ISO 21323:2016-11 (E)

Space data and information transfer systems - CCSDS Bundle protocol specification

Contents

Page

1 INTRODUCTION 1-1

1.1 PURPOSE 1-1
1.2 SCOPE 1-1
1.3 ORGANIZATION OF THIS RECOMMENDED STANDARD 1-1
1.4 DEFINITIONS 1-2
1.5 REFERENCES 1-5

2 OVERVIEW 2-1

2.1 GENERAL 2-1
2.2 IMPLEMENTATION ARCHITECTURES 2-3
2.3 SERVICES PROVIDED BY BP 2-3
2.4 QUALITIES OF SERVICE NOT PROVIDED BY BP 2-3

3 CCSDS PROFILE OF RFC 5050 3-1

3.1 GENERAL 3-1
3.2 USE OF THE IPN NAMING SCHEME FOR ENDPOINT IDENTIFIERS 3-1
3.3 BUNDLE PROTOCOL EXTENDED CLASS OF SERVICE 3-1
3.4 USE OF TIME IN SECTION 6.1 OF RFC 5050 3-2
3.5 SANA REGISTRY CONSIDERATIONS 3-2

4 SERVICE DESCRIPTION 4-1

4.1 SERVICES AT THE USER INTERFACE 4-1
4.2 SUMMARY OF PRIMITIVES 4-1
4.3 SUMMARY OF PARAMETERS 4-2
4.4 BP SERVICE PRIMITIVES 4-5

5 SERVICES BP REQUIRES OF THE SYSTEM 5-1

5.1 RELIABLE STORAGE REQUIREMENTS 5-1
5.2 UNDERLYING COMMUNICATION SERVICE REQUIREMENTS 5-1

6 CONFORMANCE REQUIREMENTS 6-1

6.1 GENERAL REQUIREMENTS 6-1
6.2 BUNDLE PROTOCOL REQUIREMENTS 6-1

Section Page

ANNEX A PROTOCOL IMPLEMENTATION CONFORMANCE STATEMENT PROFORMA (NORMATIVE) **A-1**
ANNEX B CONVERGENCE LAYER ADAPTERS (NORMATIVE) **B-1**
ANNEX C EXTENDED CLASS OF SERVICE EXTENSION SPECIFICATION (NORMATIVE) **C-1**
ANNEX D AGGREGATE CUSTODY SIGNAL SPECIFICATION (NORMATIVE) **D-1**
ANNEX E DELAY-TOLERANT PAYLOAD CONDITIONING SPECIFICATION (NORMATIVE) **E-1**
ANNEX F BP MANAGED INFORMATION (NORMATIVE) **F-1**
ANNEX G SECURITY, SANA, AND PATENT CONSIDERATIONS (INFORMATIVE) **G-1**
ANNEX H INFORMATIVE REFERENCES (INFORMATIVE) **H-1**
ANNEX I ABBREVIATIONS AND ACRONYMS (INFORMATIVE) **I-1**

Figure

1-1 Graphical Representation of a Bundle Node 1-3
2-1 The Bundle Protocol Provides an End-to-End Delivery Service 2-2
D-1 ACS Payload Block Definition D-2
D-2 CTEB Block Definition D-3
D-3 ACS Processing Flow D-7

Table

A-1 PICS Notation A-2
A-2 Symbols for PICS ‘Support’ Column A-2
E-1 DPDU Header Fields E-23
E-2 Topic Block Fields E-24
E-3 Payload Record Fields E-24
F-1 Bundle State Information F-2
F-2 Error and Reporting Information F-3
F-3 Registration Information F-4
F-4 Node State Information F-5