



Contribution to Sentinel Asia regional cloud servers

ASGC/NSPO

November 2, 2018

Awaji Island, Japan

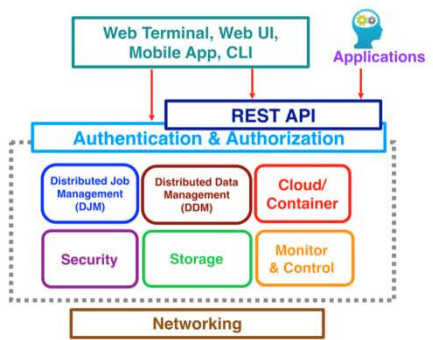
Chronicle

- 2018, 01, 22 JAXA/NSPO/ASCG start discussing the ICT support for Next Sentinel Asia System
- 2018, 03 ~ 1st round data transmission test
- 2018, 04 ~ 2nd round data transmission test
- 2018, 09, 24 JAXA/NSPO/ASCG meeting at Taipei and reached agreement - NSPO and ASGC in Taiwan are delighted in contributing to New Sentinel Asia Regional Cloud to Enhance Data Provisioning and regional Collaborations

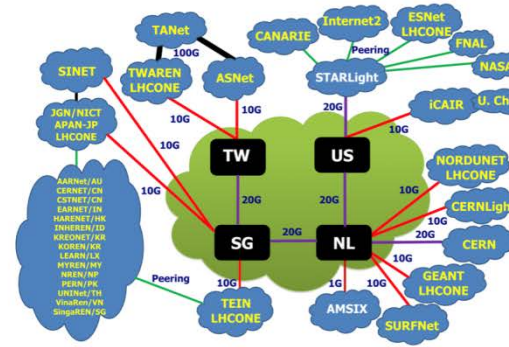
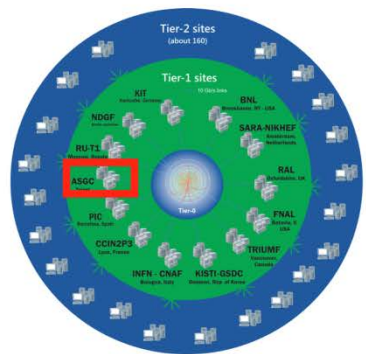
About ASGC



Distributed Cloud Middleware Development and Application Integration

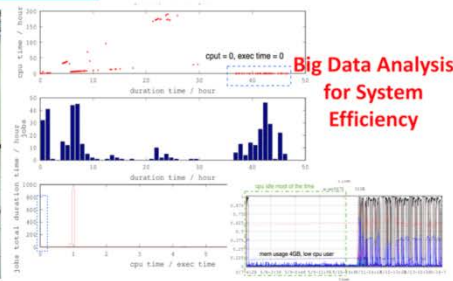


Network Is Cornerstone for Data-Intensive Sciences

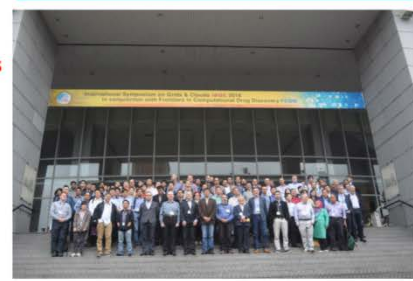


ASGC acts as WLCG Tier-1 Center and Asia Center from 2005. We developed Distributed Cloud to support Scientific Applications of all Disciplines. ASGC is also the Disaster Mitigation Competence Centre in the collaboration with EGI.

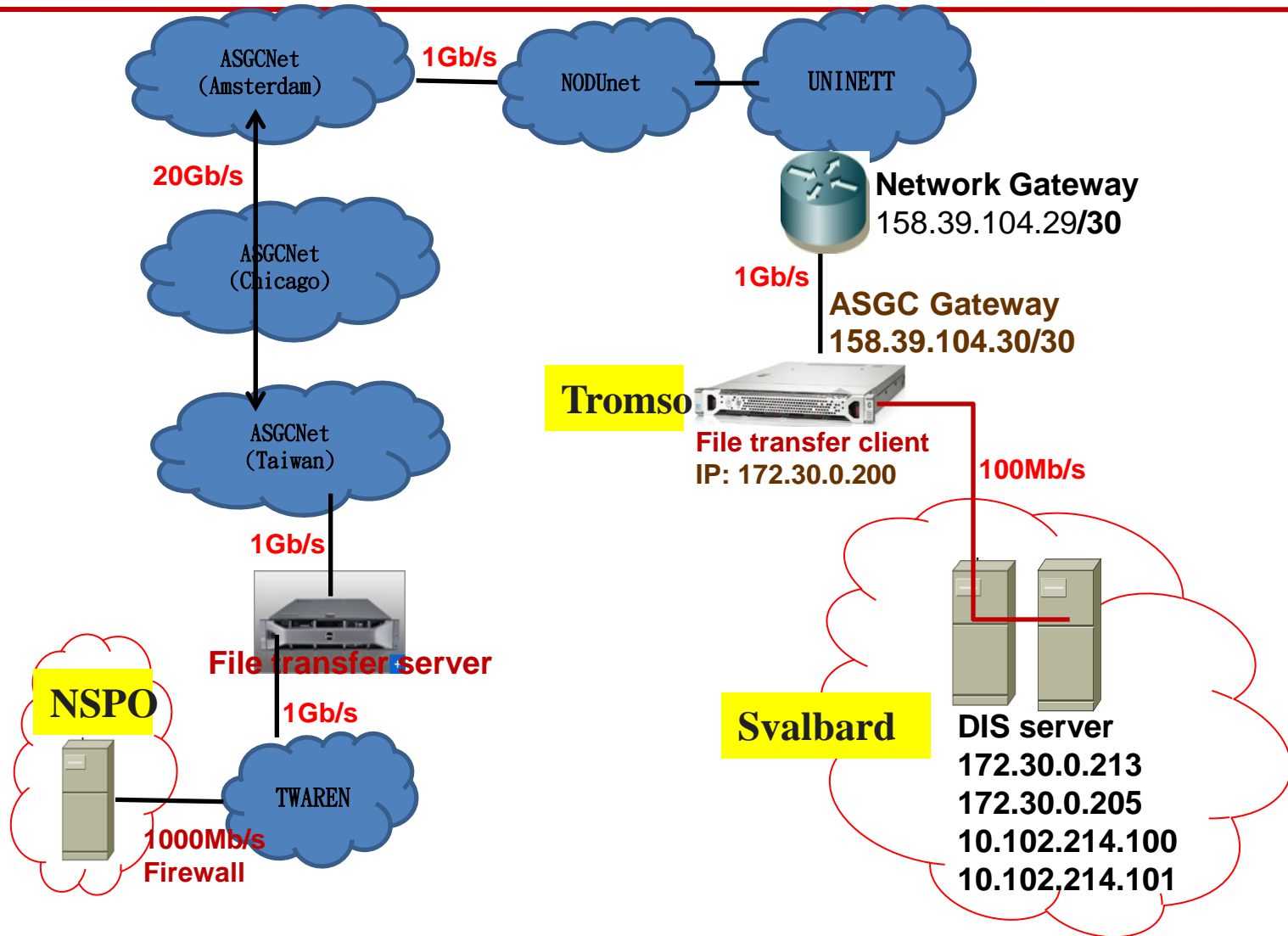
Efficiency Optimization, Monitoring Automation and Anomaly Detection With Intelligence



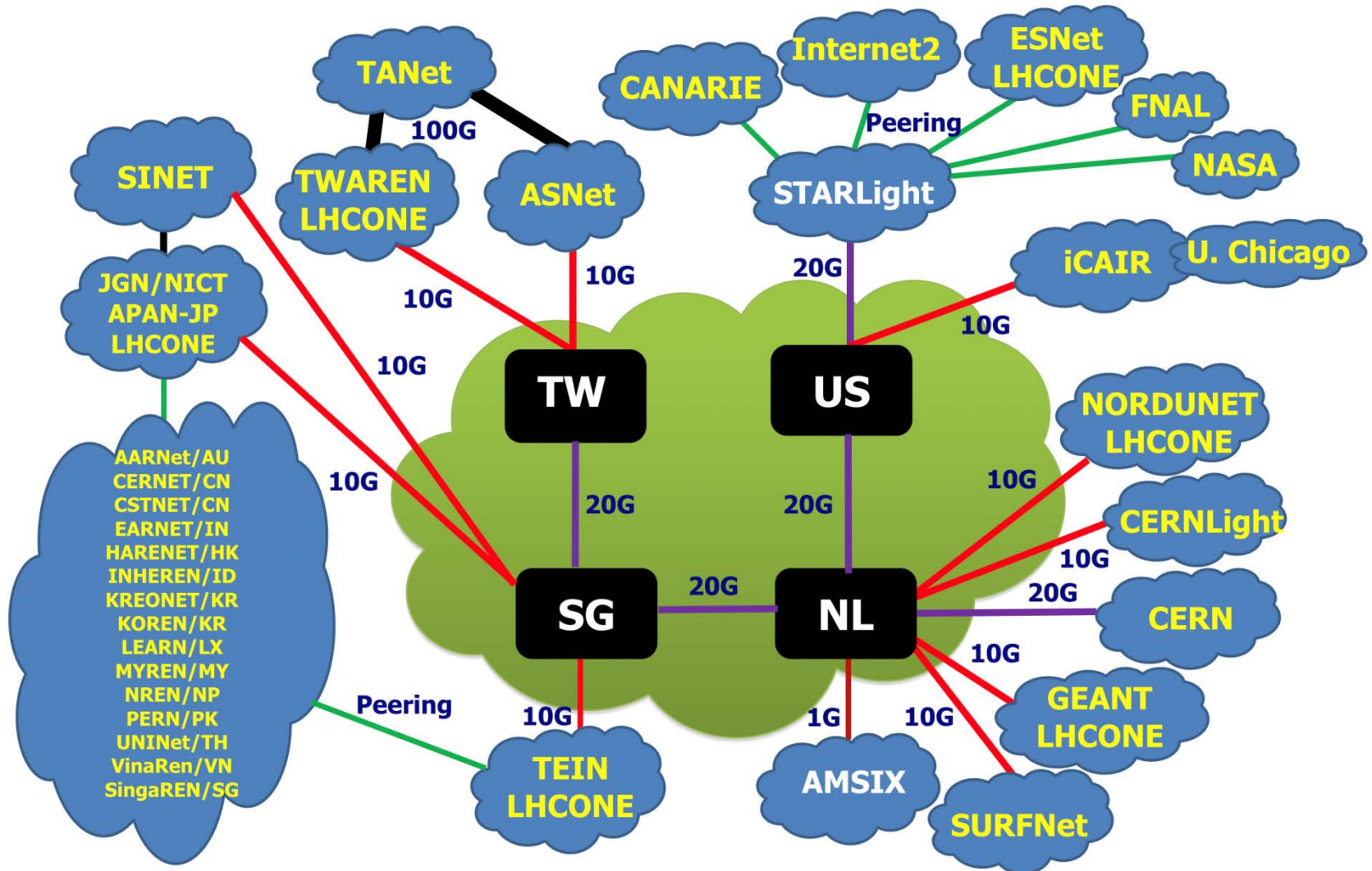
Dissemination and Training: for Scientists and Engineers of Tomorrow



KSAT&ASGC Network configuration



ASGC e-Science Global Network (Sep. 2018)

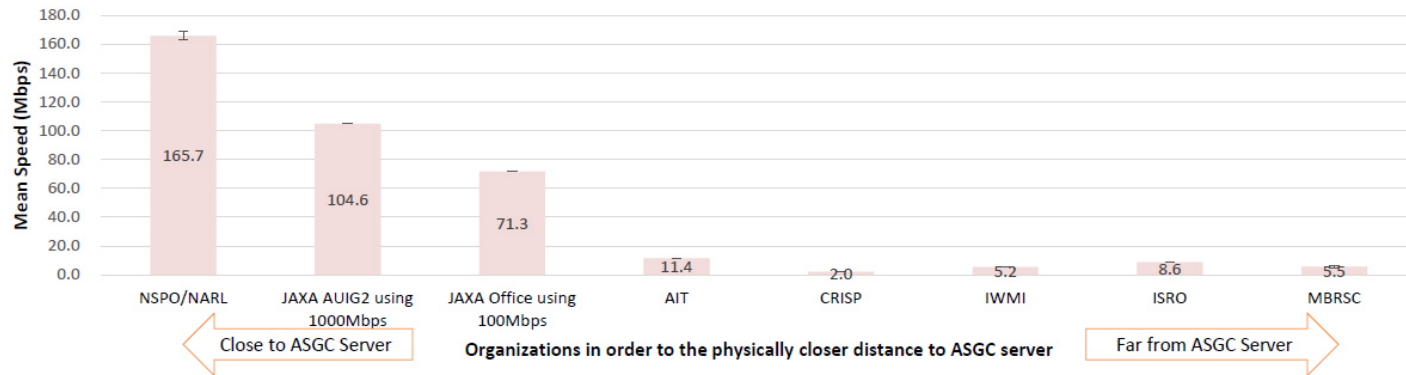


Data Provision Speed Test -April 16 to 27,2018

The Second Test Data Upload/Download Speed Results

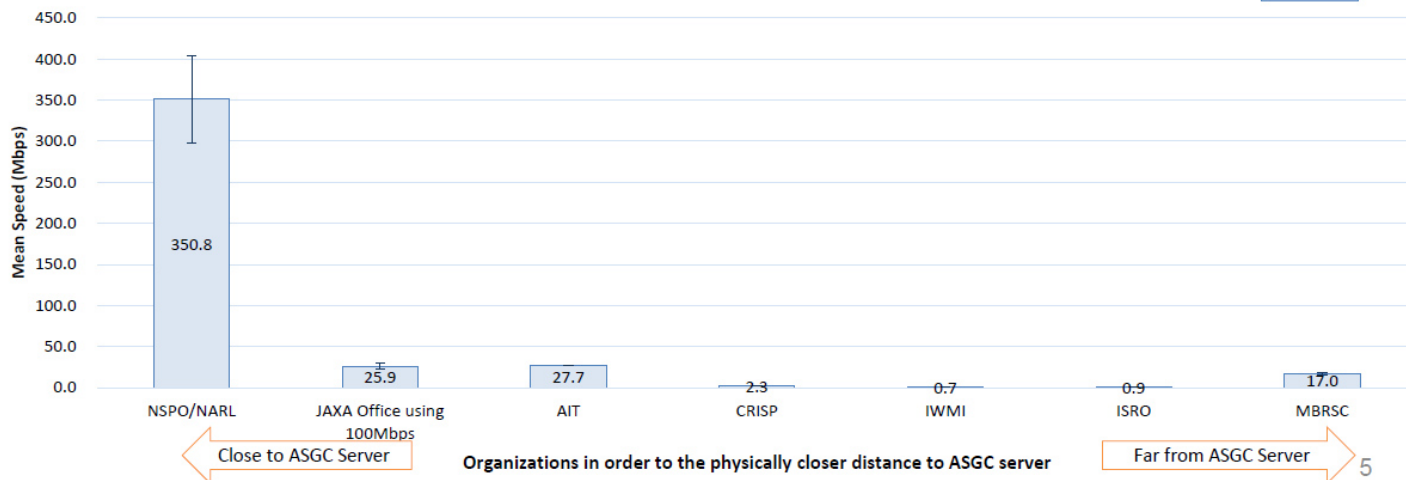
1GB Data Upload Mean speed and Standard error to ASGC server (Mbps)

[SU1]



1GB Data Download Mean speed and Standard error from ASGC server (Mbps)

[SD1]



Committed minimum resources

2. Cooperation Requirements for ASGC

1) Computer resources

According to the data transfer test results, JAXA as JPT would appreciate it if ASGC could provide the computer resources as best as ASGC can.

Required ASGC computer resources	ASGC Server Specification used on the 2 nd test	AWS Server Specification used on 1 st test
CPU: Intel(R) Xeon(R) CPU E5-2650L v3 @ 1.80GHz *2 Memory: ca. 4GB Disk: ca. 1TB near-line SAS * 15 as RAID5 OS: Centos7 64bit Network: Intel 82599ES 10GbE (ca. 1Gpbs effective bandwidth)	CPU: Intel(R) Xeon(R) CPU E5-2650L v3 @ 1.80GHz *2 Memory: 128GB Disk: 6TB near-line SAS * 15 as RAID5 OS: Centos7 64bit Network: Intel 82599ES 10GbE	CPU: Intel Xeon E5-2666 v3 2core(2.9GHz) Memory:3.75GiB SSD: 800GB, IOPS:2400, Baseline Thruput:160MB/s OS: RHEL 7.4 Network Bandwidth: 500Mbps

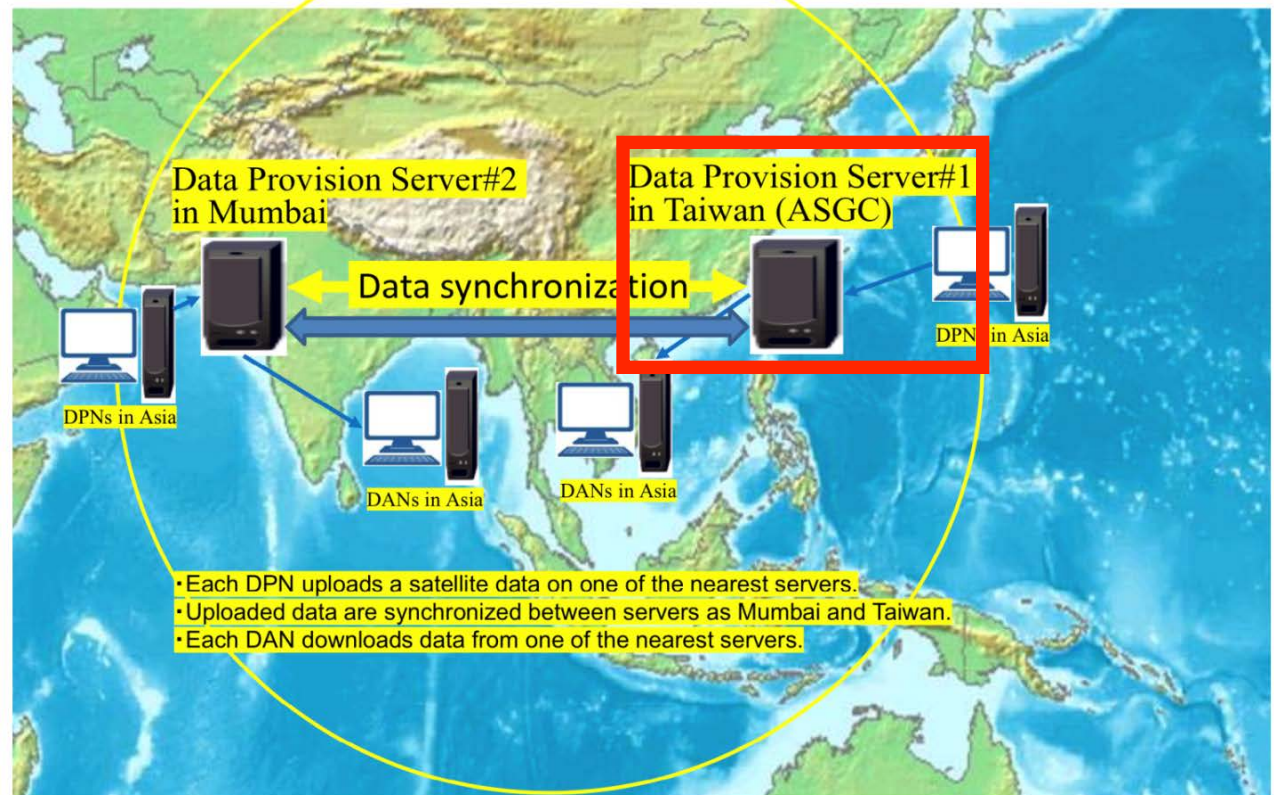
Data Provision Server #1

- Based on the results of data provision speed, ASGC and NSPO will work with Sentinel Asia partners to optimized the Data Transmission Performance over the regional cloud.

Next Sentinel Asia System image for Data Provision

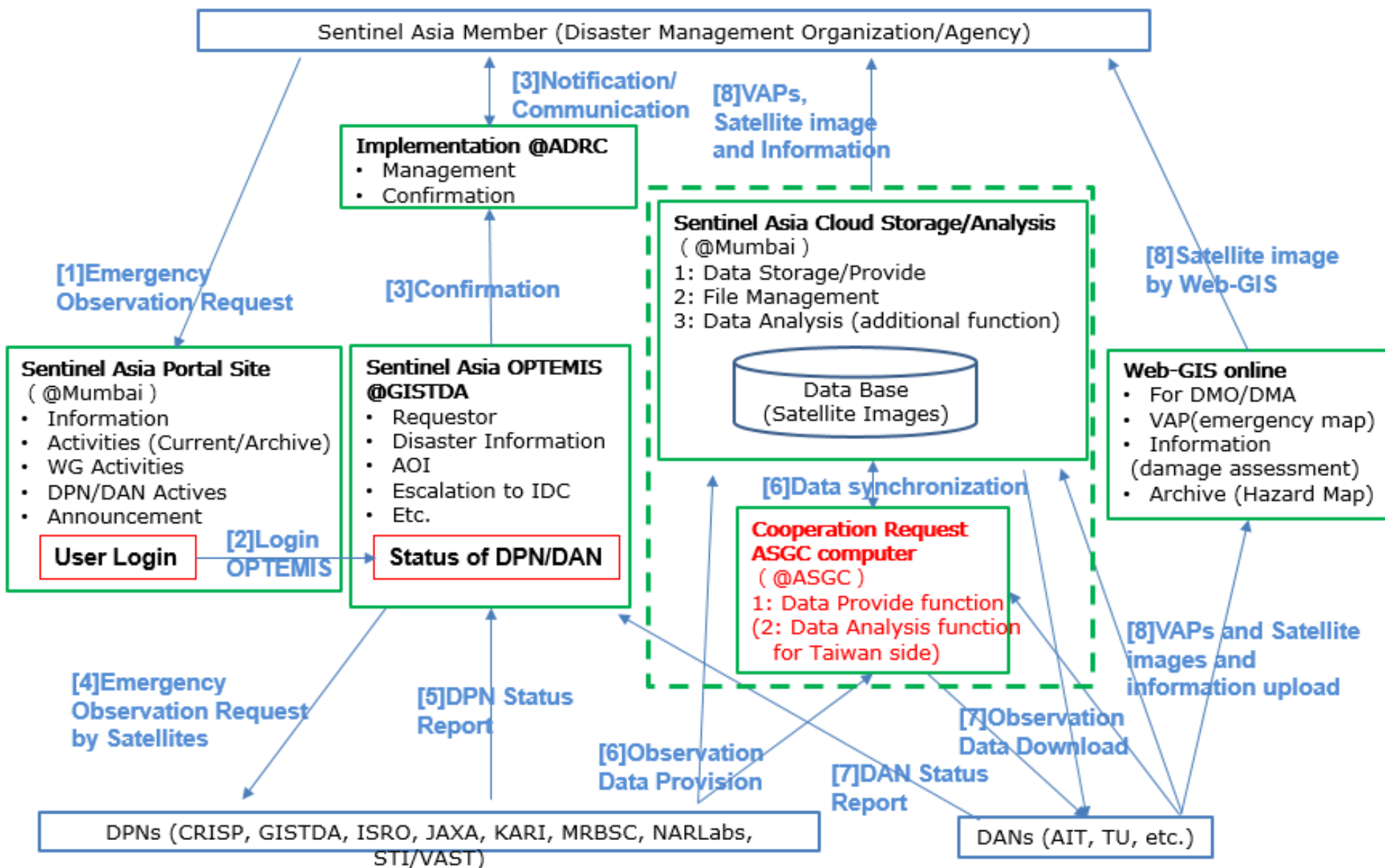


Academia Sinica
Grid Computing Centre



Next Sentinel Asia system Design

Disaster occurs



OPTEMIS: Operation Planning for Thailand Earth observation MISsion

Conclusion

- After two-round data provision tests with SA partners conducted by JAXA in early 2018, ASGC & NSPO are very pleased to join the collaboration.
- ASGC is willing to join SA as a member and act as a Data Provision Server (with also analysis functions) as designed by SA.
- To ensure the sustainability of ASGC data provision server operation, set up a kind of framework (such as MOU) between JAXA , NSPO and ASGC is suggested.

Thank you

