

# **SpW WG Steering Committee Meeting #15**

## **Wednesday, 20th of October 2010**

At ESA / ESTEC



# SpW Working Group Steering Committee Meeting 15

## Steering committee

ESA (Chair): Ph. Armbruster, M. Suess, D. Jameux

JAXA/ISAS: T. Yamada, M. Ueno

NASA: not represented

ROSCOSMOS: V. Filatov

Sub-WG Conveners:

Standard Editor: S. Parkes(UoD)

SpW Handbook: B. Cook (4Links)

SpW Validation and certification: Y. Sheynin (UoStPb)

SpW Backplane: A. Senior (SEA)

SpW PnP: P. Mendham (Scisys)



## Agenda

- SpaceWire New Protocols
  - SpW CCSDS Unregimented Time Transfer Protocol
  - SpW-D
  - SpW-PnP
- SpaceWire Standard Revision
- SpW Test, Verification and “Certification”
- SpW Products ESA brochure
- SpaceWire Handbook
- SpaceWire Backplanes
- SpW Conference
- Next WG meeting



## SpaceWire New Protocols

- SpW CCSDS Unsegmented Time Transfer Protocol
  - Needs more review and definition.
  - Is regarded of general interest in particular also in the view of SpW-D.
- SpW-D
  - Two key issues:
    - Multi transactions in one timeslot or multi slotting?
    - Protocol stack organisation i.e. Is the scheduling layer above or below RMAP?
  - The SpW-D allows the scheduling of RMAP packets over the network.
  - RMAP should not be the only allowed protocol running according to the SpW-D schedule.
  - Non RMAP packets should be also allowed as long as they respect the schedule and the deadlines.
  - The optional segmentation layer requires to be specified.
- SpW-PnP
  - The document has been reviewed by a number of groups around the world.
  - The feedback the NASA coordinated group could unfortunately be presented during the WG.
  - A number of issues have been raised which would need to be incorporated in a specification update.
  - A accumulation of the comments will be edited by P. Mendham distributed via the SpW WG website.



## SpaceWire Standard Revision

- The change requests received on the SpW standard have been discussed during the WG meeting.
- Before the end of 2010
  - Update the change request list including the outcome of meeting #15 discussions (dispositions, inputs for open points)
  - Distribute to WG for review/comments
  - Raise new work item in ECSS for a revision of the SpaceWire standard
- Two step approach for the standard revision
  - Rewrite the current standard in line with the new ECSS drafting rules
  - Include the agreed additional features in the rewritten standard

Clear tractability of changes and clarifications needs to be provided between ECSS-E-ST-50-12C and 50-12D

The detailed revision work will be implemented in the frame of the ECSS working group with regular reviews by the SpaceWire Working group

A SpW standard review committee will be established to follow the rewriting process from the SpaceWire WG



## SpaceWire Handbook

- So far the contributions from volunteers have been coming in very slow
- What could be an incentive for contributors?
  - Input for the handbook could be a set of application notes provided by suppliers
  - One option could be also to publish it as a book
  - Publication as peer reviewed Journal. ESA considers itself not in a position to publish such a Journal.
  - Authored sections in the handbook with name and company of the authors identified. The amount of work needs to be well confined.



## SpaceWire Backplanes

- Active backplane breadboarding with the Marc system
- Software fitting to the hardware is developed currently by SciSys
- In the last step the system is evaluated with respect to FDIR by Astrium.
- The results of this study will be presented in a final presentation scheduled next to the following SpW WG meeting.
- ESA is currently preparing an ITI for a study on SpW backplanes



## **SpW Test, Verification and Certification**

- Service access points presented by Yuriy are a very valuable concept which should be considered already in the currently prepared update of the standard.
- The inclusion might require some significant restructuring of the document.





## 4th International SpW Conference

- Location: San Antonio, TX
- Date: 8-10 November 2011
- First conference announcement at SpW WG meeting
- Technical Sponsorship
  - The space agencies will be contacted directly
  - Technical sponsorship by IEEE AESS is currently sought
- Demonstration of interoperability of devices from different suppliers all over the world should be attempted.
- This could be a good public relations item and the motto of the conference.



## **Next SpW WG meeting #16**

- Preliminary dates: 21-23 March 2011
- WG meeting start Monday afternoon to Tuesday
- SpW final presentation day on Wednesday
- Steering committee meeting late on Wednesday
- Location: ESTEC