

SPACE COMMUNICATIONS AND NAVIGATION SYMPOSIUM (B2)  
Near-Earth and Interplanetary Communications (1)

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NETWORK DEPLOYMENT AND MANAGEMENT OF DISRUPTION-TOLERANT NETWORKS

**Abstract**

With the increasing and diversification of space activities, DTN(Delay-Tolerant Networks) gradually become the important way to solve the problems of space communication. Characterized by lack of end-to-end path between nodes and long propagation delays within the network, DTN worked in store-and-forward manner. So the network deployment of storage resources, opportunity of connectivity and network topology will play an important role on the performance of DTN communication system. In order to provide guide to construct aerospace DTN system in future, we build a DTN simulation platform based on NS2. Several typical space communication scenarios were simulated which included of satellite constellation, earth-moon communication and earth-mars communication. By adjusting the network storage configuration, data transmission requirements and routing policy, the primary way of DTN network configuration and management policy were proposed.