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# THE APPLICATION OF EDGE COMPUTING IN SPACE-BASED INFORMATION NETWORK

**Abstract**

Now there are various functions of satellites such as remote sensing, navigation and so on, but the satellites' bandwidth of downstream data is very limit. The requirements of on board real-time data processing are getting higher, but each satellite equipped with complex computing resources is costly. Benefited from space-based information network, the multi-functional satellites can offer uniform lightweight cloud services, utilize the shared resources to analyze the data in advance, provide emergency response and improve access speed and performance. Based on the concept of edge computing, this paper proposes a Space-based lightweight information cloud architecture model suitable for embedded system and draw lessons from openstack to develop a unified platform for converged networks, computing, storage and application, which can provide agile applications for on-orbit data processing for different satellites and enhance the synthetical effect of satellite greatly. In this paper, the resources virtualization of storage and computing and task scheduling technology have been validated, combined with the specific implementation of China' space station project research achievements laid a foundation for further application of space-based information network.