Title: CFDP tailoring and demonstrator for EUCLIDE Data Handling architecture.
Company: Thales Alenia Space (IT)
Presenters: Tramutola Antonio (first part), Sante Candia (2nd part)

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.
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. A demonstrator of CFDP protocol has been implemented to evaluate performances of the specified tailoring.
The presentation will show an overview of the data handling architecture, the key elements of CFDP tailoring and the design of the CFDP Demonstrator.