Container over FC-AE-ASM: A Method for Mixed Data Transmission in Avionics Systems

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***Abstract*— Existing Fibre channel (FC) network interface cards usually support either FC-AE-ASM or ADVB upper protocol. However, different upper protocols are used in different specific application environments. FC-AE-ASM and ADVB are respectively designed for transmitting commands and video/audio stream. Aiming to this, we present a light-weighted solution. A simplified container defined in ADVB is introduced into FC-AE-ASM and a modified ASM header is used to differentiate video and commands. Therefore, this container-based FC-AE-ASM protocol achieves a simultaneous and flexible transmission of commands along with video stream. Compared with FC-AE-ASM without container, simulation results show that proposed scheme nearly keep same frame error rate with the growing of video resolution, even though it also leads to a slight increase on the overhead rate at the same time.**

***Keyword*— Avionics Networks, Fibre Channel, Light-weighted Protocol, Container, Mixed Transmission**

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