

SAVOIR Communications Architecture - OHB

The main aims of this study were to compare the performances of both Flight Software implementations (FSW V1.0 and FSW V2.0) to assess the SAVOIR architecture and the SOIS services communications in a flight representative environment.

OHB System AG (Bremen) has specified, designed, verified and validated a SAVOIR architecture under an ESTEC contract. The development base of this study was the Galileo FOC On-Board Data Handling Software, which is the Flight Software Version 1.0 (FSW V1.0). Using the FSW V1.0 as the starting point, the following SOIS services were implemented in the FSW V2.0:

- Time Access Service (TAS).
- Device Access Service (DAS).
- Memory Access Service (MAS).
- Packet Service (PS).

Furthermore, the new FSW V2.0 complies with the majority of the applicable ECSS and SOIS requirement. Also, the FSW V2.0 is fully verified and validated by unit and validation tests. For both FSW version, all tests have been performed on the same simulator, which means in the same test environment. Therefore, their tests are fully comparable and were used to evaluate their performance.

A result of the comparison of the old FSW V1.0 and the new V2.0 is that the DAS and TAS are performant SOIS services that will be employed in future OHB projects. In contrast, the MAS and PS are currently no candidates for future usage at OHB.