# Indonesia HPC Grid and Its Connectivity
## -site report-

Indonesia

@ATCF7, 1 Nov 2023

andria - syam

# BRIN - National Research and Innovation Agency

- The sole national research agency of Indonesia
- Fused from several research agencies in Indonesia:
  - Indonesian Institute of Sciences - LIPI
  - Agency for the Assessment and Application of Technology - BPPT
  - National Institute of Aeronautics and Space - LAPAN
  - National Nuclear Energy Agency of Indonesia - BATAN
  - Eijkman Institute for Molecular Biology
  - Research divisions from various Ministries
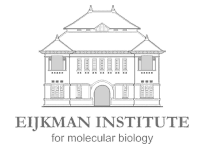
# BRIN Resources

- Agency integration means:
  - More resources available
  - Demands varieties
    - Physics
    - Microbiology
    - Machine Learning
    - …
  - Different batch systems
    - OpenPBS
    - SLURM
    - HTCondor
    - AltairPBS (?)
  - User integration
  - Network integration
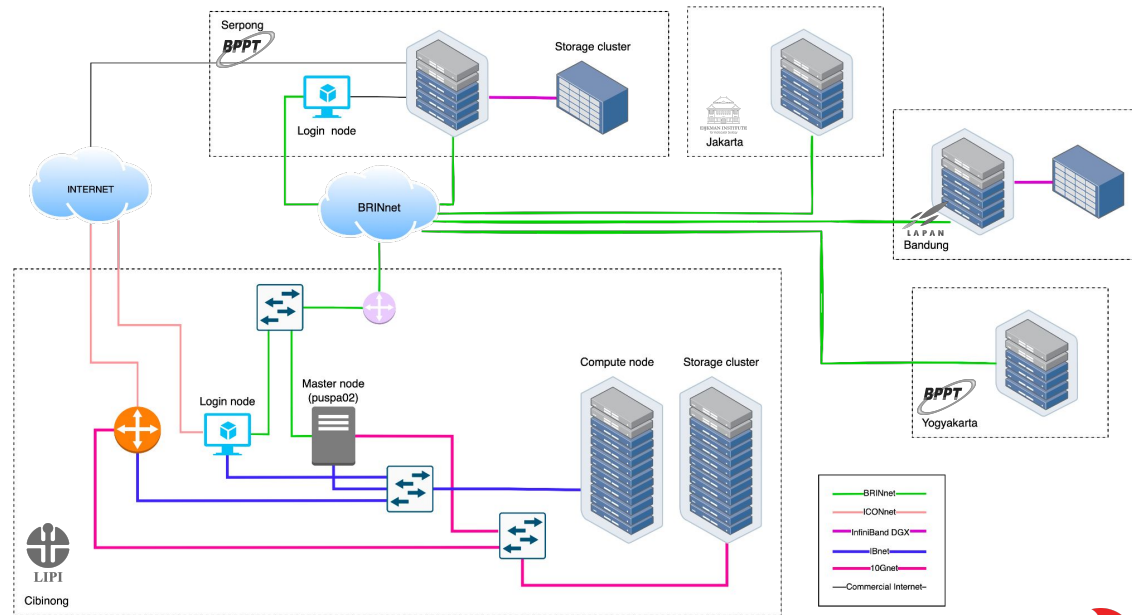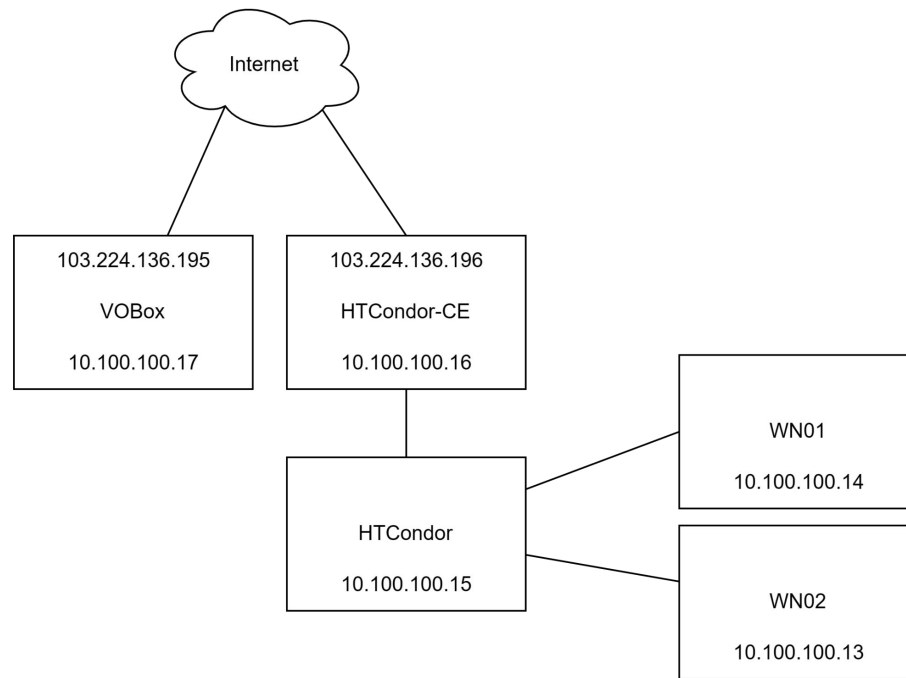
# Inside The New Data Center
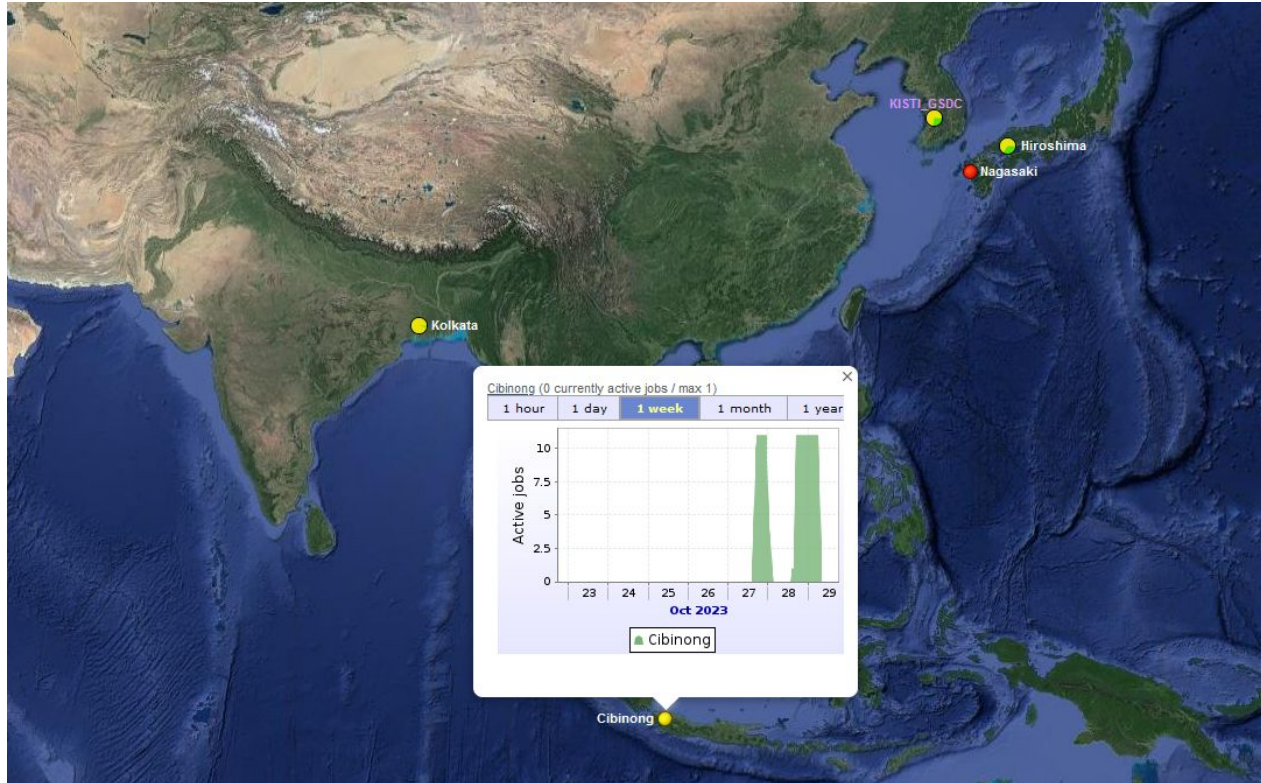
# Initial Cibinong Cluster for ALICE grid

- 5 node cluster
- PoC for ALICE grid integration

- 2 Worker Nodes:
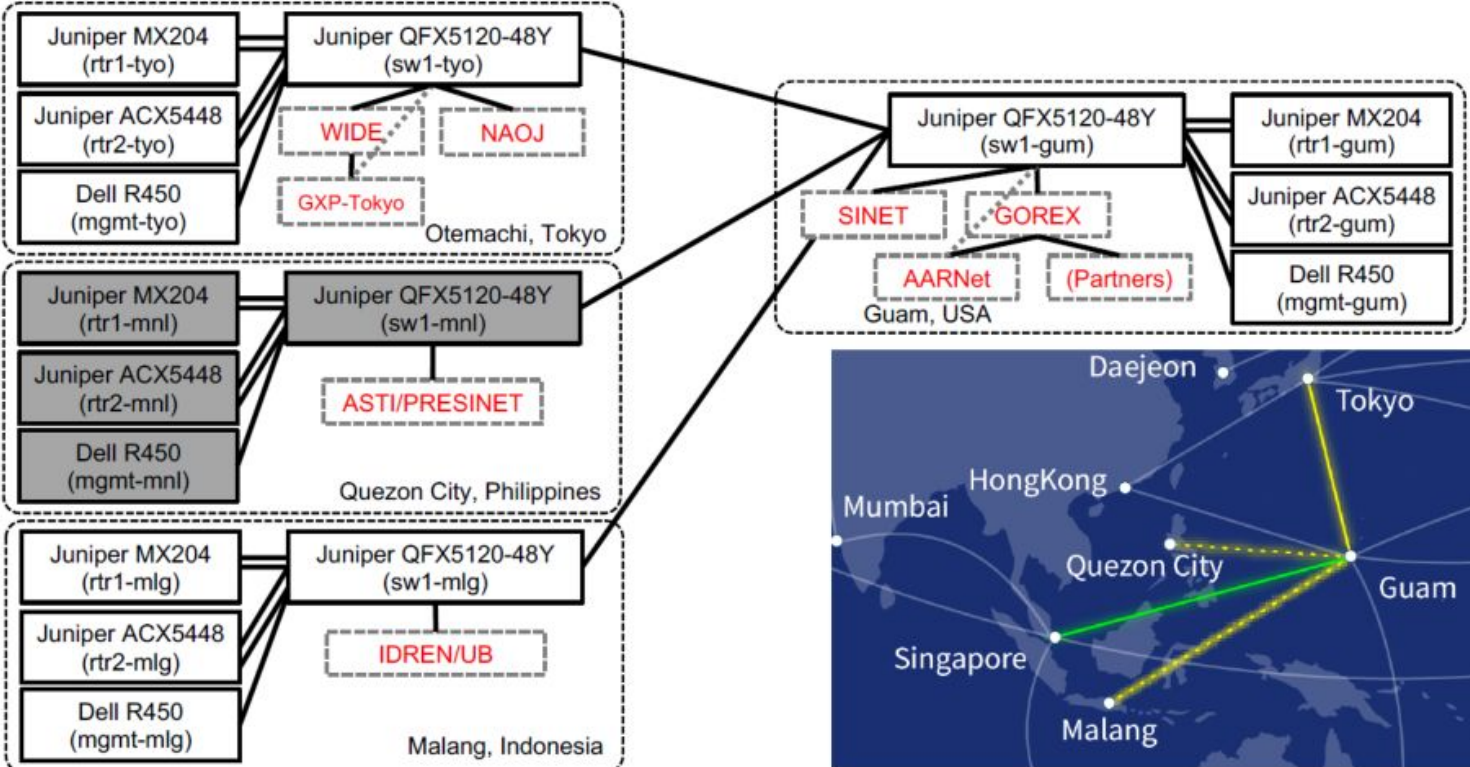  - 72 cores
  - 128 GB
  - 10 Gbps

Internet

103.224.136.195

VOBox

10.100.100.17

103.224.136.196

HTCondor-CE

10.100.100.16

HTCondor

10.100.100.15

WN01

10.100.100.14

WN02

10.100.100.13

# Finally Cibinong Point in MonaLisa
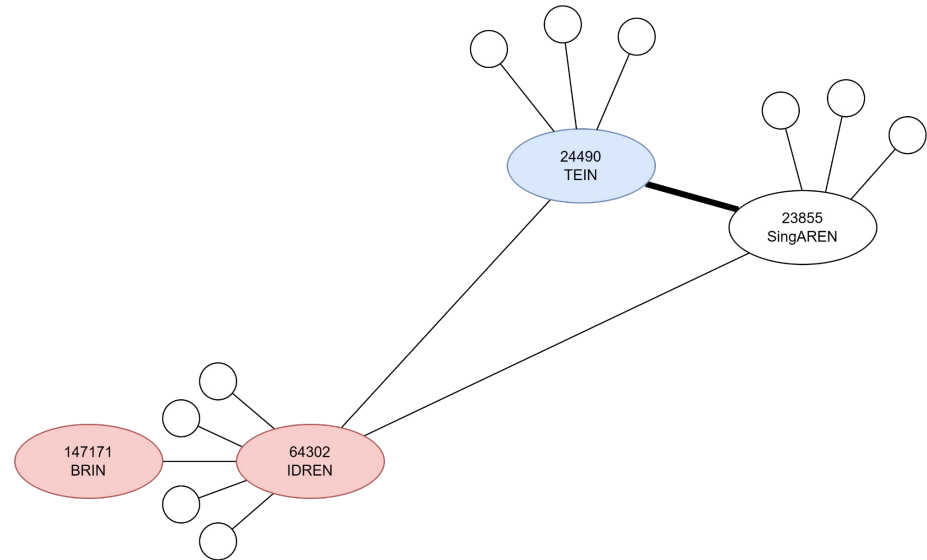


Waiting for the next round of simulation jobs

# Connectivity

# Connectivity ( until June 2023 )

IdREN
- 1 Gbps to TEIN
- advertises 100+ prefixes
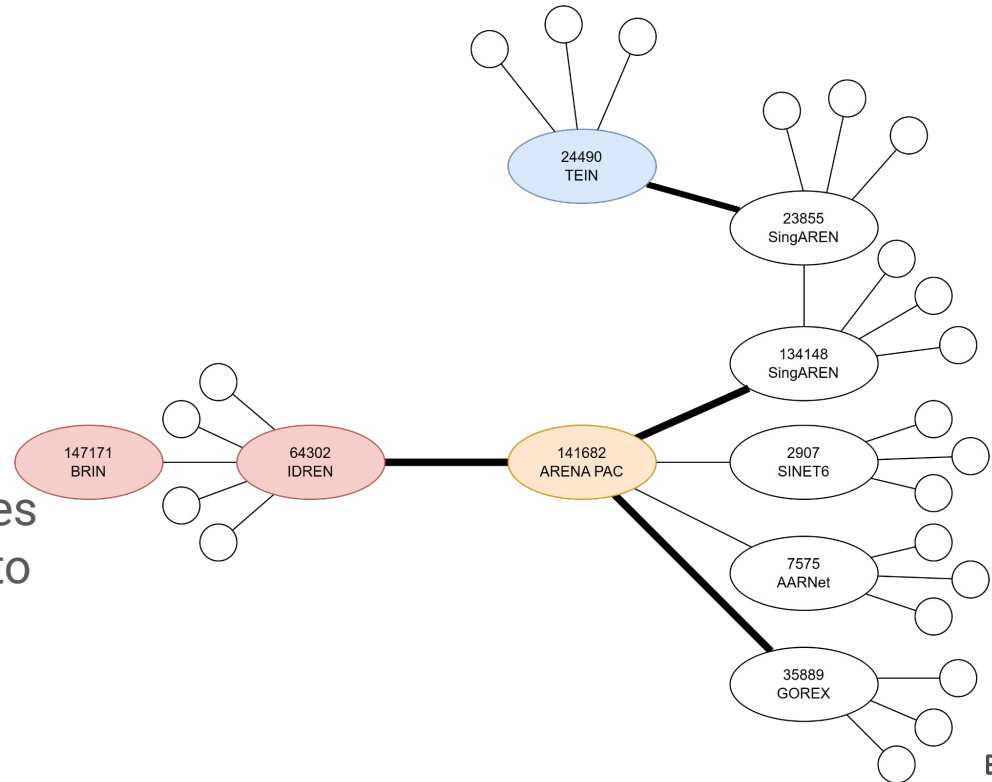- received 18.000+ prefixes

# Connectivity ( after July 2023 )

IdREN (as of now)
- 100 Gbps to ARENA-PAC
- advertises 100+ prefixes
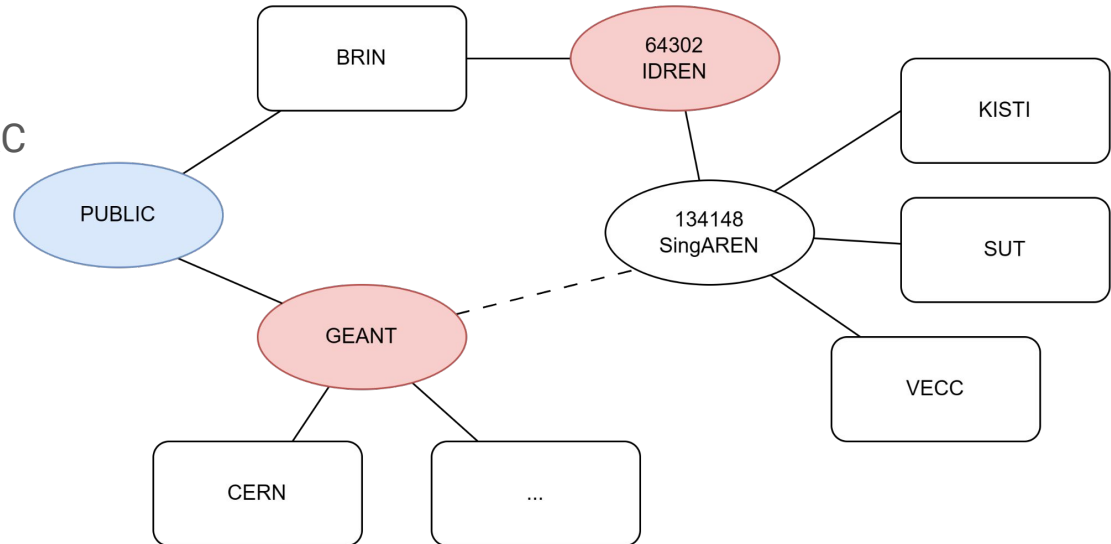- received 8.000+ prefixes (10.000 less prefixes than before)

BRIN (as of now):
- though IdREN to Asia VOBoxes
- though commercial network to outside Asia

# Connectivity

- Asia's RENs are advertised by SingAREN to ARENA-PAC
- Other RENs are not advertised by SingAREN or SINET to ARENA-PAC

# Next for ALICE Grid @HPC BRIN

- Add more worker nodes
- Storage (EOS) configuration
  - Have problem with EOS Configuration when using FQDN (mgm?)

    ```
    error: errc=3010 msg="[ERROR] Error response: permission denied" (errc=3010)
    (Unknown error 3010)
    ```
  - Frequent errors

    ```
    ERROR: ld.so: object '/usr/lib64/libjemalloc.so.1' from LD_PRELOAD cannot be
    preloaded (cannot open shared object file): ignored.
    ```

    Can one just

    ```
    # ln -s /usr/lib64/libjemalloc.so.1 /usr/lib64/libjemalloc.so
    ```

- Serves storage and analytics jobs
- Implements server monitoring system

# Problems

- Uncoordinated power outages
- Bureaucratic network managements

# Thank You