



Supercomputing Plans of Korea

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Supercomputing Act



■ Title

- ❖ “Utilization and Promotion of National Supercomputing”
- ❖ **Enacted:** 2011. 6. 7, **Implemented:** 2011. 12. 8

■ Goal

- ❖ Contributing to the enhancement of people’s quality of life and the national economic development... through the efficient implementation and systematic management of national supercomputing infrastructure

■ Key Actions

- ❖ Establishment and execution of plan for the promotion of national supercomputing ecosystem
 - Master Plan (5 years), Implementation Plan (1 year)
- ❖ National Supercomputing Committee
 - Chair: Secretary of Ministry of Science, ICT and Future Planning
 - Ministry Involved (9): **Ministry** of Science, ICT and Future Planning, **Ministry** of Strategy and Finance, **Ministry** National Defense, **Ministry** of Trade, Industry and Energy, **Ministry** of Health and Welfare, **Ministry** of Environment, **Ministry** of Oceans and Fisheries, Small and Medium Business **Administration**, Korea Meteorological **Administration**
- ❖ National Supercomputing Center
 - Support the planning and execution of national plan

■ Mission (Article 9, Clause 1)

- ❖ Support Promotion and Utilization of National Supercomputing

■ Function (Article 9, Clause 3)

- ❖ Securing and operating world-class resource
- ❖ Managing collaborative use of resource
- ❖ Carrying out R&D on supercomputing
- ❖ Providing education, training, and technical support
- ❖ Managing and operating advanced research network
- ❖ Supporting establishment and execution of the national plan



■ Inauguration Ceremony (2012. 12)

- ❖ US: NCSA, Calit2 (NSF), NCCS, LBNL (DOE)
- ❖ Japan: AICS, CCS
- ❖ China: NSCC-TJ, CNIC, SSC
- ❖ Europe: JSC, CSC



National Supercomputing Plan

❖ 3 Strategies (or Areas)

- Expand adoption
- Efficient infrastructure (including human resource)
- R&D on core technology (including industry)

제1차 국가초고성능컴퓨팅 육성
기본계획('13 ~ '17)

제출자	교육과학기술부	기획재정부
	국방부	지식경제부
	보건복지부	환경부
	국토해양부	국가과학기술위원회
	중소기업청	기상청
제출년월일	2012. 12. 4.	

Vision

Top 7 Nation for Supercomputing

**Expand the use of supercomputing
through the creation of new demand**

**Establish Top 10
supercomputing service infrastructure**

**Secure independent
supercomputing development capacity**



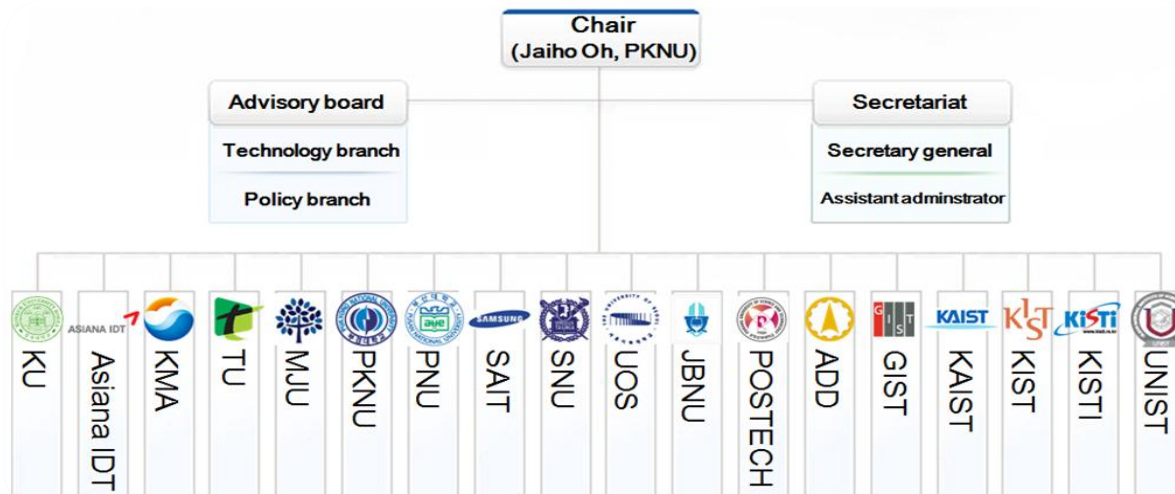
- **Expand the use of supercomputing through the creation of new demand**
 - ❖ Promote national research and development using national supercomputing
 - ❖ Strengthen industry innovation by using national supercomputing
 - ❖ Expand public and private service based on supercomputing
 - ❖ Expand public participatory activities to promote the understanding of supercomputing

- **Establish global top 10 supercomputing service infrastructure**
 - ❖ Secure supercomputing resource in response to future demand
 - ❖ Establish efficient national supercomputing service system
 - ❖ Train demand-based experts for supercomputing ecosystem

- **Secure independent supercomputing development capacity and foster the basis for industrialization**
 - ❖ Secure independent development capacity for supercomputing system
 - ❖ Expand R&D of original technology for the next generation supercomputing development
 - ❖ Foster industry basis related to supercomputing

Supercomputing Infrastructure

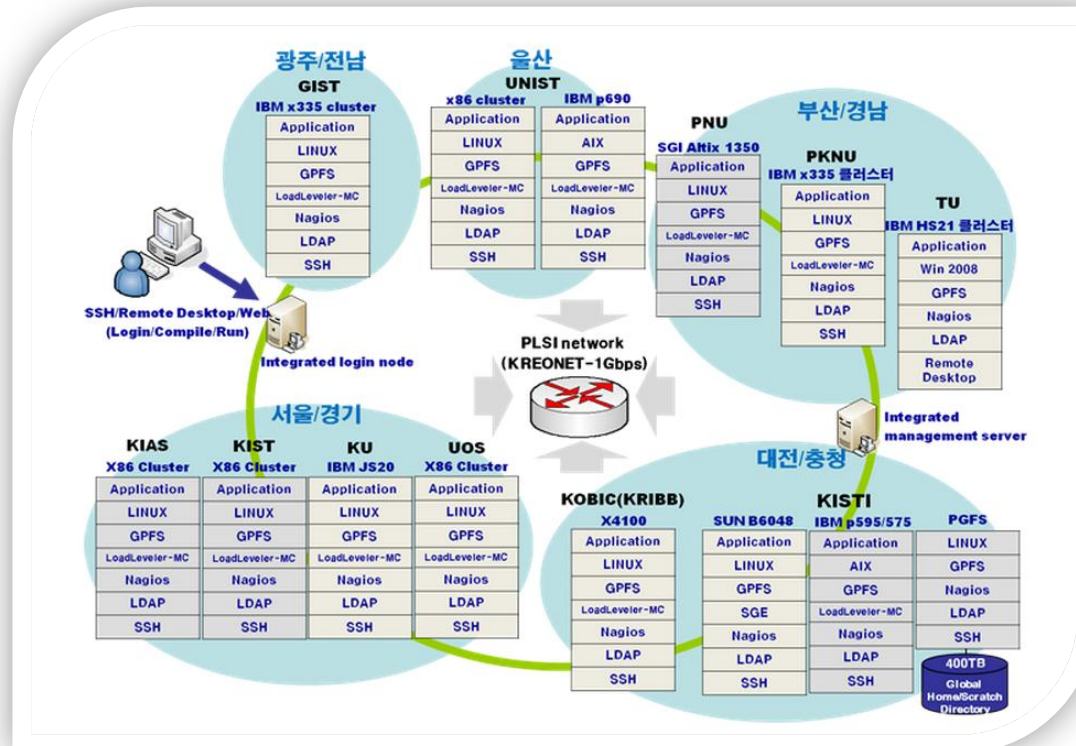
- ❖ KSCA was established in 2001 for collaborating for supercomputer operation, sharing of their resources, and developing operation technology
- ❖ 20 Members (university, research institute, government, industry)
- ❖ Main KSCA member have been joined to PLSI project since 2007 for sharing their resources and vitalizing regional HPC ecosystem



❖ Shared Infrastructure

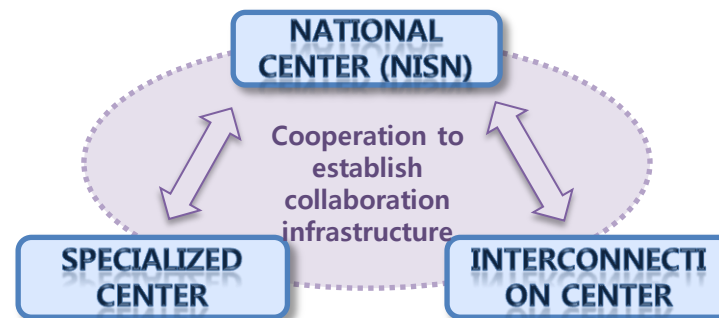
- 11 Participants: KISTI, PKNU, PNU, UNIST, GIST, KIAS, ...
- Resource: 21 Systems, 8764 CPU, 102 TF (84 TF from KISTI)
- Service: Integrated System, User Portal, Support, Training

✓ Serving as **Pilot** National Supercomputing Infrastructure



- ❖ Secure supercomputing resource for responding to future demand
 - Construct systematic resource demand forecast and management system
 - Secure world-class supercomputing resource
 - Expand research network resource for supporting supercomputing service

- ❖ Establish efficient national supercomputing service system
 - Three layer architecture: national – specialized – interconnection
 - ✓ National center (NISN): world-class resource, support large scale national strategic projects, national service infrastructure leader
 - ✓ Specialized center: medium scale resource, support specific domain (or ministry), regional service leader
 - ✓ Interconnection center: institute-wide resource, support local demands, institute service leader



Super Korea!

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