SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)
Advanced Space Communications and Navigation Systems (4)

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RESEARCH ON TELE-REACH MANAGEMENT OF CHINA'S AEROSPACE TT&C SYSTEM

Abstract

China's aerospace TTC network is a large and complex information systemwhich has extremely high requirements on real-time performance, reliability and security. With the rapid development of China's aerospace technology, China's aerospace TTC net faces great challenges, such as the problem of very dense, interleaved and paralleled operation. The number of participating units in the net is bigger and bigger, and the coverage of service is expanding. The application modes are diversifying and system composition is more and more complicated with more and more reliance on reliability and availability of network. On the one hand, these need higher requirements on the operation management and quality assurance of the network, on the other hand, these need higher requirements on its functionality. As China's aerospace TTC network becomes larger and more complicated, Tele-Reach of this network also becomes more complicated and diversified. Aiming at the Tele-Reach management needs of aerospace TTC net, a Tele-Reach management model—circulation management model was designed in this paper. The theory of the circulation management model was expounded. The model component, architecture, function component and circulation mode were designed in detail. The performance of the proposed model was analyzed. It shows that the circulation management model which we designed can meet the needs of the development of China's TTC system. Based on the circulation management model, a Tele-Reach information traffic flow monitoring system is implemented. First, described the architecture and functional composition of the system in detail. Then, implemented the following parts: application level protocol analysis, system internal architecture, data processing flow and database. Finally, validation of the system is performed in a simulated enviroment. Results show that the system can effectively analyze Tele-Reach data streams and is capable of real-time monitoring the transmission of all protocols in the network.