A Proposal of Cyber Learning WG

for Computational Science and Engineering Educati on on Cyberinfrastructure

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Cyber Learning Working Group

- **Definition**
  - Web based on-line education open system for computational science & engineering(including HPC)
  - to provide user-oriented learning environment as well as let researchers solve out the dedicated domain problems through collaborations.
  - for this purpose, Cyber Learning WG utilizes computational resources a nd services such as supercomputing middleware, SaaS(Software as a Service) on cloud computing platform with core collaborations of other WGs.

- **Expected Contributions**
  - Offering web-based open platform for education and research in comput ational science and engineering disciplines
  - Promoting collaboration between different science domains
  - Providing Web based convenient/efficient educational & research syste m to both student and researchers in distributed environments

Objectives

- ❖ Providing cyber education & research environments in computational science
- ❖ Utilizing Computing resources & services in PRAGMA community
- ❖ Promoting to develop & utilize various activities through global collaborations

GOAL

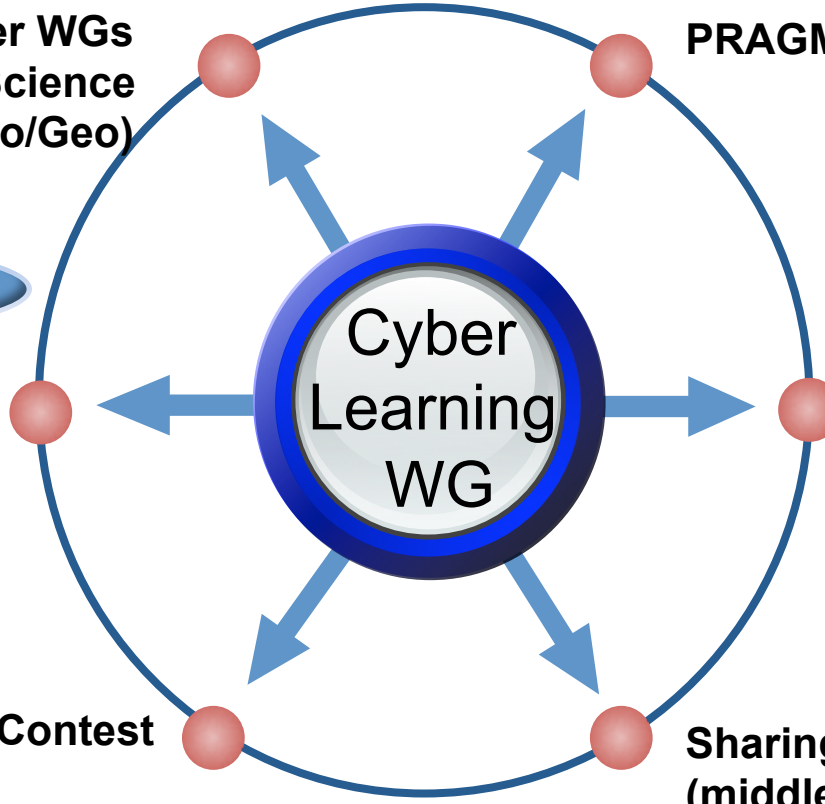
- ❖ Development of open platform for CL and education/research SW
- ❖ Establishment of international CL communities and connections to higher education
- ❖ Construction of collaboration channels amongst PRAGMA WG

Collaborations

Other WGs
(Resource/Tele-Science
Bio/Geo)

Activities

Education/Research,
SW development,
CSE/HPC Education,
Outreach program



PRAGMA Community

Web based Portal Service

Workshop/Seminar/Contest

Sharing Computing Resource
(middleware/SaaS/Cloud Computing)

Related Projects(Institution)

EDISON(Education-research Integration through Simulation On the Net)

Platform SW | CFD | Computational Chemistry | Computational Nano Science

NCHC

M*Grid

KU KONKUK UNIVERSITY | KMU

Portal Framework | Molecular Dynamics

SAPIENTIA·ET·VIRTUS

Nimrod/G

DISTRIBUTED SYSTEMS TECHNOLOGY CENTRE | MONASH UNIVERSITY

nanoHUB online simulation and more

What we can do work?

1. Education service for under/graduate student
   - Portal service for specific areas (e.g. computational science and engineering, disaster mngt, distance learning and etc)
2. R&D of Middleware for Cyber Learning
   - Development and sharing user driven SWs for computing and data intensive applications (e.g. Framework, cloud computing technology, and etc)
3. R&D of Computational SWs and Contents for CL
   - Development of simulation tools(e.g chemistry, CFD, and etc)
   - Uploading and sharing of higher educational digital contents(e.g. video clips, tutorials, course materials(ppt, pdf files), experimental data and etc)

What we can do work?

4. Supercomputing related works

- Provision of HPC education (e.g MIC and heterogeneous computing sc hool)
- Provision of Virtual school for HPC education

5. Dissemination and collaboration with other WGs

- Provision of PRAGMA CLWG Joint workshop, Seminar, Tutorial, etc
- Collaboration to expand supporting areas of Cyber Learning and users from various areas and institutes in PRAGMA community

What we can do work?

- Collaborations with other WGs
  - Resource WG:
    . Collaboration in supporting/providing (physical/virtual) computing resources
    . Utilizing of MW and cloud computing technologies
  - Tele-Science WG:
    . Collaboration in supporting/developing remote viz SW/systems for computing or data intensive results
    . Development of simulation SWs of Tele-science for CL
  - Bio & Geo WG:
    . Utilization of research results got from computational bio science or geo science
    . Development of simulation SWs of bio or geo science for CL

Welcome to Everyone !!

*** Time : 11:00 ~ 12:30**

(Working Group Breakout Session)

*** Meeting Place: Mobile Center 5th Floor@Build15**

1. Presentation
   - KISTI
   - KU
   - NCHC
   - AIT
   - etc
2. Discussion for the future work