

ALICE T2 Status

Hiroshima and Tsukuba

Tatsuya Chujo (U. Tsukuba)
for ALICE Japan Tier 2 teams,

Ninth Annual ALICE Tier-1/Tier-2 Workshop

Bucharest, Romania

15 May, 2019



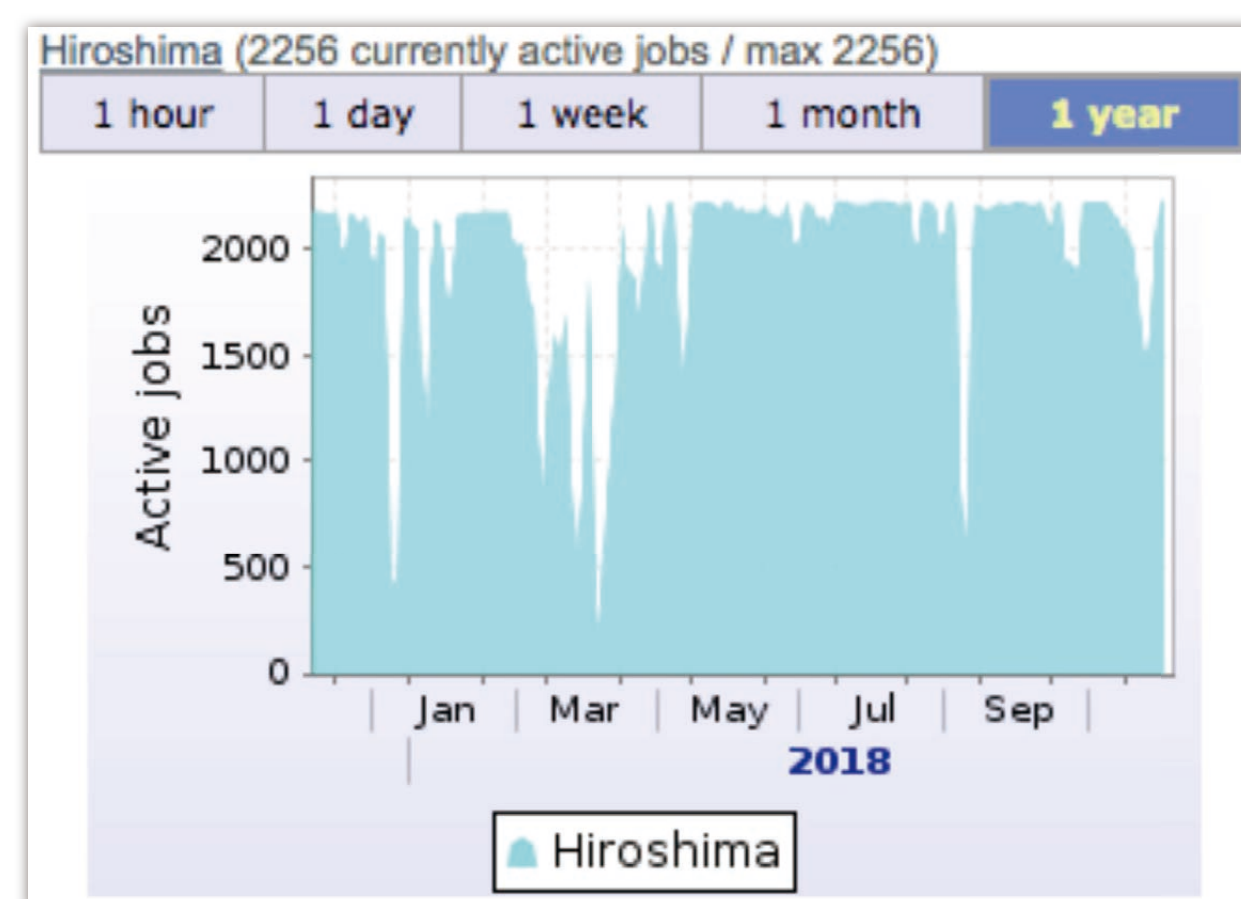
筑波大学
University of Tsukuba



- ALICE T2 site “JP-HIROSHIMA-WLCG” with EMI-3 on SL6.8... **as stable as possible.**
- GRID service; APEL, sBDII, CREAM-CE, CVMFS/ Squid, **EOS**, VOBOS... **as compact as possible.**
- Job Scheduler; PBS/Torque/Maui
- WN resources; **1,284 Xeon-cores in total**
 - Xeon5365(4c@3.0GHz) x 2cpu x 20 blades
 - Xeon5570(4c@2.9GHz) x 2cpu x 26 blades
 - Xeon5670(6c@2.9GHz) x 2cpu x 3 blades
 - E5-2470v2(10c@2.4GHz) x 2cpu x 16 blades
 - E5-2640v4(10c@2.4GHz) x 2cpu x 28 mod's
- Storage; **1,032TB disks** on 8 servers, but **no MS**
- Around **3/4 resource** deployed to ALICE GRID, and the rest for local commodity
- Firewalled; **Fortigate 1500D/L3**
- Network; **10Gbps/IPv4** connected to SINET5 at Hiroshima DC
- WLCG support by ASGC in Taiwan
- Responsible/operated by Prof. Toru Sugitate w/remote technical support by **SOUM** corp., Tokyo



- **Stable operation w/o any unscheduled stops since 2017**
- **No change on scale (# of cores, storage) after the major upgrade in 2017**
- **T. Sugitate (responsible) continues Hiroshima T2 operation**
 - 10 Gbps connection to SINET-5 since March 2017
 - Continuously monitored by Perfsonar.
 - About 250 Mbps links to/from EU/US and Asians.
 - Peak through-put beyond 9 Gbps achieved to/from CERN.
 - T2 operation accepting around 2300 jobs and completing 4-8K jobs a day.
 - SE/EOS service in operation with the capacity of 640 TB, and 72% filled.



Select site: Hiroshima

MonALISA information Version: 13.11.04 (JDK 1.8.0_92)
Running on: grid01.hepl.hiroshima-u.ac.jp
Administrator: Toru Sugitate, Hiroshima <sugitate@hiroshima-u.ac.jp, wlog-hiro@ml.hiroshima-u.ac.jp>

Service health NTP: SYNC, offset: 0.102s

Services status ClusterMonitor: OK Proxies status AllEn proxy: OK (1 day, 23:58)
PackMan: n/a Delegated proxy: OK (1 day, 23:59)
CE: OK Proxy server: OK (24 days, 21:40)
CE info: We could start 5 agents Proxy of the machine: OK (23:14)
Max running jobs: 2300
Max queued jobs: 50

Current jobs status Assigned: 0 Accounting Success jobs: 8642 (profile) Site averages Active nodes: 77
Running: 2217 (last 24h) Error jobs: 622 + 34 expired (last 24h) Average kSizk/core: 3.688
Saving: 46 kSizk units: 10066 / pledged

Storages status

Name	Status	Size	Used	Free	Usage	No of files	Type	ADD test
ALICE::Hiroshima::EOS	OK	640.3 TB	71.82%	180.4 TB	459.8 TB	9.89 M	FILE	OK

VoBox health CPUs: 20x 1200MHz CPU usage Load: 0.273
Mem usage: 18.05% of 31.23 GB (last 1h avg) User: 1.561% int: 0%
Processes: 459 System: 0.422% Soft int: 0.008%
Sockets: 543 TCP / 25 UDP IOWait: 0.011% Nic: 0%
Uptime: 19 days, 23:54 Idle: 98% Steal: 0%

AllEn LDAP var	VoBox path	Size	Used	Free	Use%
TMP	/home/sgmali01/ALICE/tmp	487.8 GB	45.9 GB	417.1 GB	10%
LOG	/home/sgmali01/ALICE/alien-logs	487.8 GB	45.9 GB	417.1 GB	10%
CACHE	/home/sgmali01/ALICE/cache	487.8 GB	45.9 GB	417.1 GB	10%

- **Member**

- Tatsuya Chujo (responsible)
- Sumio Kato (technical staff)

- **Status**

- 6 service nodes (X5355; 4 cores x 2 cpu, @2.6GHz)
- 20 worker nodes (X5355; 4 cores x 2 cpu, @2.6GHz)
- Network: connected to SINET-5 via HepNet-J network.
- July 2016, Tsukuba T2 started the operation as a production site.
- was able to accept 125 jobs running on average.
- Suspended the operation due to some problems in CE/ network (and manpower) in October, 2017
- **We decided to come back after purchasing the mass storage in 2019.**





- **Status (cont.)**

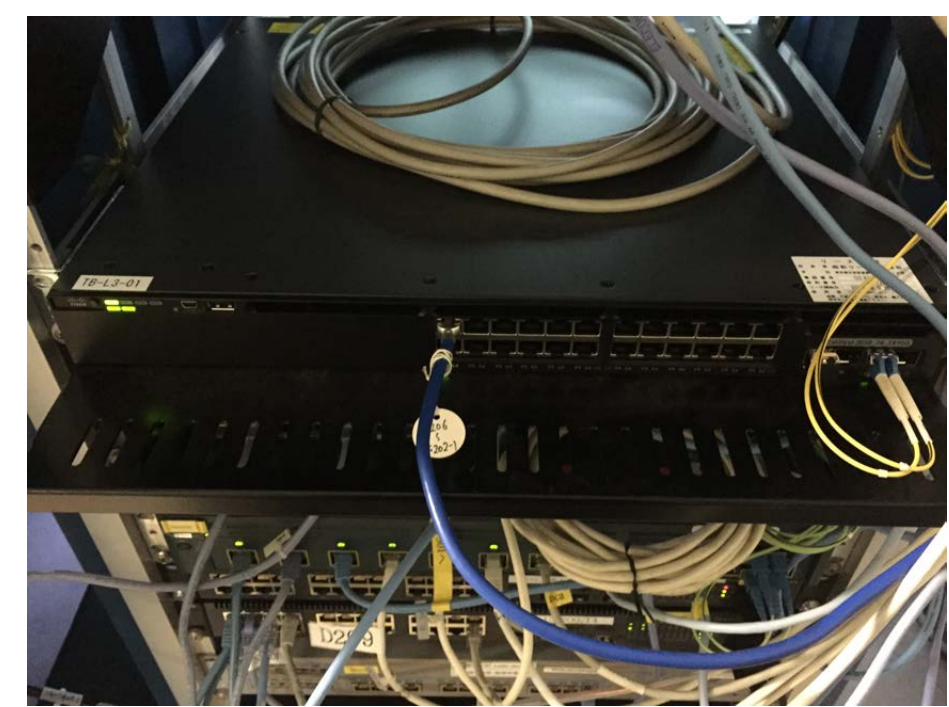
- on Feb. 2019, **a mass storage has been purchased and delivered.**
- on May 2019, new optical fiber has been installed, enabling a direct link between from server room and SINET5 (via dedicated campus network) @ 10Gbps.
- Updated high speed switch by Hepnet-J (KEK)

- **Plan**

- Establish the high speed network by using the newly installed fiber and switch, direct link between server room and ACCC @ U. Tsukuba (May).
- configuring mass storage for EOS (May-June).
- CE configuration and WN configuration in May - June.
- **Re-establish T2 operation by the end of June.**
- **seek a funding to add more WNs, probably together with detector upgrade proposal (FoCal), to be requested in 2019 fall.**



↑ ZE-G824F16-4G-N8000x24
(8TB SATA HDD x 24,
effective 168 TB (RAID6/SPARE1))



cisco Catalyst 3650-24TD



New optical fiber
@ server room