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Systèmes de transfert des informations et données spatiales — Protocole Internet utilisant les liaisons spatiales CCSDS

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The Consultative Committee for Space Data Systems

Recommendation for Space Data System Standards

IP OVER CCSDS SPACE LINKS

RECOMMENDED STANDARD

CCSDS 702.1-B-1

Note:
This current issue includes all updates through Technical Corrigendum 1, dated April 2014

BLUE BOOK

September 2012

AUTHORITY

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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*, and the record of Agency participation in the authorization of this document can be obtained from the CCSDS Secretariat at the address below.

This document is published and maintained by:

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NASA Headquarters
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FOREWORD

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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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DOCUMENT CONTROL

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CCSDS 702.1-B-1	IP over CCSDS Space Links, Recommended Standard, Issue 1	September 2012	Original issue
CCSDS 702.1-B-1 Cor.1 EC 1	Technical Corrigendum 1 Editorial change 1	April 2014	Cor.1: – clarifies distinction between Protocol ID space for the Encapsulation Service and IPE Header Protocol ID space. EC 1: – updates superseded references with current issues; – updates obsolescent style elements.

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1 INTRODUCTION

1.1 PURPOSE

The purpose of this document is to establish a CCSDS Recommended Standard specification for the implementation of Internet Protocol (IP) over CCSDS (IPoC) Space Data Link Protocols (SDLPs) in both spacecraft and ground systems by the Agencies participating in the CCSDS. In essence, this book constitutes a prescriptive profile on the one method recommended by CCSDS as the best practice for implementing IPoC.

1.2 SCOPE

This document addresses the recommended method for transferring IP Protocol Data Units (PDUs) over CCSDS space links.

1.3 DEFINITIONS

1.3.1.1 Definitions from the Open Systems Interconnection (OSI) Basic Reference Model

This document makes use of a number of terms defined in reference [1]. These terms are to be understood in a generic sense, i.e., in the sense that the terms are generally applicable to any of a variety of technologies that provide for the exchange of information between real systems. The terms are:

a) Data Link Layer;

b) protocol data unit;

c) real system;

d) service;

e) Service Access Point (SAP);

f) SAP address;

g) Service Data Unit (SDU).

1.3.1.2 Definitions from OSI Service Definition Conventions

This document makes use of a number of terms defined in reference [2]. These terms are to be understood in a generic sense, i.e., in the sense that the terms are generally applicable to any of a variety of technologies that provide for the exchange of information between real systems. The terms are:

a) indication;

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