronautics and Space Administration (NASA)/USA.
- National Space Development Agency of Japan (NASDA)/Japan.
- Russian Space Agency (RSA)/Russian Federation.

Observer Agencies

- Austrian Space Agency (ASA)/Austria.
- Central Research Institute of Machine Building (TsNIIMash)/Russian Federation.
- Centro Técnico Aeroespacial (CTA)/Brazil.
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- Swedish Space Corporation (SSC)/Sweden.
- United States Geological Survey (USGS)/USA.

CCSDS RECOMMENDATION FOR SCPS FILE PROTOCOL (SCPS-FP)

DOCUMENT CONTROL

Document	Title	Date	Status
CCSDS 717.0-B-1	Space Communications Protocol Specification (SCPS)—File Protocol (SCPS-FP)	May 1999	Original issue

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