Status of Japan

Akira Ukawa

- ☐ configuration
  people/machine
- ☐ physics program
  on-going program/future plans
- ☐ configuration data and ILDG

HEPNet-J/sc: backbone for LQCD in Japan

SuperSINET
 10Gbps backbone
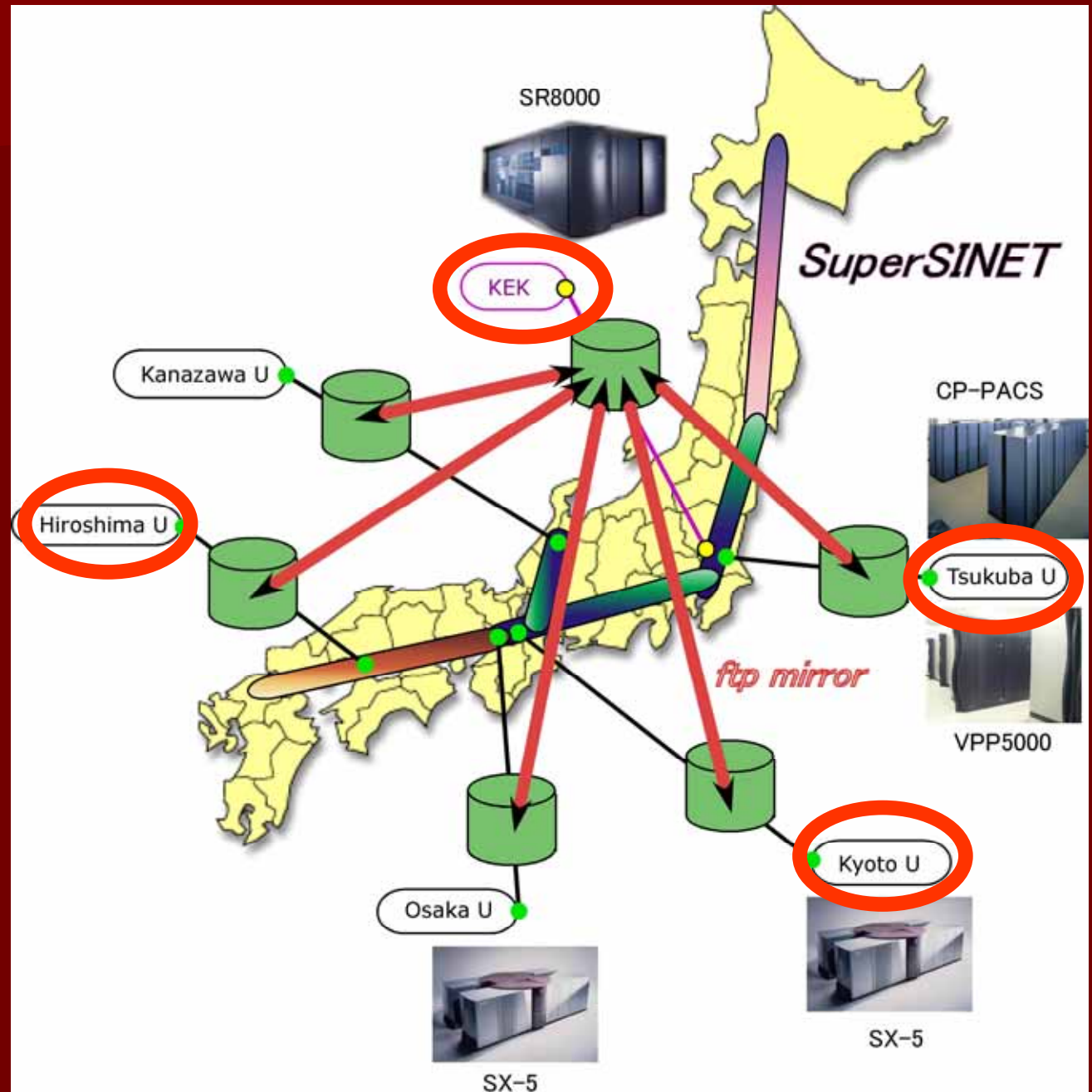 1Gbps dedicated link
   between major LQCD
   sites

JLQCD/CP-PACS
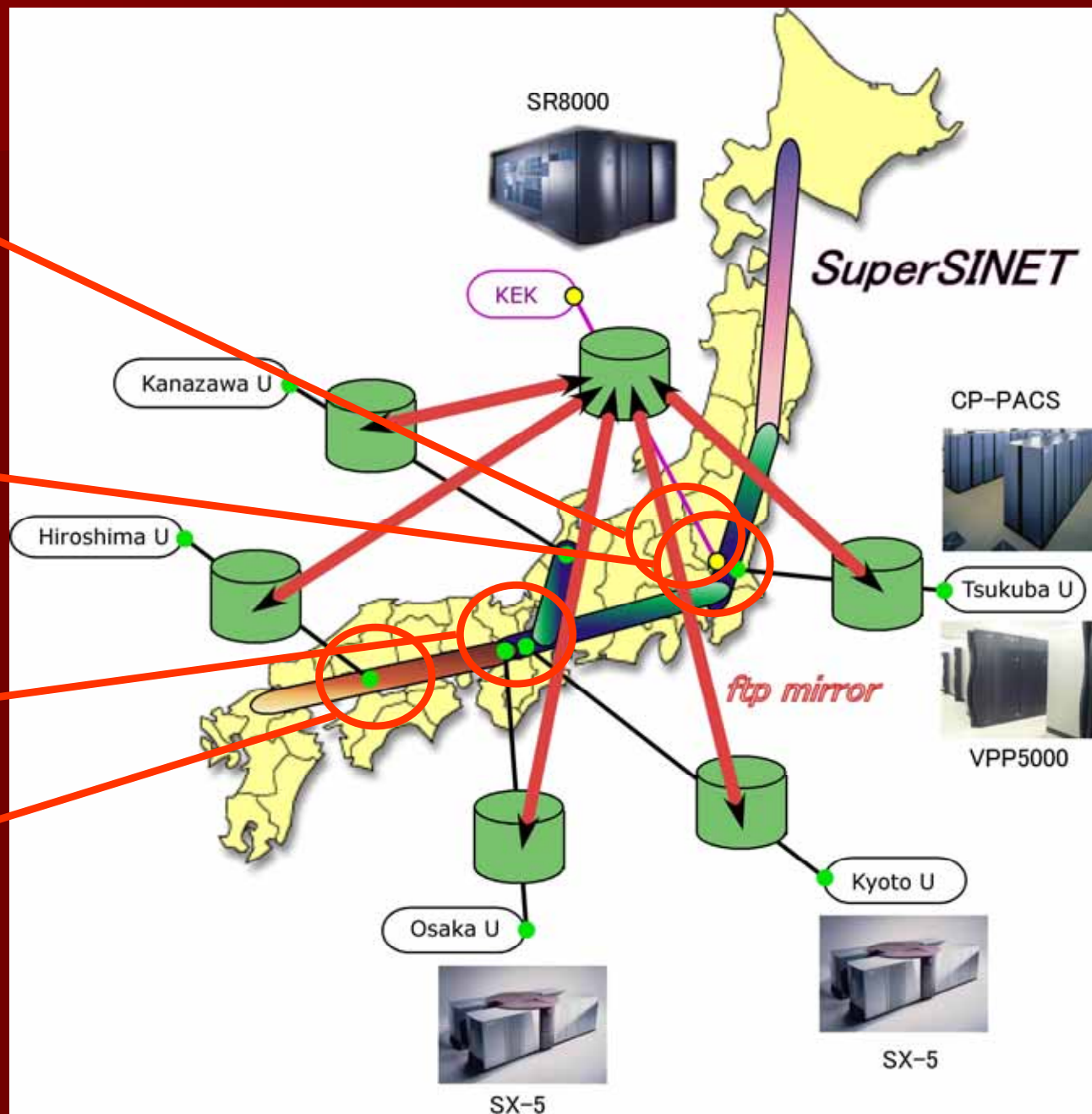 KEK
 Univ of Tsukuba
 Kyoto Univ/RIFP
 Hiroshima Univ

JLQCD/CP-PACS Collaboration:people

KEK/JLQCD
Yamada
Matsufuru
Hashimoto

Tsukuba/CP-PACS
Ishikawa T.
Taniguchi
Kuramashi
Ishizuka
Aoki
Yoshie
Kanaya
Ukawa
Iwasaki

Kyoto
Onogi

Hiroshima
Ishikawa K.
Okawa

JLQCD/CP-PACS Collaboration:machines
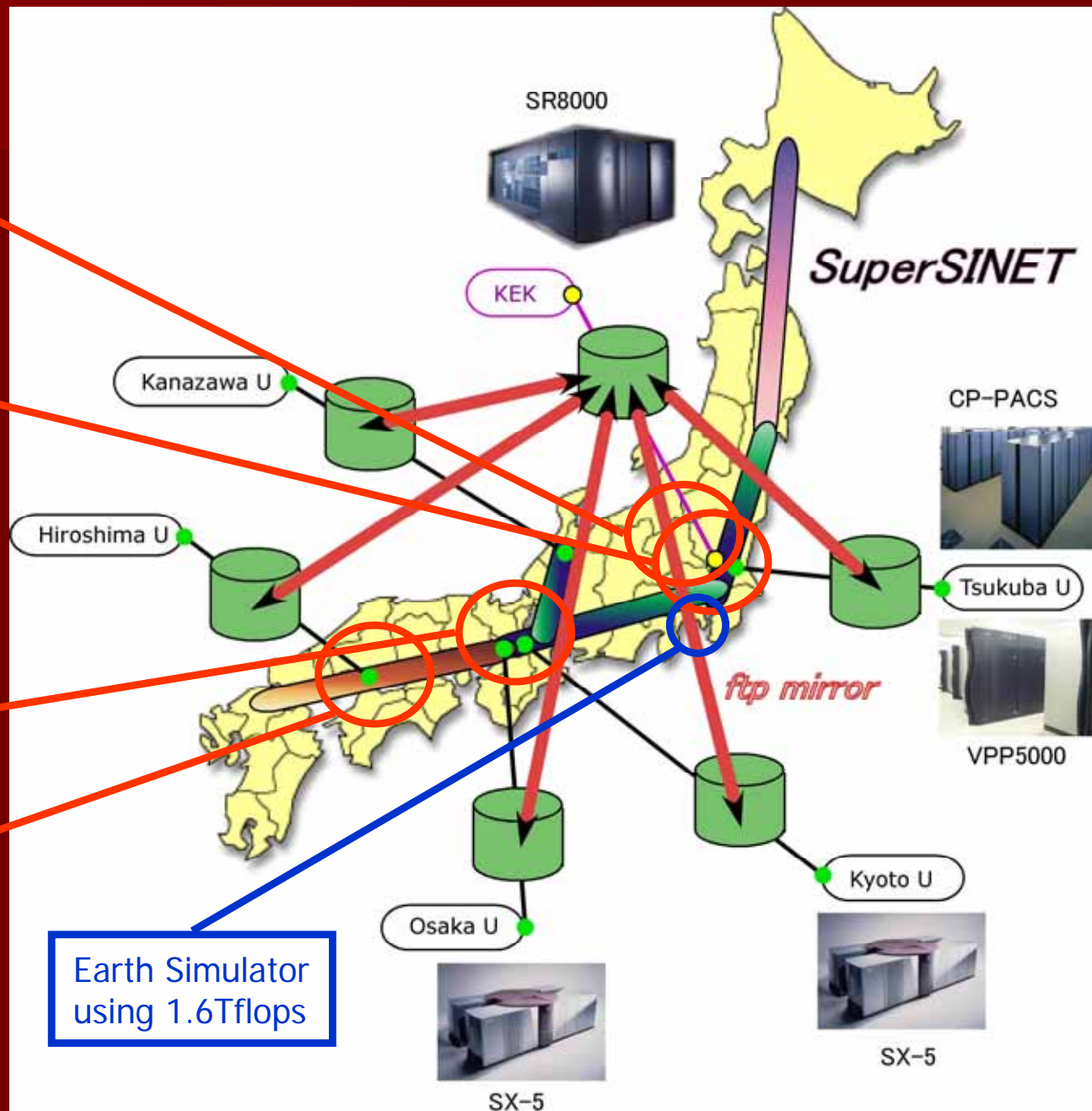
KEK/JLQCD

SR8000   1.2Tflops

upgrade in progress

        10-20Tflops (early 2006)

Tsukuba

Cent. for Comp. Sciences/CP-PACS
CP-PACS   0.6Tflops
Funding for replacement

requested for FY2005
Cent. for Acad. Comp. Network.
VPP5000   0.7Tflops
upgrade due
        10-20Tflops? (early 2007)

Kyoto

Hiroshima

Earth Simulator
using 1.6Tflops

Physics program

Ongoing program: Nf=2+1 QCD with RG-glue and clover-Wilson quark

- NP O(a^2) improved quark action

▫ 2 fm lattice	16^3x32	20^3x40	28^3x56
▫ 3 lattice spacings	0.122fm	0.101fm	0.082fm
▫ statistics	5000	8000	generating
▫ machines	CP-PACS/VPP	ES/SR8K	ES/SR8K

- ud mass in the range m_pi/m_rho=0.6-0.8
    s mass at 2 sandwitching values
        Report of ILDG-related activities
- will continue with current list of machines through FY2005;
    likely finish at the end of March 2006

Next program
- improvement to lower the ud quark mass
    Testing Luescher's domain-decomposed HMC (hep-lat/0409106)
- domain wall/overlap ?
- something else?

Configuration data and ILDG

- CP-PACS Nf=2 configurations : 2TB
  - already released
  - RG glue + tadpole-improved clover-Wilson
  - 2.4fm lattice/3 lattice spacings 0.1-0.2fm/m_pi/m_rho=0.8-0.6
- JLQCD Nf=2 configrations :   2TB
  - released soon (just a matter of work)
  - plaquette + NP O(a)-improved clover-Wilson
  - 2fm lattice/single lattice spacing 0.1fm
- CP-PACS/JLQCD Nf=2+1 configurations :
  - will be released/date yet to be decided
  - RG glue + NP O(a)-improved clover-Wilson
  - 2.0fm lattice/3 lattice spacings 0.12-0.08fm/m_pi/m_rho=0.8-0.6

Lattice QCD Archive at CCS

http://www.lqa.rccp.tsukuba.ac.jp/

- Set up and maintained by CCS
- Open to LQCD community (registration required)
- Provides the full set of CP-PACS Nf=2 configurations
- Official opening at February 2004
- Additional configurations expected in future