ADVANCED ORBITING SYSTEMS,

NETWORKS AND DATA LINKS:

SUMMARY OF CONCEPT,

RATIONALE, AND PERFORMANCE

CCSDS 700.0-G-3

Nov. 1992

**New Items in AOS BB (CCSDS 732.0-B) NOT reflected in this GB**

* 1. Expansion of Frame Sequence Counter to X bits (VC Frame Count Cycle Use Flag and Cycle Count fields) – Expands counter from 24 bits to 28 bits.
  2. IF CCSDS agrees to SCID Extension, then SCID goes from 8 bits to 10 bits.

1. New FHEC code used - Reed-Solomon (15, 11) code over GF(24), shortened by 5 symbols, and converted to GF(2), to form a binary (40, 24) code. Provide the rationale for this change. See note below motivating it:

NOTE – This code is only intended for the rare case of a transfer frame that is not covered by a block code, or where the block code is not decoded in the ground station prior to the routing of the transfer frame. The block code can be either aligned with the transfer frame or unaligned as in the case of sliced SMTFs used with LDPC and other block codes.

1. Expanded the FHP from 11 bits to maximum of 16 bits, to enable 64K frame sizes.
2. Generator polynomial provided for generating the data contents of an OID transfer frame.
3. OCF accommodates both COP-1 CLCW and FSR.
4. AOS supports use of SDLS

**Concepts that are out of date in this GB**

1. CCSDS Path Service (Space Packet Protocol V2)
2. CCSDS Internet Service
3. CCSDS Principal Network
4. CCSDS Encapsulation Service (now simply packet)
5. Grades of Service
6. the Space Link ARQ Procedure (SLAP)

* Still use point to point space links

**DATA PROTECTION –** Information seems to be replaced by SDLS and other CCSDS Security books.

**APPENDIX A SPACE LINK SUBNET PERFORMANCE NOTES**

Move to C&S TM Sync & CC Green Book ?

**APPENDIX B IMPLEMENTATION OF ISOCHRONOUS SERVICES**

Keep as is.

**APPENDIX C PROCEDURES FOR VERIFYING CCSDS ENCODER**

**IMPLEMENTATIONS**

Move to C&S TM Sync & CC Green Book ?