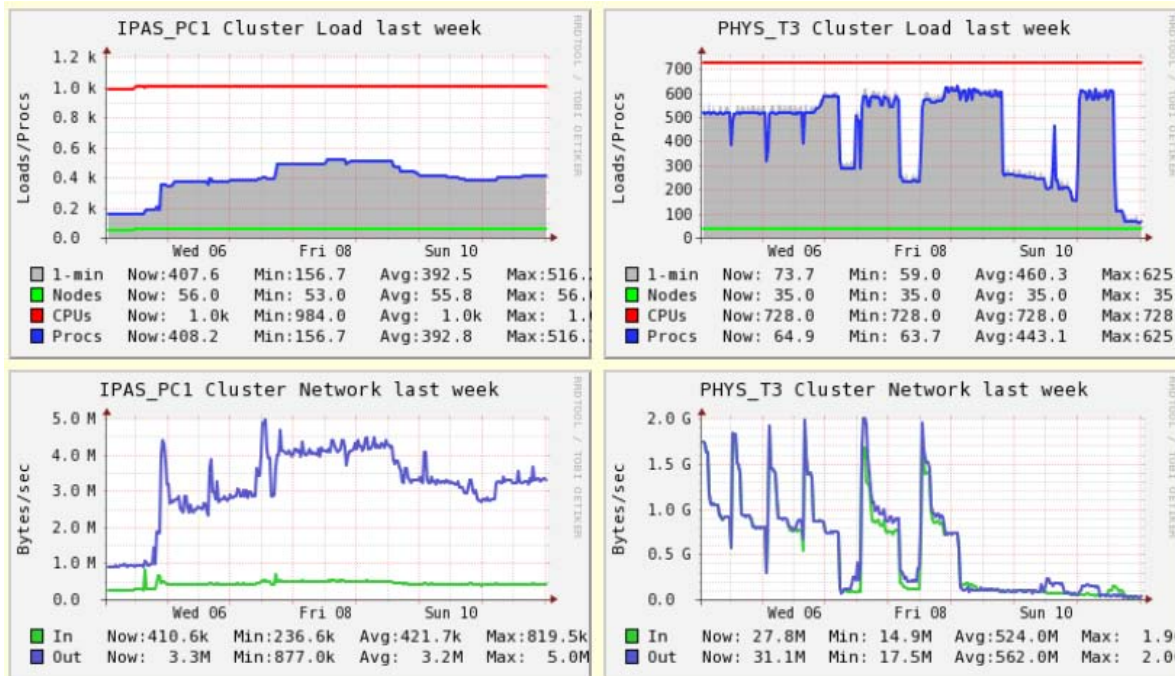


# Distributed Computing @IPAS Taipei for CEPC

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CEPC workshop

<https://hpc.phys.sinica.edu.tw/ganglia/>

# Facility @IPAS configured for CEPC

## Two Condors configured for CEPC:

- IPAS\_PC1
- PHYS T3

## Work-Node Environment:

- AUTOFS Service and CVMFS
- Singularity version 3.2.1-1.1.el7

```
CVMFS_REPOSITORIES=  
atlas.cern.ch,atlas-condb.cern.ch,cepc.ihep.ac.cn
```

```
[root@node176 ~]# cvmfs_config probe  
Probing /cvmfs/atlas.cern.ch... OK  
Probing /cvmfs/atlas-condb.cern.ch... OK  
Probing /cvmfs/cepc.ihep.ac.cn... OK
```

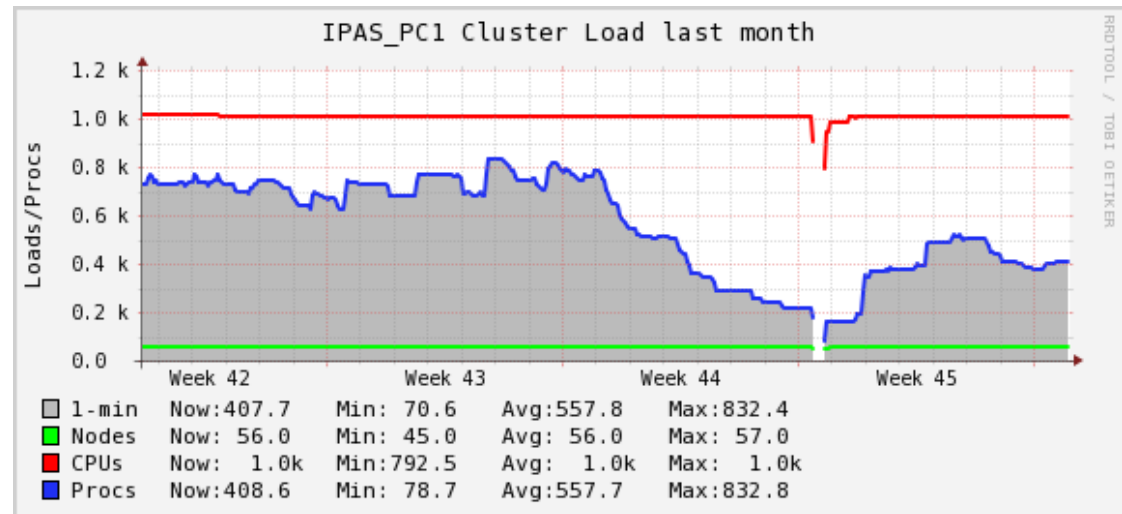
# Cluster : IPAS\_PC1

Nodes	CPU Per node	Memory	Memory/node	Core
16	Xeon Gold 6130 16 Core x 2 1U<2yr	96 GB	3 GB per node	512
4	E5-2686 V4 2.3Ghz 18 Core x 2 2U<3yr	128 GB	3.5 GB per node	144
5	Xeon X5690 3.46GHz 6 Core x 2 blade ~6yr	24 GB	2 GB per node	192
28	Xeon X5345 4corex2 blade ~10yr cold	15 GB	2GB per node	x

- Total Computing Nodes : 35
- Total CPU Core : 848 (on Condor)
- Network : 10 G SFP+ Ethernet
- OS : CentOS 7 with Singularity
- HTCondor Scheduler
- Job type: Single Job, Parallel Job

## Storage

- Home directory: 12TB, usage 28.3%
- Scratch: 48TB
- File System: NFS, CVMFS



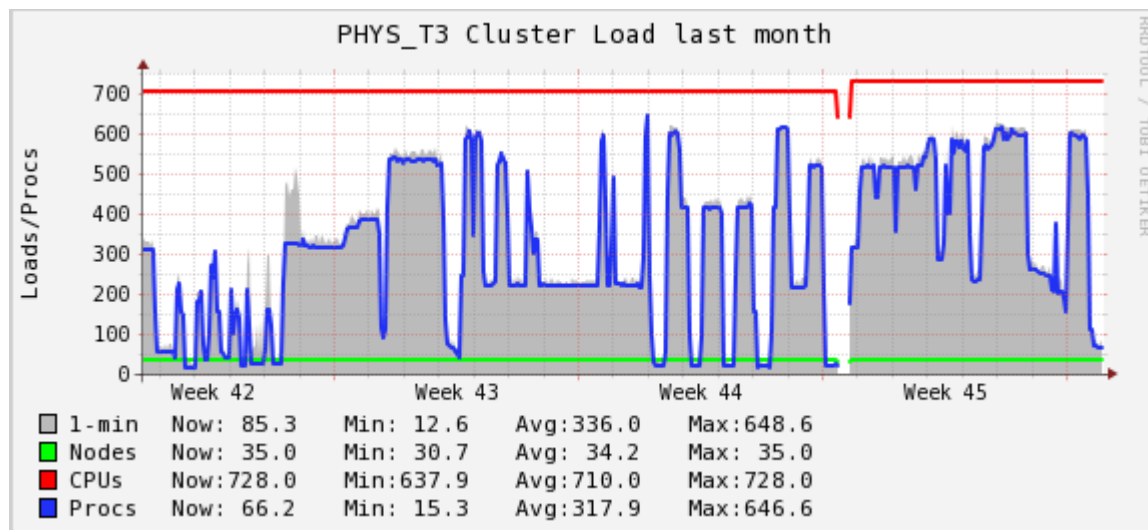
# Cluster : PHYS T3

Nodes	CPU Processor	Memory	Memory/node	Core
31	2650L V2,1.7GHz, 10 core x 2 ~5yr	96GB	4.8GB	620

- Total Computing Nodes : 31
- **Total CPU Core : 620**
- Network: Infiniband QDR 40Gb/s
- **OS : Scientific Linux for CERN 6**
- HTCondor Scheduler
- **Job type : Single Job, Parallel JOB**

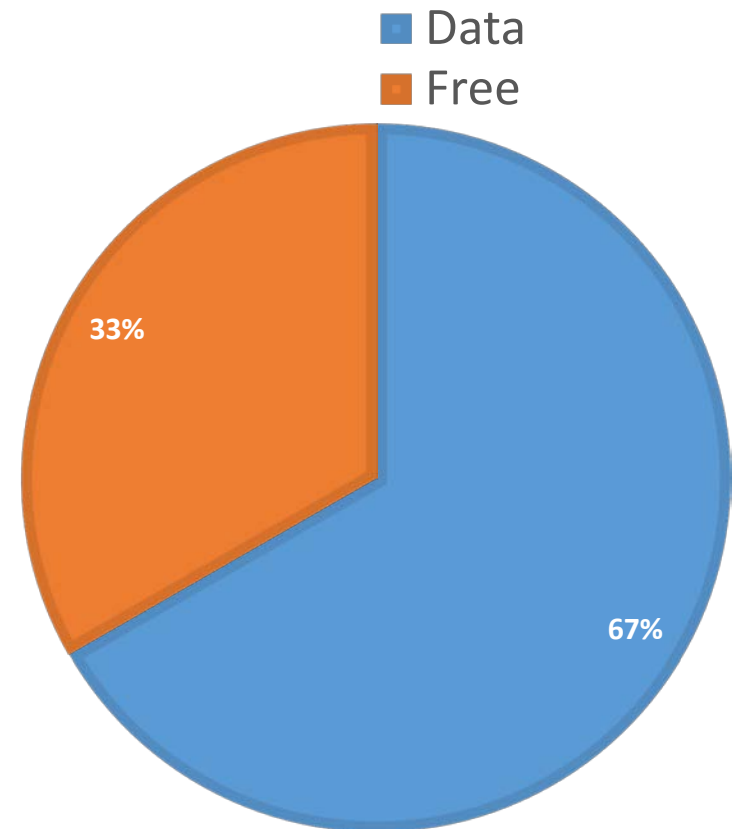
## Storage

- Home directory: 48 TB, usage 93%
- **Scratch: 48 TB**
- File System: NFS, CVMFS



# Storage for public usage

- T3 storage:
  - Total **384 TB**, usage 61.3%
  - Network: Infiniband QDR, Ethernet 10G SFP+
- Data1 server: Total **76 TB**, usage 99%
  - Network: Ethernet 10G SFP+
- Pui05: Total **12 TB**, usage 28.3%
  - Network: Ethernet 10G SFP+



# IPAS distributed computing capacity

## IPAS user pattern:

- **Sequential jobs**, by a few power-users
- large number of submission, large bandwidth for data moving
- **Parallel computing**, users of material science, on CPU & local network

## IPAS bandwidth:

- **Tier-1 TW 10 Gbps** connected to **GRID** many routes → IHEP 202.122..
- Campus network for common users → TANET → IHEP

## Computing for CEPC:

- **HEP** computing capacity, for ATLAS and others  
demand drops after 13 TeV data
- Bandwidth to HongKong is NOT dedicated for CEPC data
  - ➔ **May increase CPU** usage of the current level
  - ➔ **Favoring low bandwidth** as of the present capacity