To ACK or not to ACK

- After the last round of discussions we tentatively concluded that having Best-Effort with ACK was a good idea but on reflection we believe this was incorrect
- Best-Effort service is valid because of the inherent reliability of SpaceWire, so we do not normally expect to lose any data due to transmissions errors
- Having an ACK for each message:
  - Adds complexity to the protocol and user interface
  - Requires additional bandwidth and increases delay

- If we deliver the ACK to the user, we need user code (including a timeout) that checks if the ACK arrives or not, If the ACK does not arrive:
  - It may be that the original message was lost or due to a lost ACK
  - The user application is not therefore in a position to take a clear decision on what to do and would probably require FDIR assistance
  - Critical execution results we anyway always be checked at application level

- We could keep the ACK and only deliver it directly to FDIR but as the link is already being checked by flow control prior to transmission it adds very little

- *We therefore recommend that the ACK is removed completely from the Protocol*