

SAVOIR Communication Architecture (Airbus Defence & Space)

Since a long time, agencies and space companies, at prime and supplier level, have raised the need of increasing the level of reuse and standardization in spacecraft avionics systems in order to improve efficiency and reduce development costs and schedule. To go further in this vision of standardization and in order to provide independence of software blocks from their environment, CCSDS through the SOIS area strives to develop a range of standards for spacecraft onboard interfaces with the intention of promoting reuse of hardware and software designs across a panel of missions and enabling interoperability of on-board systems from various sources. A large number of studies towards this vision have been driven both by ESA and the industry, and supported by the SAVOIR Working Group. This current SAVOIR Communication Architecture activity precisely aims at assessing impacts of such an initiative on a concrete and operational Flight Software (FSW). The study consisted in selecting services compliant with the use case and identifying upgrades needed to implement SOIS services. A second step consisted in defining the FSW architecture and designing/testing the new and adapted SW components. The study has shown that such an implementation has substantial impacts on an existing FSW and requires a high development effort for limited added value on avionics interoperability needs.