Echelon 2 in Japan: Status and Plans

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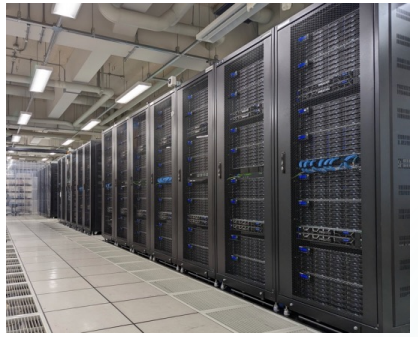
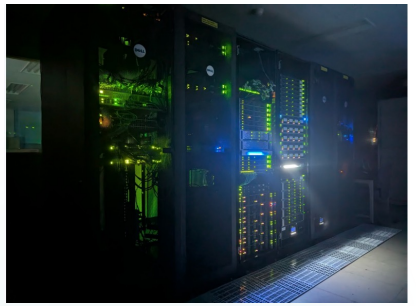
Hosting large-scale computing for HEP/NP

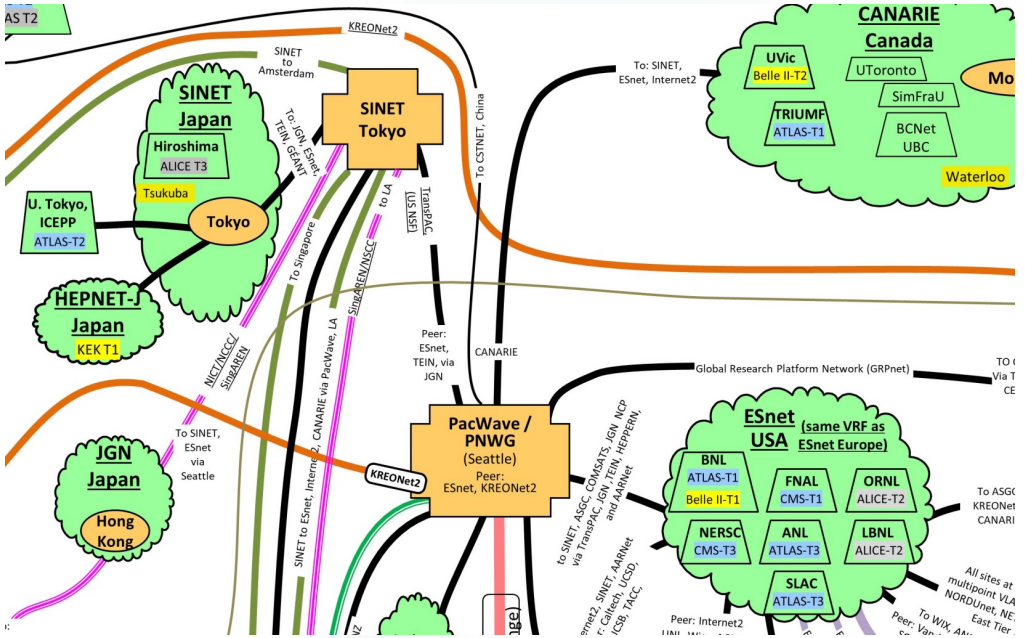
- Computing
  - Tier2 center for ATLAS @ ICEPP/U-Tokyo
  - Tier2 center for ALICE @ Hiroshima
  - Belle2
- Global Network
  - Japan-US-Europe : 400 Gbps (SINET6)
  - SINET6-ICEPP : 100 (+10) Gbps
  - LHCONE VPN
    - Also used by other experiments: Belle2, etc.
  - If ePIC uses LHCONE VPN, we will apply for access.
- We are receiving various advice from ICEPP regarding the development of echelon2 for ePIC.



ICEPP Tier2 site
CPU: ~11,000 cores
Disk: 15 PB



Hiroshima Tier2 site
CPU: 1,280 cores
Disk: 1.44 PB



Planed activities for computing in Japan

- Participants institutes:
  - RCNP/U-Osaka: Streaming Orchestration
  - QNSI/U-Tokyo: Streaming Reconstruction and Calibration
  - RIKEN: Hardware acceleration & AI, Use cases for FUGAKU-next (super-computer)

- Annual foreseen grant for EIC computing: $0.4M – $1 M
  - Depending on other projects (bTOF, ZDC)

Ongoing and future plans of Osaka

- Ongoing activities
  - RCNP has been setting up local environment on a server.

  → Mini-Echelon 2
    - CPU 128 cores, RAM 256 GB, storage 60 TB
  - This server is used for R&D on streaming computing.
    - Components (PanDA-server/JEDI, Havester, iDDS, posgreSQL, ActiveMQ, and Rucio) are installed via Docker.
    - The near-term goal is to run a simple workflow and transfer payload in the local environment.
- We aim to purchase new servers and disks in coming years to scale up the system.

Ongoing and future plans of Tokyo/RIKEN

- Ongoing activities
  - Tokyo/RIKEN will build 5-10x computing servers (128 cores/each), 1-2x GPU servers, network switches, and will set up ~3x O(100-500)TB disks.
  - These servers will be used for R&D on streaming reconstruction, calibrations, and simulation production.
  - Distributed computing inside Japan (Osaka – Tokyo – RIKEN)

- We aim to purchase new servers and disks in coming years to scale up the system.