

SpaceFibre Status Update

11th SpaceWire WG Meeting

Overview

- SpaceFibre sub working group discussions
- 64B/66B encoding
- Alternatives for segmentation of Data Packets into frames



SpaceFibre Sub Working Group

- Sub working group to discuss SpaceFibre
- Discussion via telephone conferences
- Documents exchanged via SpaceFibre Yahoo group
 - <http://tech.groups.yahoo.com/group/SpaceFibre>
- To get access contact: [martin.suess\(at\)esa.int](mailto:martin.suess@esa.int)



Discussion 64B/66B encoding

- Current baseline 8B/10B encoding
- Proposal by Kush Tyagi from Los Alamos National Lab to use 64B/66B encoding
- Possible advantages
 - Lower encoding overhead
 - Improved Hamming distance of code
 - simpler high end data rate implementation

Discussion 64B/66B encoding

- Possible disadvantages
 - 64B/66B encoding technique patent protected
 - US 6,718,491 and 7,055,073 (Avagotech)
- Ongoing investigation on
 - applicability of patents
 - Possibility to obtain general free licence for SpaceFibre use?
- SpaceFibre must be an “open” standard!



Discussion of Segmentation

- Segmentation of data packets into frames in a SpaceFibre Network has been analysed in detail by Cliff Cimmery from Honeywell
- Alternative 1:
 - Alignment of maximum packet length with segment length
 - Mandatory segmentation at end notes
 - Allows to benefit from group adaptive routing for very high end applications
- Alternative 2:
 - No maximum packet length
 - Segmentation integral part of data link layer
 - Full compatibility with SpaceWire
 - Segmentation at end notes to be implemented with SpW-RT if required by the system