

26th SpaceWire Working Group Meeting

Tuesday, 4 April 2017 - Thursday, 6 April 2017

ESA/ESTEC

Scope & Topics

System and Mission Requirements

SpW Evolutions including ECSS-ST-50-12C Rev.1, SpW Handbook, SpaceFibre and SpW 2

SpaceWire is a living standard that undergoes evolutions driven by technology improvements, the need of additional functions, of new services and protocols. This topic focuses on these evaluations and their eventual standardisation. Under this topic are addressed all issues related to the evolutions of the SpaceWire standard. Discussions are generally divided in three streams: - Revision of ECSS-E-ST-50-12C: A number of Change Requests were filed at the ECSS Secretariat regarding the current version of the SpaceWire standard. This lead the SpaceWire Working Group to revisit this standard in 2010-2011 and then to a formal ECSS process of standard revision on which this stream regularly reports progress. - SpaceFibre: The need for galvanic isolation and for higher data rates lead to the development of a variation of SpaceWire called SpaceFibre, which includes not only a new (multi gigabit per second and galvanically isolated) Signal Level for SpaceWire but also additional features related to Quality-Of-Service. This stream reports regularly on the progress in the development of SpaceFibre - SpW2: This stream is dedicated to medium term disruptive evolutions of the SpaceWire technology in preparation for the development of the SpaceWire 2 standard.

SpW Simulation, Test, and Verification

SpW Simulation, Test, and Verification SpaceWire simulators accompany the usage of links and the implementation of networks throughout the mission lifetime. Being for architectural design trade-offs up to final validations; simulators, testers and verification Lab units are needed. The SpaceWire working group addresses these aspects under this topic.

SpW Components

Availability of components is one of the key elements enabling the usage of SpaceWire links and networks. This topic gathers and reports on the development status of components, from simple LVDS interfaces up to systems on a chip embedding SpaceWire interfaces. This session will be dedicated to SpaceWire component development activities.

SpW Network Management

This session will be dedicated to SpaceWire network management features and protocols such as network discovery and configuration, Electronic Data Sheets, FDIR, and SpaceWire related protocol stacks.

SpW Networks for C&C

Although SpaceWire links and networks are intrinsically asynchronous, many applications have a dual need, i.e. to be able to transfer high amounts of data at high speed together with the transmission of control commands. The latter ones are subject to real time constraints. This topics addresses these complementary aspects.

SpW International SpaceWire Conference

Last but not least, the SpaceWire International conference makes the inter-Agency and across-Industry SpaceWire technology shine bright ! The organisation of such recurring events is tackled under this topic, addressed traditionally at the end of SpaceWire Working Group meetings.