

Title: CFDP tailoring for EUCLID Data Handling architecture

Agency/Company: TAS-I

Author(s): A.Tramutola, S.Candia

Abstract:

Euclid satellite shall provide storage capability up to 850Gbits per day of scientific data acquired from NISP and VIS instruments. As a consequence, taking into account autonomy requirements, a Mass Memory Unit with storage capacity of 4Tbits has been specified. The TM data are stored in files, thus MMU implements a file system structured in two levels of directories. The MMU has also the capability to downlink files to ground station via CFDP protocol through direct K band link. File uplink is possible through CDMU via X-band using CFDP as well. Communication between CDMU and MMU has been specified via MIL-STD-1553B bus to exchange files data and in general TC and TM. This peculiar implementation of on-board data management and ground communication has required a tailoring of the standard CCSDS CFDP protocol.