EARTH OBSERVATION SYMPOSIUM (B1)
Interactive Presentations (IP)

Author: Mr. Gao Yue
Space Star Technology Co., Ltd. (SSTC) China Academy of Space Technology (CAST), China

RESEARCH ON BASEBAND DATA PROCESSING TECHNOLOGY FOR HIGH-SPEED REMOTE
SENSING SATELLITE

Abstract

Remote sensing data processing system is an important part of satellite application system, and the emphases of researching is high data rate processing, high reliability, scalability and flexible. This paper is based on the standard of CCSDS AOS, and designs a data processing platform using universal server cluster, focusing on the design of the data stream splitting mechanism, task parallel scheduling mechanism, and fault response mechanism. Using server machine as the minimum unit of fault location, using file fragments as the minimum unit of failure checkpoint, using a database to store and record the unique status of the system, it realize the process of super high-speed input data, sudden run-time fault-tolerance and multi-satellite compatible processing.