

4Links MSR Network Analysis

Introduction to demonstration



The Network to be Monitored

Consists of:

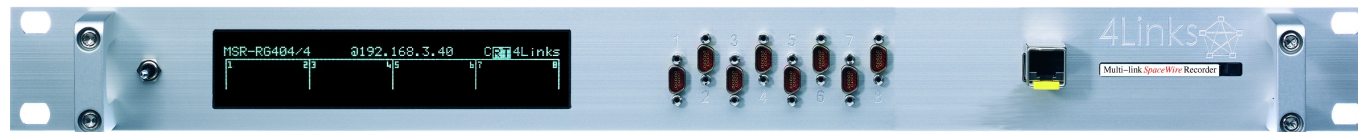
- 6 end nodes
 - with one or two ports
- 2 routers
 - 8 ports each, not all used
- 10 connected links

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The Monitoring equipment - MSR



MSR = Multi-link SpaceWire Recorder

- Records SpaceWire traffic on up to 4 links
- Timetag resolution $< 2\text{ns}$
- Traffic passes through MSR
 - which regenerates the electrical levels
 - but does not pass the data through a CODEC
 - adds $\sim 8\text{ns}$ delay to the signals
 - (comparison: cable delay $\sim 5\text{ns/m}$)

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Synchronising MSR Timetags

MSR (and other 4Links' equipment) has a connection allowing multiple units to be connected together to synchronise their internal clocks

- Timetags are synchronised to within $<3\text{ns}$
 - even with units up to 50m apart
- Separately recorded data streams can be combined into a single time-coherent stream

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The experimental setup

