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

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Foreword

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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 15891 was prepared by the Consultative Committee for Space Data Systems (CCSDS) (as CCSDS 713.0-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 — Network protocol

1 Scope

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

This International Standard is applicable to any kind of space mission or infrastructure, regardless of complexity.

2 Conformance

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

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3 Requirements

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

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CCSDS 713.0-B-1, May 1999, *Recommendation for space data system standards — Space communications protocol specification (SCPS) — Network protocol (SCPS-NP).*

For the purposes of international standardization, the modifications outlined below shall apply to the specific clauses and paragraphs of publication CCSDS 713.0-B-1.

Pages i to v

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

Page 1-6

Add the following information to the reference indicated in paragraph 1.7:

[2] Document CCSDS 301.0-B-2, April 1990, is equivalent to ISO 11104:1991.

Page B-1

Add the following information to the references indicated in annex B:

[B4] Document CCSDS 701.0-B-2, November 1992, is equivalent to ISO 13420:1997.

[B5] Document CCSDS 202.0-B-2, November 1992, is equivalent to ISO 12172:1998.

[B6] Document CCSDS 102.0-B-4, November 1995, is equivalent to ISO 13419:1997.

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[B7] Document CCSDS 713.5-B-1, May 1999, is equivalent to ISO 15892:2000.

[B8] Document CCSDS 714.0-B-1, May 1999, is equivalent to ISO 15893:2000.

4 Revision of publication CCSDS 713.0-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 713.0-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)—

NETWORK PROTOCOL

(SCPS-NP)

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CCSDS RECOMMENDATION FOR SCPS NETWORK PROTOCOL (SCPS-NP)

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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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.

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-- The **standard** itself.

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-- 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.

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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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- Canadian Space Agency (CSA)/Canada.
- 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.
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CCSDS RECOMMENDATION FOR SCPS NETWORK PROTOCOL (SCPS-NP)

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