

# SpaceWire Working Group Meeting 8

## Introduction and Agenda

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## Introduction and objectives

First SpW WG Mtg, 15<sup>th</sup> and 16<sup>th</sup> (AM) of September 2004

Second SpW WG, 10<sup>th</sup> PM, 11<sup>th</sup> , 12<sup>th</sup> (AM) of November 2004 ⇒ RMAP Draft B

Third SpW WG, 15<sup>th</sup> , 16<sup>th</sup> , 17<sup>th</sup> (AM) of February 2005 ⇒ RMAP Draft C

Fourth SpW WG Meeting, 19<sup>th</sup> (PM), 20<sup>th</sup> and 21<sup>st</sup> (AM) of July 2005 ⇒ RMAP Draft D

Fifth SpW WG Meeting, 15<sup>th</sup> (PM), 16<sup>th</sup> and 17<sup>th</sup> of November 2005 ⇒ RMAP Draft E

Sixth SpW WG Meeting, 18<sup>th</sup> and 19<sup>th</sup> of May 2006

Seventh SpW WG Meeting, limited to InterAgency meeting during MAPLD 06

**Eighth SpW WG Meeting**, 17<sup>th</sup> (PM), 18<sup>th</sup> and 19<sup>th</sup>(AM) of January 2007

### Scope of the 8<sup>th</sup> meeting:

This meeting will focus essentially on SpaceWire networks implementation issues, CCSDS SOIS Services mapping aspects, other protocols, current development updates and the SpaceFibre roadmap.

## Introduction and objectives and SpW WG

- Mandate of the WG is manifold:
  - To share information related to the implementation of on-board networks based on the SpaceWire standard
  - To review and discuss services supported by networks on-board spacecraft
  - To define or register (via PID allocations) a set of Networking Protocols (e.g RMAP) for SpaceWire links, nodes and routers (SpW-SnP).
  - Cooperation is framed if required by Inter-Agencies agreements – (c.f. BepiColombo, JWST), in the spirit of the CCSDS.
  - Information is exchanged openly in a collaborative spirit in full respect of intellectual property rights (responsibility of each participant).
- Working Group composition – Open to Industry - Agency members shall act as focal points for national industrial and intra-agencies activities.

## **Day 1: Wednesday 17<sup>th</sup> of January (PM) - Plenary session - Fresnel Room**

**14:00 Welcome and Introduction, ESA/ESTEC Ph. Armbruster**

**14:15 SpaceWire networking Protocols - SpW SnP**

### **CCSDS SOIS**

- Status of CCSDS SOIS Services definition ESA/ESTEC, Ph. Armbruster, support document: CCSDS SOIS Services Green Book (CCSDS 850.0-G-0b, November 2006)
- Mapping of CCSDS services on Mil1553B, ECSS-E50-13 Convenor, Astrium, O. Notebaert
- Discussion and way forward for CCSDS SOIS Services mapping on SpW (all)

### **Other Protocols**

- A Link-Layer Broadcast Service for SpaceWire Networks, Southwest Research Institute, S. Dykes, support documents:
  - Internetworking Over SpaceWire: A Link-Layer Broadcast Service for Network Stack Support (updated)
  - A Link-Layer Broadcast Service for SpaceWire Networks (updated)
- “Distributed Interrupts in SpaceWire networks”, UoStP, Y. Sheynin, support document:
  - Distributed Interrupts in SpaceWire networks

**16:45 Coffee Break**

## **Day 1: Wednesday 17th of January (PM) - Plenary session - Fresnel Room**

### **17:00 Current developments**

- Magnetospheric MultiScale Mission (MMS) Implementation of SpaceWire, NASA GSFC, G. Jackson, D. Raphael and G. Rakow
- "MCFlight™ - MULTICORE" platform based chipset with SpaceWire links for distributed Aerospace systems", Elvees, T. Solokhina
- Prototyping with SpW in Japan, UoO, M.Nomachi
- SpaceWire Demonstrations Introduction
  - SpaceWire Demonstrator, UoD
  - SpaceWire Demonstrator, ESA/TEC, Interoperability between SpW devices of different manufacturers

### **18:00 *SpaceWire Demonstrations in Payload Data Processing Lab (Cj103)***

### **18:30 Adjourn day 1**

## **Day 2: Thursday 18<sup>th</sup> of January - Plenary session - Fresnel Room**

### **9:00 SpaceWire networking Protocols - SpW SnP (cont'd)**

#### **RMAP Draft F**

- Evolution from Draft E to Draft F, UoD, S. Parkes
- RMAP Multi-master Network configuration, ESA/ESTEC A. Ferrer Florit
- Discussion (all)

Update and modifications of ECSS-E50-12A standard.

#### **Coffee Break**

##### **Short update Presentations**

- Redundancy Mechanism Update, NASA GSFC G. Rakow
- Roscosmos and SpW achievements in Russia, A. Soukhourukov
- Further SpaceWire Support from 4Links

##### **SpaceWire and PnP**

- Introduction to PnP and SpW, NASA, G.Rakow, support document: SpaceWire Plug 'n' Play
- PnP aspects
  - 4Links, B. Cook, P. Walker
  - ESA, A. Ferrer Florit
- Discussion (all)

#### **12:30 Lunch break**

## **Day 2: Thursday 18<sup>th</sup> of January - Plenary session - Fresnel Room**

14:00 SpaceWire Physical layer and SpaceWire backplanes

- Mapping of SpaceWire signals into a 38999 series 4 circular connector
- SpaceWire backplanes
- Discussion SpaceWire backplanes (all)

15:00 SpaceFibre Roadmap

- Introduction, ESA/ESTEC, M. Suess
- SpaceFibre status, UoD
- SiGe Interconnect Solutions, ADSANTEC, V. Katzman

16:00 Next Events and new initiatives

- First International SpaceWire Conference
- “SpW Community”, introduction, H. Helzenius
- EU FP7 - Proposals

**17:00 Conclusions**