



# ASGC site report

Felix Lee

Academia Sinica Grid Computing Centre (ASGC),  
Taiwan

Castor workshop 2012



# Castor operation (Man power)

- Albert left.... (-1 FTE)
- New member in Storage operation: SyueYi Liao. (0.5FTE)
- Oracle DBA: Ookey Lai (0.5FTE)
- JhenWei
  - Part time Castor operation....
- Felix
  - Part time Castor operation, emergency problem solving.
- Still looking for dedicated person for Castor operation.



# Current Castor SW

- Starger, NS: 2.1.11-9
  - SRM: 2.11-0
  - Switch to Transfer manager since 2.1.11-5
  - It's running well so far.
    - If DB is working fine :)

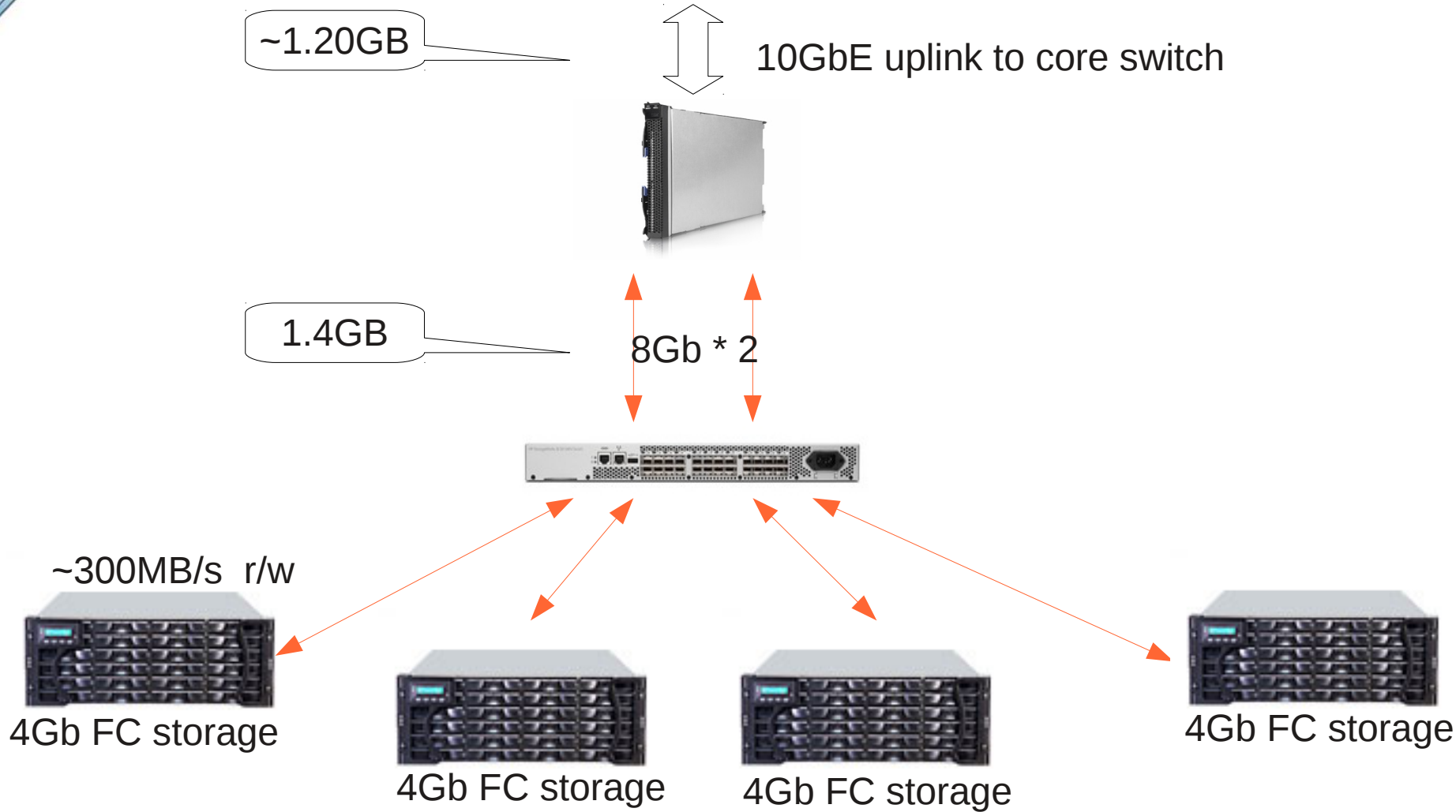


# Current Castor H/W configuration

- ~100 disk servers ->12 disk servers
  - 10GbE available.
  - Quad core system with 16GB memory.
  - Dual 8Gb FC to SAN switch
  - Each disk server manages over 100TB capacity
  - 1.5PB in total.
- 10 tape servers in production
  - Decommissioned 14 old tape servers due to out of warranty.
    - Installing new tape servers.
  - 30 LTO4 drives.
  - ~3.87PB (~130TB not yet installed)

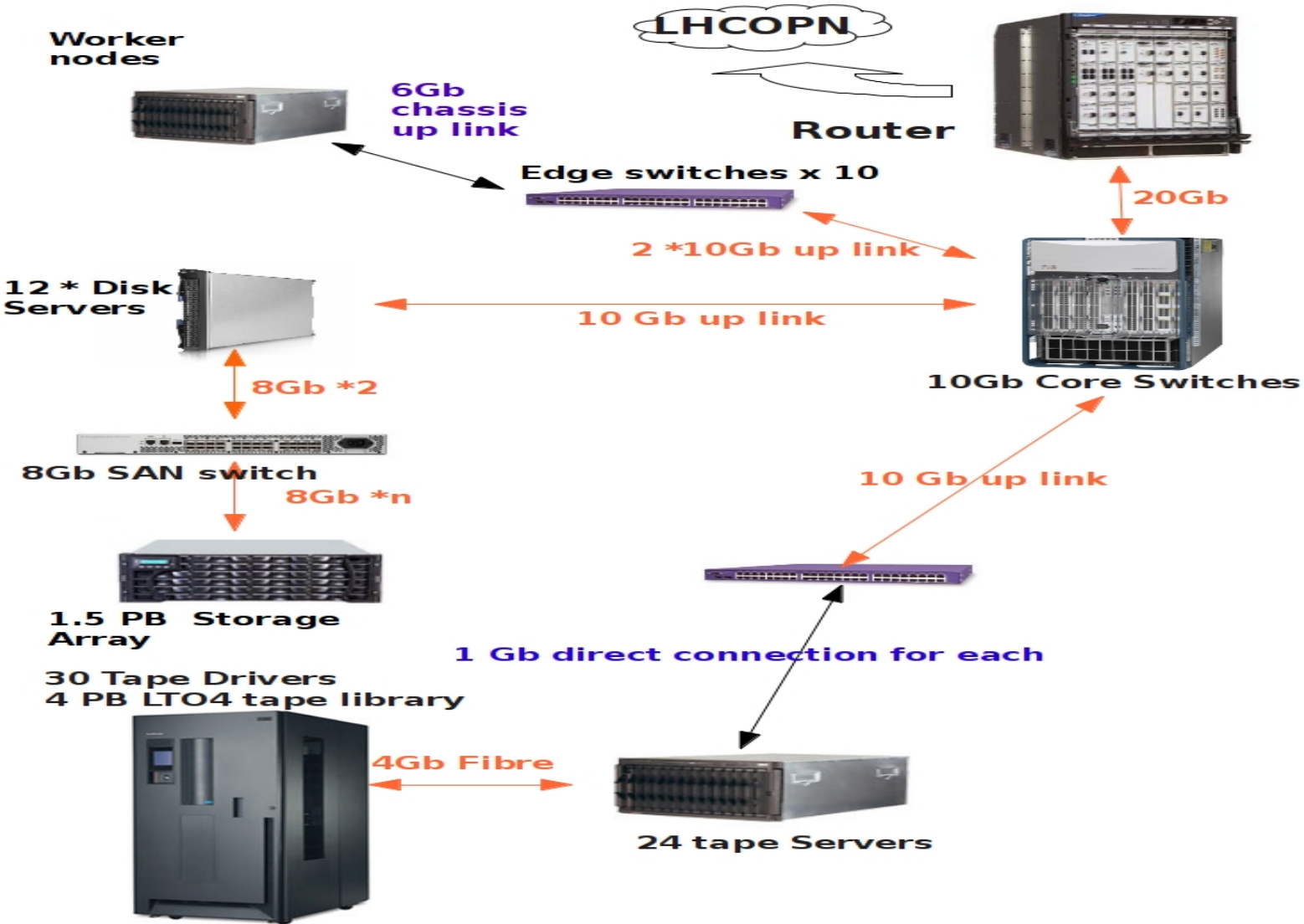


# Castor H/W configuration



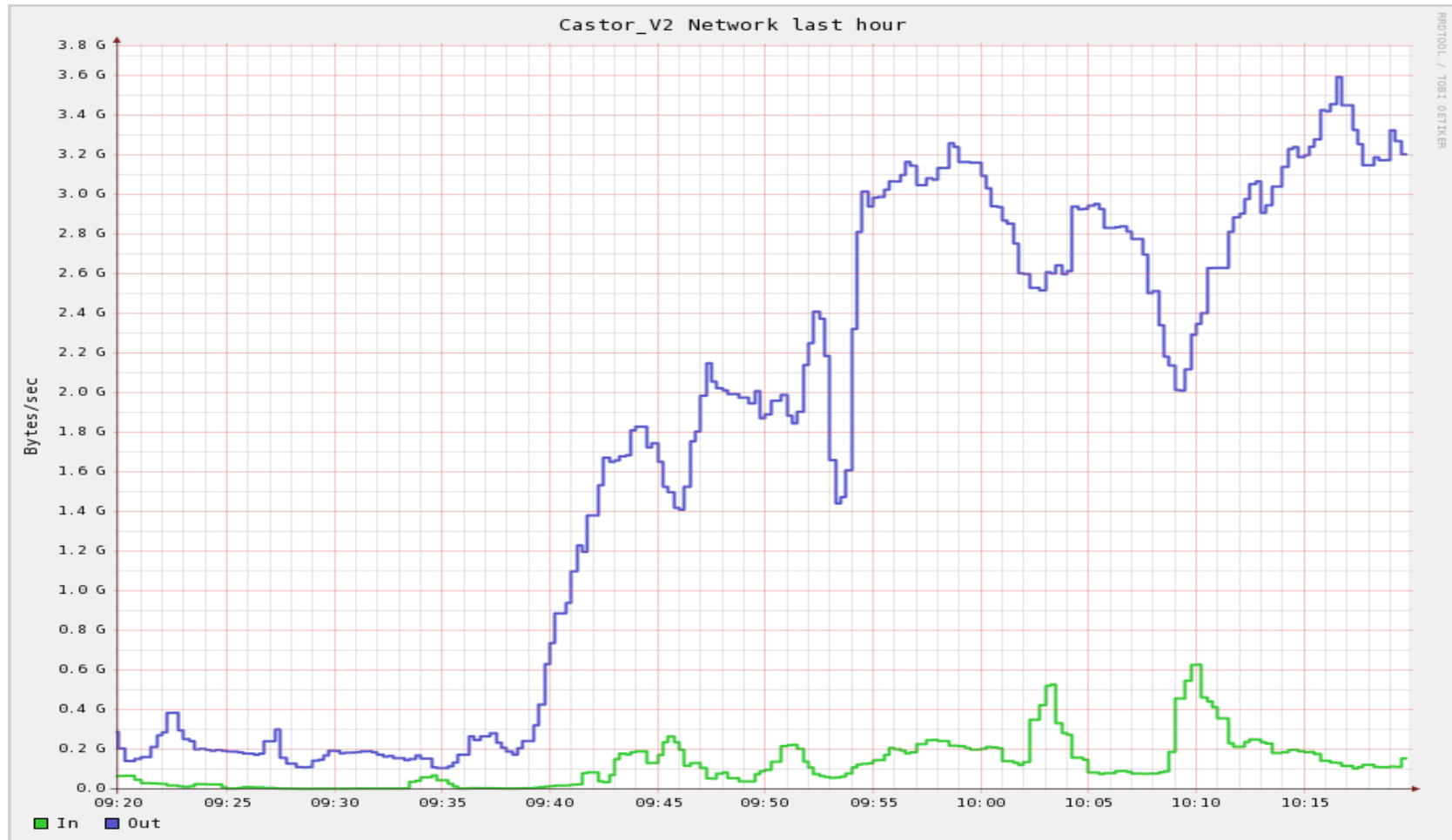


# Castor conf. network





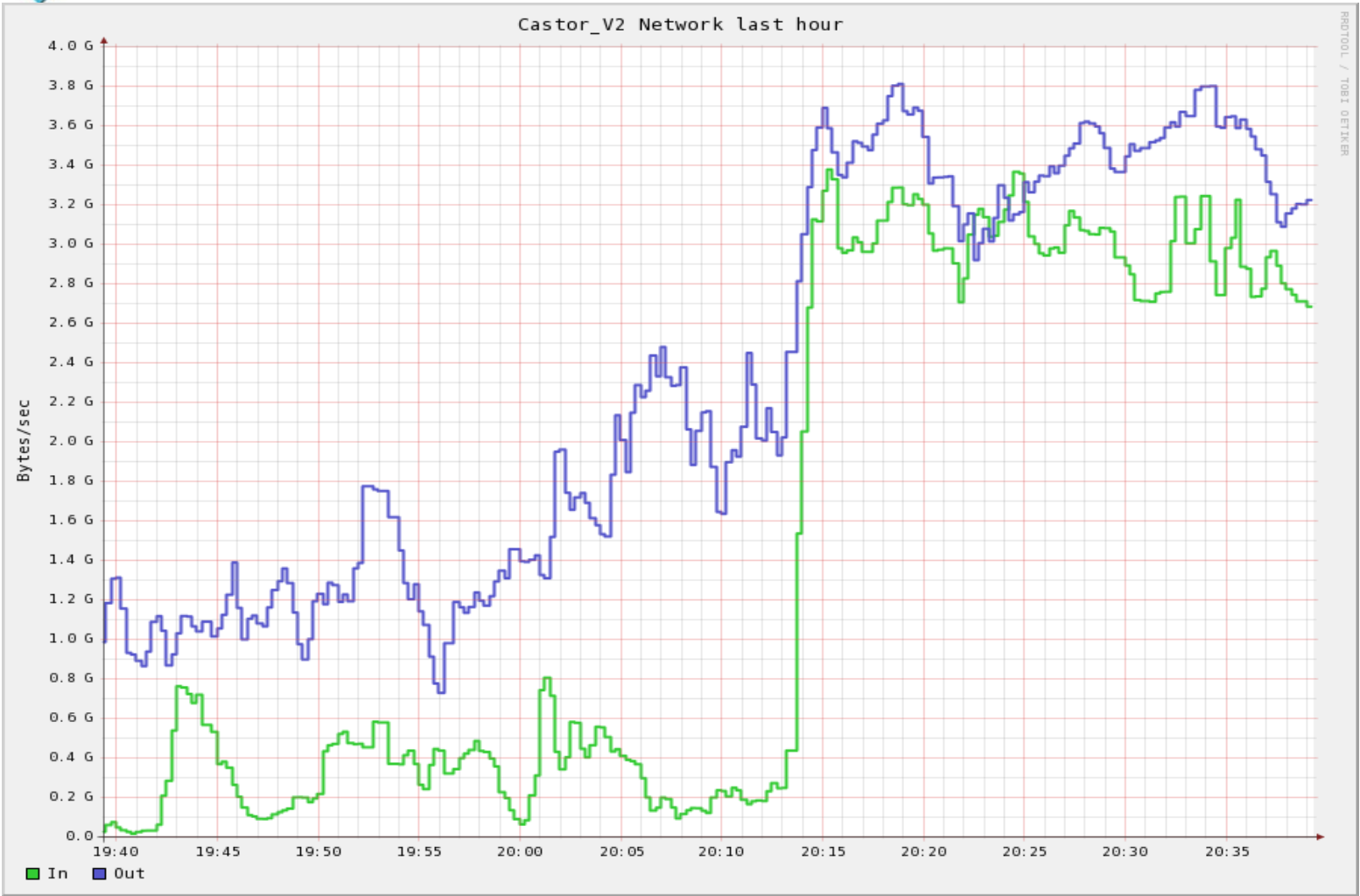
# Network throughput



## RFIO remote access Job



# Network throughput



## Disk to disk copy



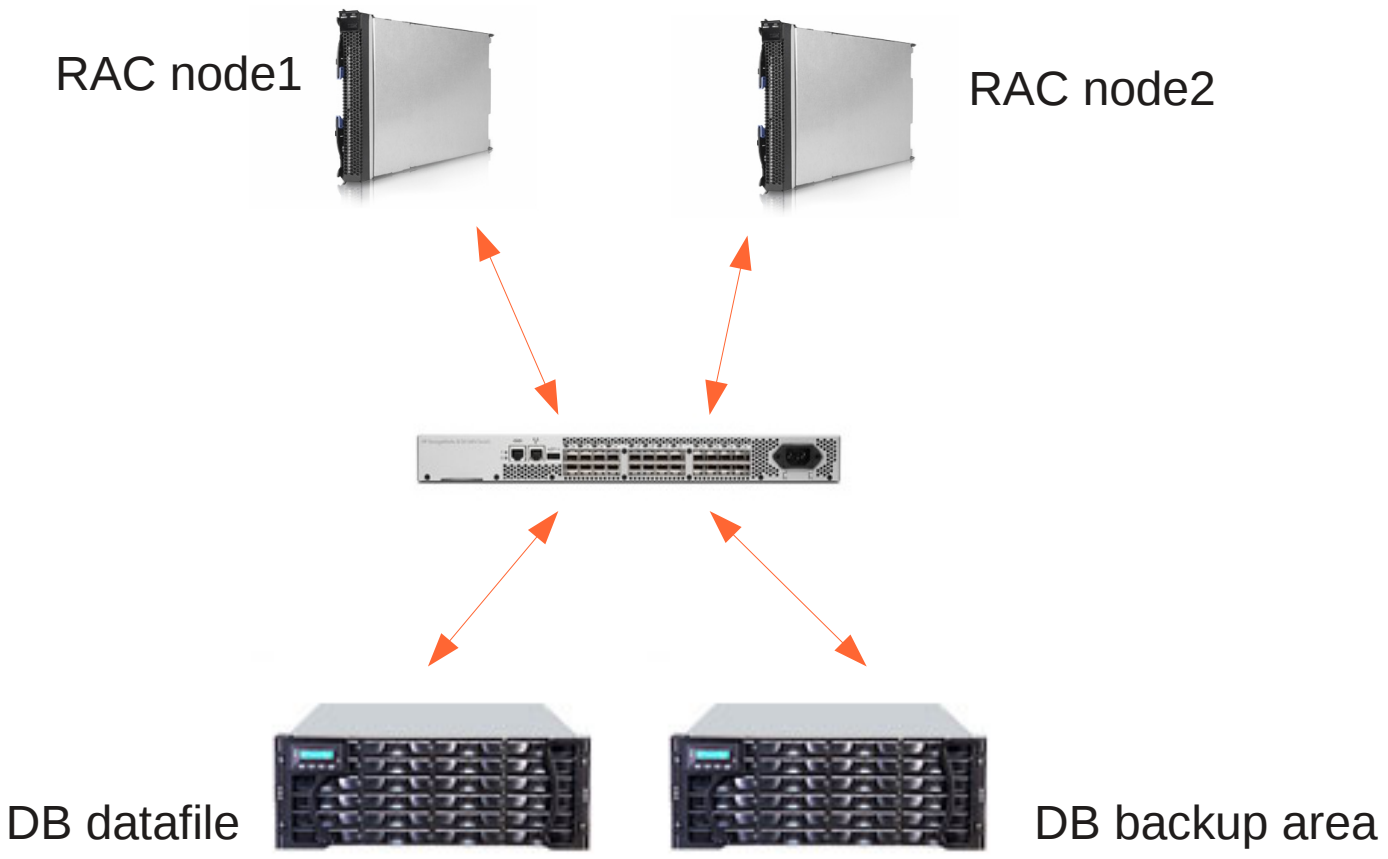


# DB issue

- It failed from time to time..
- Recover it from time to time.
- Most of them were H/W error.

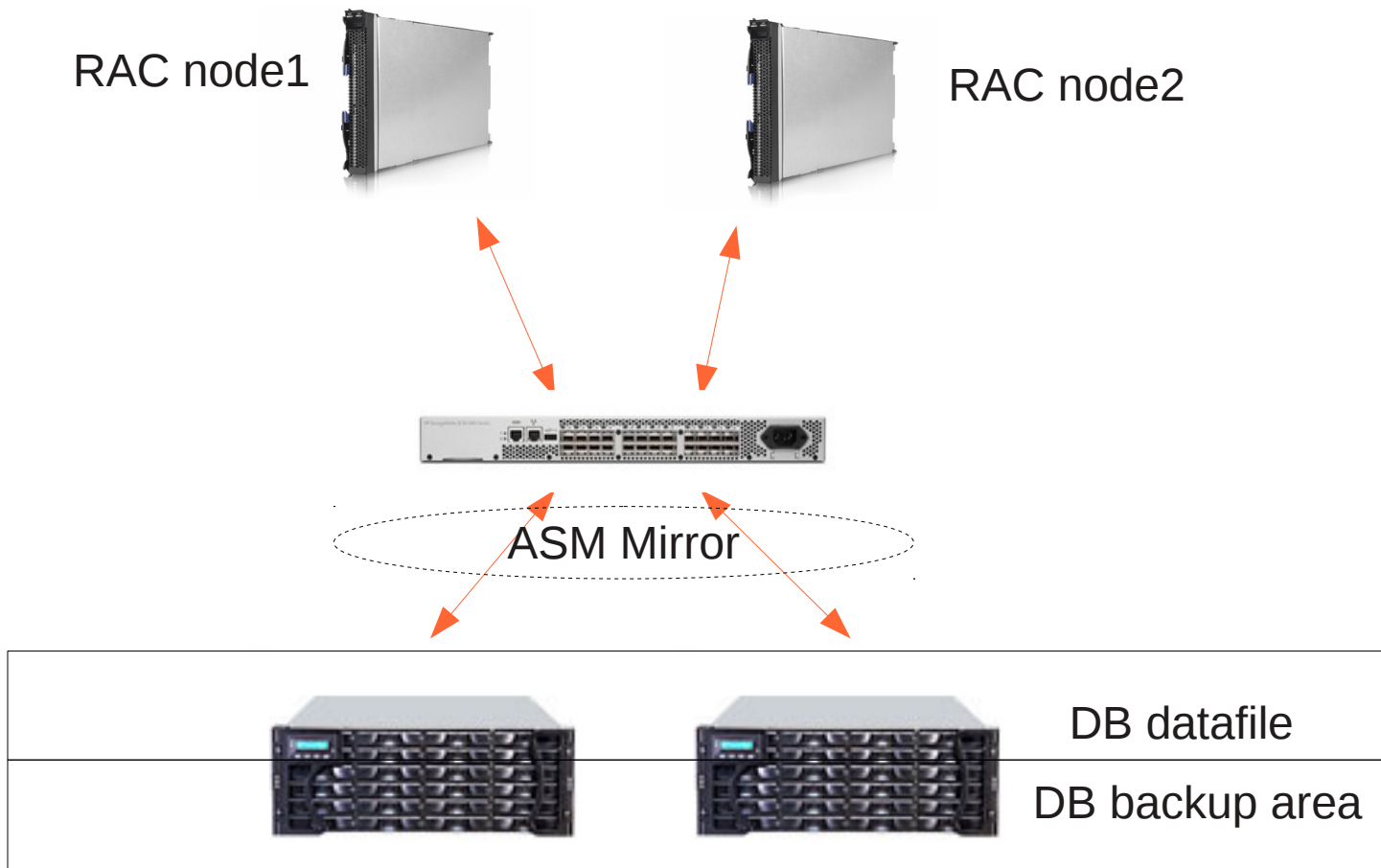


# Castor DB re-configuration (before)





# Castor DB re-configuration (After)





# Castor upgrade plan

- Current version: 2.1.11-9
- Target version: 2.1.13-5 (at least)
- Need to upgrade Oracle instance first
  - 10G -> 11G
  - On its way...
- Will be postponed maybe after CERN close.
- We will upgrade tape server first in order to fix bug for IBM tape library.
  - It is coming with new tape server deployment.



# Issues/questions with Castor

- No man...
- Rebalancing?
  - Now, we do it by moving data between different pools or from tape.
- Oracle DB operation is very important for Castor.
  - But hiring an certified/well-trained Oracle DB expert is very hard in Taiwan....
  - Training an Oracle DB operator is also expensive..
  - Oracle DB operation is still a big overhead for us...
- Will we have new generation of Castor? or maybe consider to change DB backend?