27th SpaceWire Working Group Meeting

Monday, 18 September 2017 - Wednesday, 20 September 2017

ESA/ESTEC

Scope & Topics

The SpaceWire Working Group is a forum aiming at promoting the usage of SpaceWire and SpaceFibre Links, Switches, Nodes and Networks and at developing the underlying technology. It has the additional mandate to steer new developments of devices, tools and protocols.

The previous, 26th SpW WG had the round table discussion at the end of the event, which has been very much appreciated by the participants. It became clear, that the lively discussion of features and topics around SpW and SpFi should be a major part of the working group, whereas presentation of products and results is more suited for the SpW conference. It is therefore proposed to change the agenda for the coming 28th WG more towards a setup for open discussion. The following discussion topics are proposed for the coming SpW WG:

<u>SpW ECSS Rev 1 Standardization</u>

Topics shall be brought up, which were discussed within the two panels of the SpW Rev 1 ECSS standardization working group, and where feedback from the SpW community needs to be sought.

SpW Physical Layer Testing (origin: PHY panel)

How shall SpW compliance testing for TX and RX side be performed?

Two approaches have been proposed in the past working groups by Thales and ESA. It needs to be checked if there are other approaches and how compliance testing shall be performed. Pro/cons of each of them shall be discussed and worked towards an agreed approach.

How should the approach be documented? Shall it be part of the ECSS standard or shall it be part of a handbook?

SpW termination (origin: PHY panel)

Shall a single 100 Ohm termination be used or a split termination with 2x 50 Ohm?

Service Interface (origin: REST panel)

Shall the service interface remain as requirements in the standard, moved to an informative annex or even be removed?

Definitions and UML diagrams (origin: REST panel)

Definition of SpaceWire node, SpaceWire network, SpaceWire unit; including UML diagrams. Are these definitions redundant requirements? Shall they therefore be moved to an informative annex or even be removed?

<u>**SpFi ECSS Standardization**</u>

Topics realted to SpFi standardization shall be discussed as part of this stream.

SpFi draft ECSS standard

Space shall be provided to discuss topics around the latest SpFi draft standard.

SpFi Physical Layer Testing

Discussion on possible methods to perform physical layer testing (RX, TX, copper and fibre), assessment of the pro/ cons of the approaches.

How should the approach be documented? Shall it be part of the ECSS standard or shall it be part of a handbook?

Discussion of suitable test equipment for the different approaches

SpFi Transaction Layer

Higher SpFi protocol layers, which have not been defined as part of the current draft ECSS SpFi standard shall be discussed.

What are the end-2-end performance requirements in SpFi network applications and how to achieve them?

European primes have defined data network requirements within the OSRA-NET study and the SAVOIR UNIONS working group. Are there different/ additional requirements from primes outside Europe?

What needs to be defined to allow seamless integration of SpFi and SpW within the same network.

How to achieve FDIR in SpW/ SpFi networks and which properties needs to be provided by the network.

What needs to be done to achieve a standardized approach for FDIR in data networks?
<u>SpW and SpFi related Components</u>

Space shall be provided to discuss topics around SpW and SpFi components.

<u>**SpW Conferences and events**</u>

The announcement and organisation of SpW and SpFi recurring or ad-hoc events is tackled under this track, addressed traditionally at the end of SpaceWire Working Group meetings. For example, the SpaceWire International Conference makes the inter-Agency and across-Industry SpaceWire technology shine bright !