

SpaceWire Evolution and Standard Revision

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SpaceWire standard revision - ECSS-E-ST-50-12D:

- NWI has been submitted to ECSS secretariat and discussed in ESB
- The dispositions for a consolidated list of change requests for ECSS-E-ST-50-12C needs to be agreed by the SpaceWire WG
- A first discussion of CR was done during the last SpW WG meeting #15
- The list of CR dispositions is required as input for the ECSS WG in charge of drafting the revised standard
- The revised version of the standard should go to public review in summer 2012 and published before the end of that year

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Standard Revision



- 1. SpW users (mainly the Working Group) have detected a number of ambiguities or errors in the ECSS-E-ST-50-12C Standard e.g.:
 - a. Ambiguous formulations
 - b. Mix of normative clauses and descriptive text
 - c. Obvious errors in e.g. figures
- 2. SpW users (mainly the Working Group) have proposed a number of new features to be introduced in SpaceWire e.g.:
 - a. Configuration port 0 in nodes
 - b. Signalling codes to carry interrupts across the network
 - c. Half-duplex and/or simplex links
 - d. Link level virtual channels

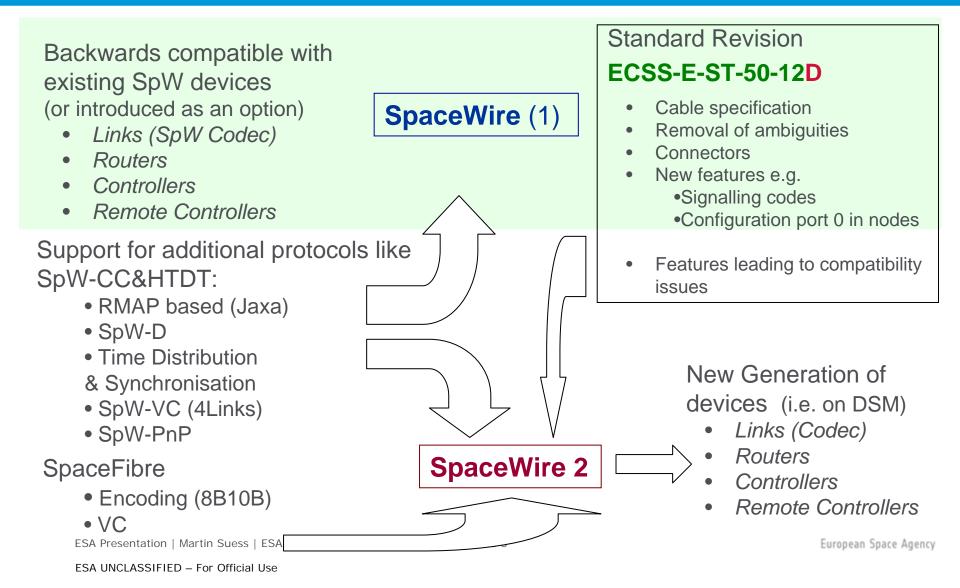
ECSS-E-ST-50-12D



- The standard revision shall not invalidate the investments made in devices and systems following the current standard
- The objective of the revision shall improve the standard but still allow current devices to claim compliance
 - a. New requirements may be introduced if they are compatible with the current standard
 - May be introduced as optional requirements as long as a compatibility mode with current systems is maintained
 - c. Need verification by breadboarding before standardisation

SpaceWire Evolutions







All change requests shall be disposed in one of the following 4 classes

- a. Inclusion in the revised standard ECSS-E-ST-50-12D
- b. To be covered by a chapter in the SpaceWire Handbook
- c. To be reconsidered for standardisation as part of SpaceWire-2
- d. Issue not to be considered for standardisation

Disposed change requests shall be marked with one of the following labels

- a. Consolidated disposition by SpW WG
- b. Preliminary disposition (pending further definition and verification)
- c. No disposition could be agreed

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Discussion Process



- Items which have been raised as CR are presented in the following session
- Based on the discussion during the last WG meeting some CR dispositions are shall be endorsed by the WG
- For CR where no agreement has been reached during the last WG meeting a proposed disposition shall be discussed
- 4. The result of the WG discussion and the disposition will be recorded
- All dispositions shall serve as input for the ECSS WG in charge of drafting the revised standard

Standard Revision Process



- The drafting of the revision of the SpaceWire standard will be performed in two steps
- 2. The current standard will be rewritten in line with the current ECSS drafting rules, errors corrected and ambiguities removed
- 3. This document will be available for review by the SpW WG to confirm the technical equivalence with the current standard
- 4. In a second step the new features will be included in the document
- Clear tractability of changes and clarifications between ECSS-E-ST-50-12C and 50-12D will be provided
- 6. The detailed revision work will be implemented by ECSS working group and reviewed first by the SpaceWire Working group
- Out of the SpW WG a SpW standard revision review committee will be established which is tasked to closely follow the rewriting process between WG meetings

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