ICRB meeting

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A Plan for DCAF in Korea

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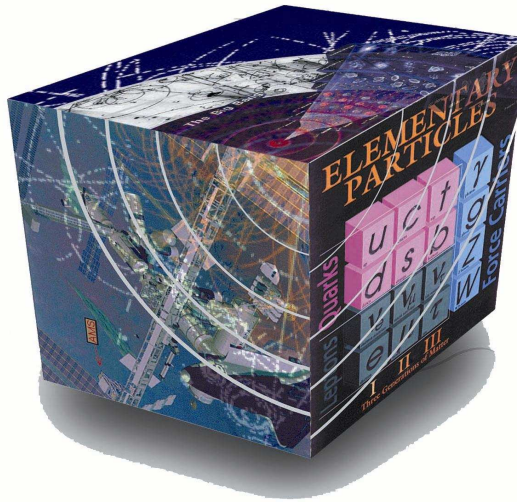

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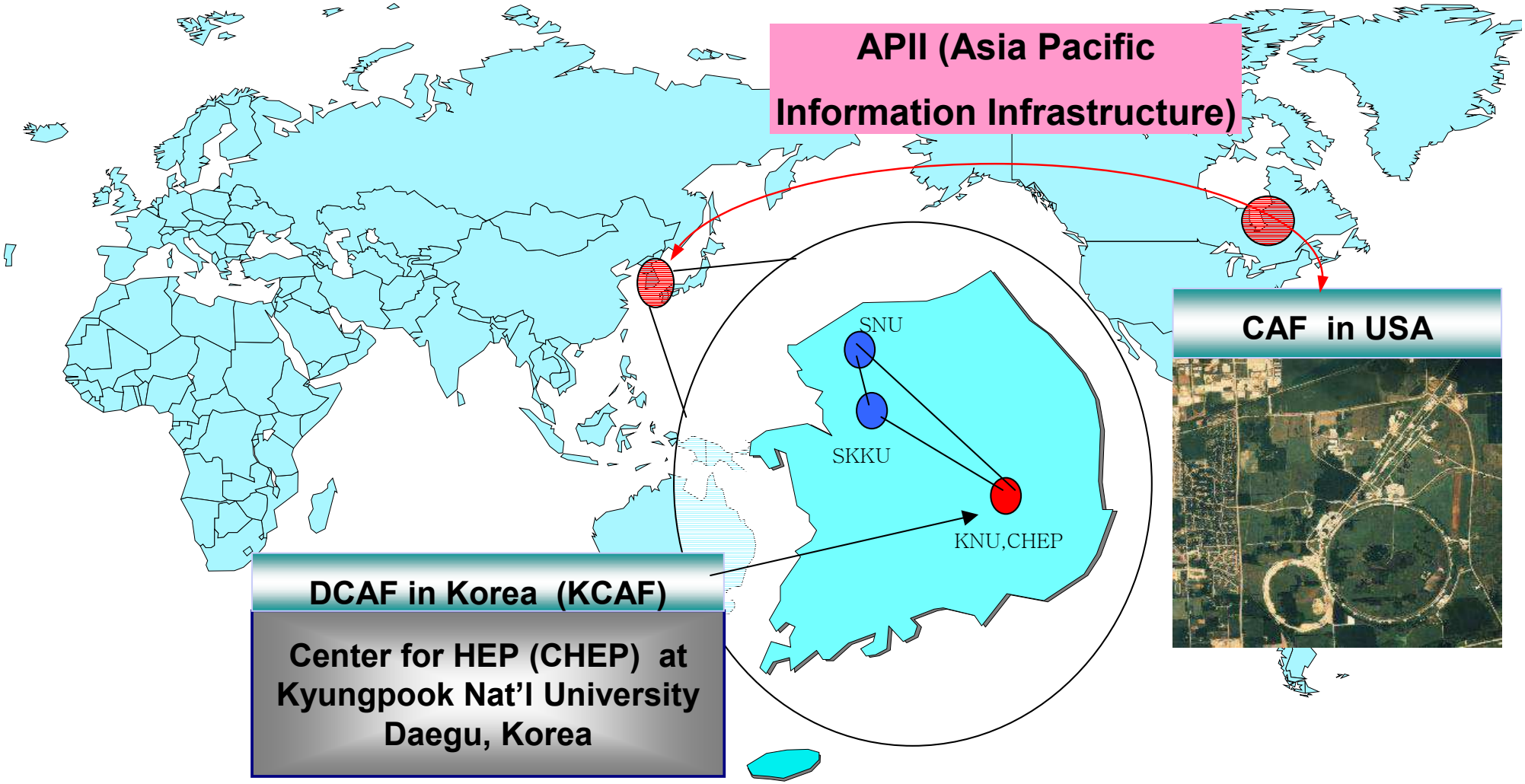
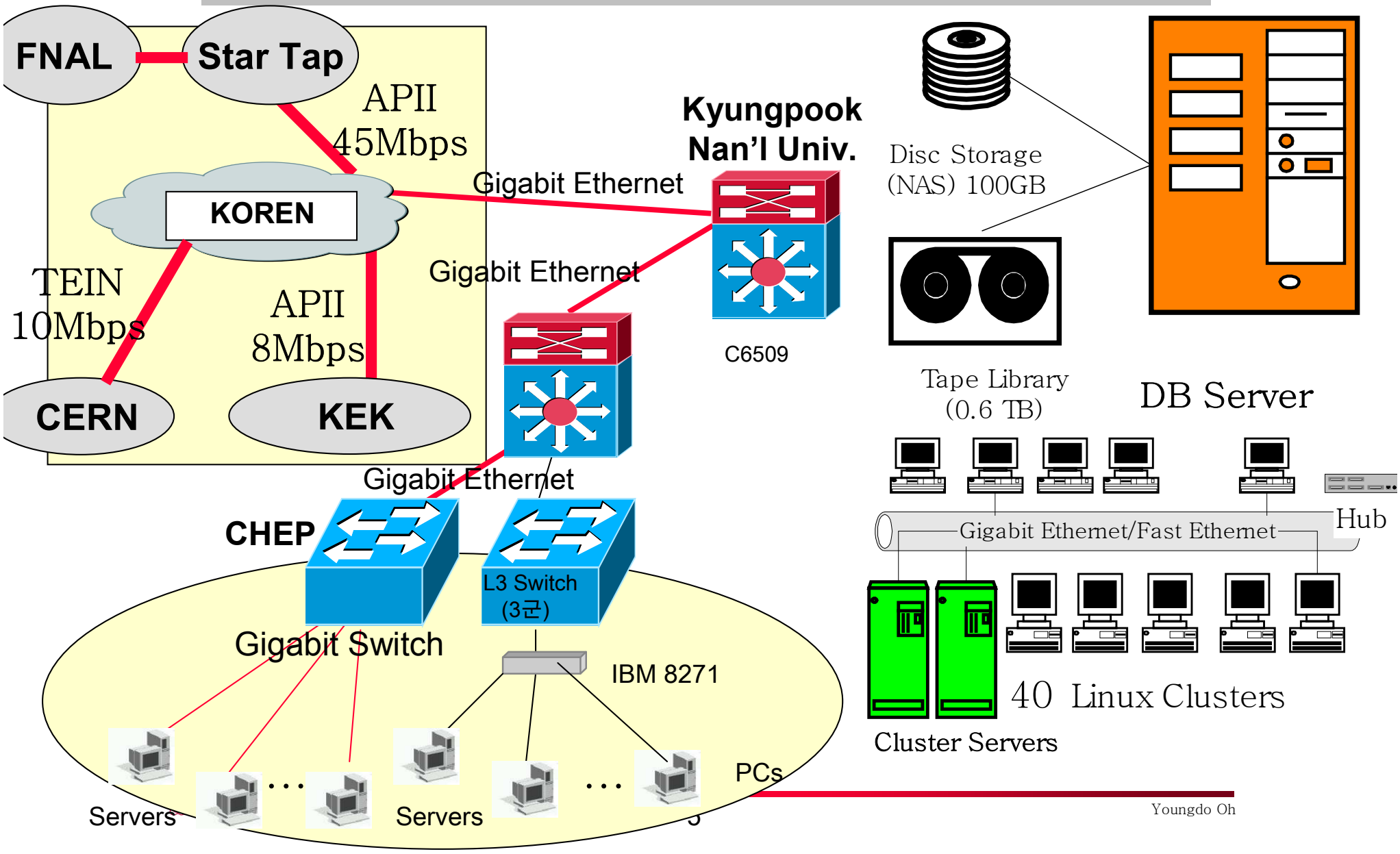
Why DCAF/Grid in future?

- CAF (Central Analysis Farm)
  - Limited resources and spaces at FCC
  - At Run IIb, data size is 6 times more than now.
  - In case of network problems at FCC
- DCAF
  - Users around regional area and/or around the world
  - Korea, Toronto, Karstrule, ….
- Call DCAF in Korea as “KCAF”
  - clone of CAF

Where is KCAF?



Current Network between CHEP and FNAL, CERN , KEK



Man Power

- Center for High Energy Physics (CHEP) at Kyungpook National University (KNU)
  - Kihyeon Cho : Research Professor
  - Youngdo Oh : Post-doc
    - Install CDF software and CAF related program
  - Jaeyoung Lee : Computer engineer
    - System management
  - Eunjeong Son : Graduate Student
    - Run CAF, MC production, SAM
  - DongHee Kim : Advisory
- Seoul National University (SNU)
  - Bockjoo Kim : Advisory

Resources

%% black resources : currenlty we have
%% red resources : we will have by the end of this year

- CPU : **43 CPU (1.7 GHz)** + **94CPU(47 AMD MP2000 dual)**
  CDF will have 40 AMD CPUs (~30%)

- HDD
  - Total Local IDE HDD : **3Tbyte** + **3Tbyte**
  - Storage : **100Gbyte Raid + 600 Gbyte Tape library** +
    a few ten TB (under nigotiation with company)

- Network
  - CHEP ----- KNU ---- KOREN ---- Star tap ---- Fermilab
    1Gbps 1 Gbps 45Mbps

- The actual network performance between CHEP and FNAL
  - Average : 3~5 Mbps (30~50 Gbyte/day)
  - Peak : 8Mbps

Resources in the future

- CPU : ~100 CPU each year
- Storage : 100TB disk in 5 years
- CDF will use ~30% of resources.
  ~70% : CMS and other experiment which Korean institutes are doing

Step for Goal of KCAF

- Step 1. To make MC production using KCAF (by 2002.12)
  - First, we start to construct 12 CPU test-bed for KCAF in September. Then, 40 CPUs by the end of this year.
  - User : local user in Korea, CDF member
  - Need to find a solution for Kerberos security outside Fermilab

- Step 2. To handle real data (by 2002.12)
  - To extend the KCAF to the real data handling system using **SAM**, Gridftp, etc after settling down real data handling system.

- Step 3. Final goal of CDF Grid (2003 ~)
  - A gridification for KCAF as CDF Grid
    reference : EUDG, iVDGL

Road Map

1. Software
   - CDF Software
   - FBSNG for batch job
2. Security
   - Korean site have to be Kerberos server
   - But, should it be the same Kerberos with Fermilab or not?
3. Data Handling System
   - Glasgow, Italy and Yale use Data Handling System.
   - SAM station needs to be installed on 1 PC work node.
4. We have experience of EUDG.
5. Fundamental licence problem of database

Conclusions

- Grid is one of world trend at High Energy Physics. Someday we should use it even CDF.
- At the first step, DCAF is recommendable.
- DCAF outside US can be available for MC production.
- We can participate to develop and test CDF Grid.