

### Self Introduction: AIST and TITECH



- AIST National Institute of Advanced Industrial Science and Technology
  - A kind of national laboratory located at Tsukuba being 60 km away from Tokyo.
  - Japan's largest research organization with 3,200 employees.
  - has Grid Technology Research Center directed by Satoshi Sekiguchi (a GFSG member).
- TITECH Tokyo Institute of Technology
  - ▶ 1,700 staff and 10,000 students.
  - In TITECH, Prof. Satoshi Matsuoka (a GFSG member) is driving Grid researches powerfully. (ex. Building TITECH Grid)





## Asia Pacific Countries involved in AG



## Activities around Asia Pacific region

## Se Japan

► AIST, TITECH and Kyushu U. took part in SC Global 2001.

We planned and managed a panel discussion as a kick-off event of ApGrid.

The panel was titled "Can the Asia Pacific Grid Contribute to the Science and Technology".

The subject is focused on the characteristics of the AP region.

There are motivated participants from various countries.

 Australia, Japan, Korea, Taiwan, Thailand and US.

**ApGrid** (<u>www.apgrid.org</u>) is a partnership in the Asia Pacific region. It is initiated in the year 2000 and now consists of 41 organizations from 15 countries.

echnology

Center



ApGrid Panel in SC Global 2001 as viewed at AIST, Japan.





## Activities: Research and Business in Japan



Delivery Grid developed by Grid Research I nc. and AI ST



#### Japan (continued)

- JAERI (Japan Atomic Energy Research Institute) is operating their two rich AG nodes. RIKEN (The Institute of Physical and Chemical Research) also has nodes.
- TITECH has authorized a group of faculties to do educational researches with AG.
- A venture, Grid Research Inc. has been established with intellectual property of AIST. They are doing business with Grid Technology including AG in association with InSORS.
- An entertainment company will apply the AG technology to their business in cooperation with AIST. I (Kazuyuki) hope to demonstrate it in SC









#### Australia

Sydney VisLab (The U. of Sydney) built the Australia's 1<sup>st</sup> AG node in August of 2001.

@ http://www.vislab.usyd.edu.au/

e actively participated in SC Global events.

► There are several centers operating or building AG nodes.

 QUT (Queensland U. of Technology), JCU (James Cook U.), AARNet (Australian Academic and Research Network), ANU (Australian National U.) and VPAC (Victorian Partnership for Advanced Computing)







#### Thailand

- Kasetsart U. is working on broad range of AG nodes from full-featured one to a note book.
  - People: Putchong Uthayopas and Sugree Phatanapherom.
  - @ http://www.thaigrid.net/
  - e operates APAG (Asia Pacific AG) mail list.





enter



SC Global BOF in Jan of 2003 as viewed at Kasetsart U.







#### 📚 Taiwan

NCHC (National Center for High-Performance Computing) is operating their AG node since the end of the year 2002.



Testing with KISTI (Korea) and AIST.



Demonstration of NCHC's node as viewed at AIST.









#### 🕏 China

- Admire group in BUAA (Beijing University) operates an AG node since 2001.
  - http://www.nlsde.buaa.edu.cn/admire/en/
- Tsinghua U. hosts a Workshop in SC Global 2001.
  - http://www.tsinghua.edu.cn/
- CNIC (Chinese Academy of Sciences) has a node.





#### 🖉 Korea





KISTI's AG node (courtesy of KISTI)

- KISTI (Korea Institute of Science and Technology Information) provides the portal web site of Access Grid Korea.
  - @ http://www.accessgrid.or.kr/
- KJIST (Kwangju Institute of Science & Technology) and Grid Working group of APAN are planning to have a Workshop (and a Tutorial) in conjunction with APAN meeting which will be held in August of the year 2003 in Busan, Korea.
  - They are calling for speakers from the AP countries including China, Japan and Thailand.
  - Q APAN (Asia-Pacific Advanced Network) is a research and operating body established in 1997. <u>http://www.apan.net/</u>













## Toward more deployment

#### Network-related obstacles

- IP multicast reachability is hard to obtain and maintain.
  - It is not a problem peculiar to our region, but it may be the most serious obstacle for additional deployment.
  - **Q** A hard journey to obtain the reachability:
    - Find out a peer organization and an operator to serve an IP multicast tunnel.
    - Discuss and understand the configuration of a router. Configure the router.
    - It is very hard to shoot troubles because two ends of the tunnel are managed by different organizations.
  - There is little hope to have the reachability for a private individual in Japan. It is hard even for universities and laboratories.
  - e How do we overcome it ?
    - Bridge ?
      - AG 1.x is not easy to operate with unicast. (ex. vtc ...)
      - InSORS' software provides easy operation even only with









## Toward more deployment

- Network-related obstacles
  - Relatively narrow bandwidth.
    - Ex. The bandwidth between Japan and Thailand which can be utilized for AG is only up to 2 Mbps !

    - What can we do to improve the situation ?
      - Thinking about inconvenient network will contribute to more deployment to individuals.
- The present situation of deployment
  - (Of course,) the number of regional AG nodes is smaller than North America
    - @ The value of networked devices like AG is subject to "Scale Merit".
    - We have a motivate early adopters until the number reaches a certain amount ?



Particular technical and social contributions ?

### Asia Pacific region involves many kinds of diversity.

- There are many countries with its own culture, language, network situation, economy, industry, values and people in relatively small lands. And, they are different from ones of the US and Europe.
  - Sometimes, it is hard to distinguish faces of Chinese, Korean, and Japanese people, but they are different in many aspects. (Of course, same in many aspects.)



Particular technical and social contributions ?

- Asia Pacific region involves many kinds of diversity, though all look same.
  - Can you distinguish?

@ http://www.alllooksame.com/





## Particular technical and social contributions ?

#### Asia Pacific region involves many kinds of diversity.

- Various Languages: English (Australia), Chinese (China, Taiwan), Japanese (Japan), Korean (Korea), Taiwanese (Taiwan), Thai (Thailand), ...
  - There are a lot of people who cannot speak English.
  - Most (about 80% ?) Japanese people is not good at speaking English.
- Diversity in Culture
  - Ex. Korean people respects elder people very much.
  - Ex. Japanese people tends to expect others to realize or guess implicit messages without verbal communication.

#### Time difference



- Q AP people live in far different time zones from US and European countries.



## Diversity

## These "Diversities" should be candidates for future technical development.

#### Language

- Support for multilingual interaction.
  - Multilingualized software ? Machine-supported interpretation ?
- Support for people with poor English.
  - Clearing obscure speaking ? Speech recognition ?
  - AG is originally much better than phone call because we can see video and feel easy.

#### Reinforce non-verbal communication.

- Tele-existence
- Body language
- Support for other media than voice (including PowerPoint)



## Diversity

## These "Diversities" should be candidates for future technical development.

► Time difference and Culture

#### Any idea ?



I hope...

# AG technologies support people's understanding of the diversities.







# AG technologies support people's understanding of the diversities.

# Thanks Jennifer and AG Retreat staff for giving us this opportunity.



