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Author: Dr. Yan Yan
China Academy of Launch Vehicle Technology (CALT), China, yan_nj@163.com

CONFIGURATION OF INTEGRATED INFORMATION PLATFORM FOR SATELLITE APPLICATION BASED ON CLOUD COMPUTING

Abstract

Navigation and remote sensing satellites can provide data sources for practical applications, such as intelligent traffic, natural disaster monitoring and emergency command and communication. In these scenarios, integrated information platforms have to meet requirements of accessing, processing, storing and delivering petabyte-level volume data. Also these platforms have to support information fusion, analysis, computing and mining for different apps. However, traditional platforms with star-bus architecture have fallen into a difficult situation when facing challenges of mass storage, HPC (high-performance computing), and QoS (quality of service), especially requirements of security, reliability and flexibility. Based on theories of HPC and cloud computing, we construct a novel platform with IaaS (Infrastructure as a Service), PaaS (Platform as a Service) and SaaS (Software as a Service) layers. In the platform, storage resources, computing resources and application resources are independent to each other, and applied in the way of service-oriented. In this paper, we also address a logical framework and an achievement progress. By contrast to traditional platform, the cloud platform can effectively increase efficiency of data access and computing, have good security and scalability, and is easy to interconnect with other platforms and application systems. Therefore, the platform based on cloud computing is able to support varieties of ground satellites applications and services with great felicitousness.