IAF EARTH OBSERVATION SYMPOSIUM (B1)
Earth Observation Data Management Systems (4)

Author: Mr. Wasanchai Vongsantivanich
Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand

Mr. Panupat Horma
Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand
Mr. Takanori Miyoshi
Japan Aerospace Exploration Agency (JAXA), Japan
Dr. Shirou Kawakita
Japan Aerospace Exploration Agency (JAXA), Japan

SPACE DATA PROVIDER NODES MANAGEMENT PLATFORM FOR DISASTER RESPONSE

Abstract

Space based remote sensing has been proven to be one of the most crucial input for disaster response and disaster mitigation. Several initiatives and ventures have been founded to share space resources for such kind of activities. Sentinel Asia (SA) is one of the initiative which led by the Asia-Pacific Regional Space Agency Forum (APRSAF). Currently SA consists of more than 108 joint project team member organizations, which includes several national space agencies, institutes, universities, government and international organizations. The uniqueness of SA joint project team is that its operations could cover whole chain of disaster data support, starts from emergency satellite data acquisitions, data analysis, developing value-added products, up to supporting the implementation with the local agencies in the affected area.

In order to synergize different layers of users and operators to support disaster response timely and perform collaborative operations effectively, for this purpose, the platform so-called OPTEMIS is developed to serve the SA community. This platform will facilitate the user for emergency observation requests, then connect and allocate the tasks among different data provider nodes (DPN), data analysis nodes (DAN) around the region order to work together seamlessly. Since the structure of SA members consists of different satellite operators with multiple types of space based sensors, the virtual constellation concept is also considered and implemented in the platform.

This article provides the framework of SA and the OPTEMIS DPN management system which is developed to enhance the workflow and to facilitate disaster response process. Its features and functions are also demonstrated, then case studies and lessons learned from implementing the system is also expressed and discussed.