Poster Session (P)
Poster Lunch (1)

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APPLICATION OF HETEROGENEOUS IP NETWORK TECHNOLOGY IN CHINESE SPACE STATION REMOTE SCIENCE EXPERIMENT

Abstract

Inside Chinese space station, in order to adapt to remote telemetry, remote control, communication and application of payload and other different needs, uses a variety of data bus systems including 10 Gigabit/Gigabit Ethernet, Fiber Channel network, MIL-STD-1553B and other data bus technology, which is not conducive to the realization teleoperation between ground lab and experiment payload installed in satellite, and interstellar interconnection. For the better support of teleoperation and remote science experiment as well as interstellar visits, sharing space station resources, this paper puts forward heterogeneous IP communication technology suitable for the entire network including total communication links and IP over fiber channel technology, designed the Ethernet and Fiber Channel conversion gateway, and proposed a controlled Communication and competitive communication mode, which solves the problem of network optimization of IP packets, real-time control packets and ordinary data transmission packets under satellite network system, moreover, the pre-engineering validation was carried out on the basis of the specific application scenario of the space station. The results show that based on heterogeneous network

to realize entire network IP communication technology can better support remote scientific experiments, and the time delay is better than 2ms.