



EGEE Activities & Services @ Taiwan

C.C.Chang

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Academia Sinica Grid Computing (ASGC)

Academia Sinica Grid Computing



Outline

- Introduction
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 - EGEE
- Activities
 - Network activities
 - Deployment activities
 - Application activities
 - Dissemination activities
 - Industrial cooperation
- EGEE Services
- Summary



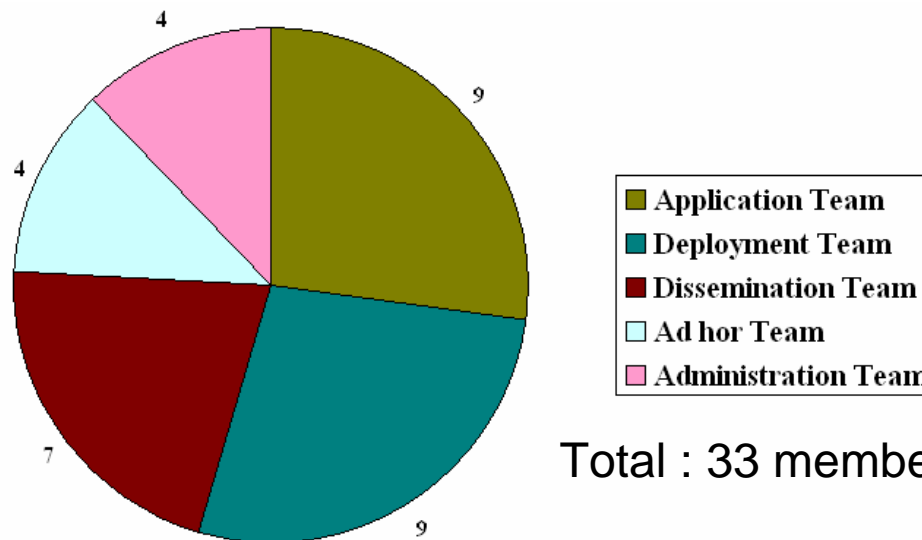
Academia Sinica Grid Computing (ASGC)

- Objective

- to **develop, deploy** Grid middleware and **operate** Grid system as a new scientific research platform (e-Infrastructure) to **benefit** researches from every science discipline in Taiwan.

- Team Structure

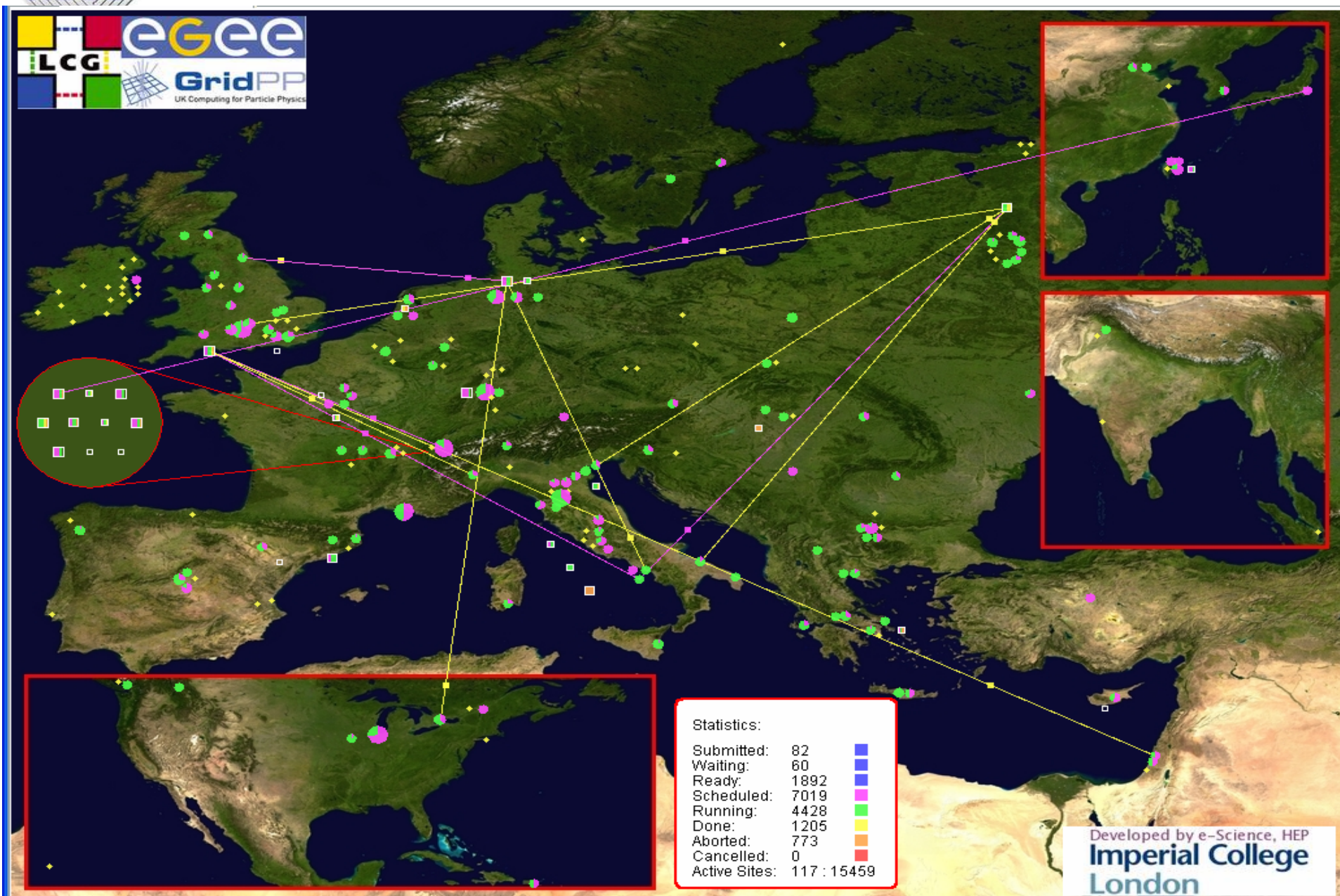
- Deployment team
- Application team
- Dissemination team
- Ad-hoc Computing team
- Administration team



Total : 33 members



WHY EGEE

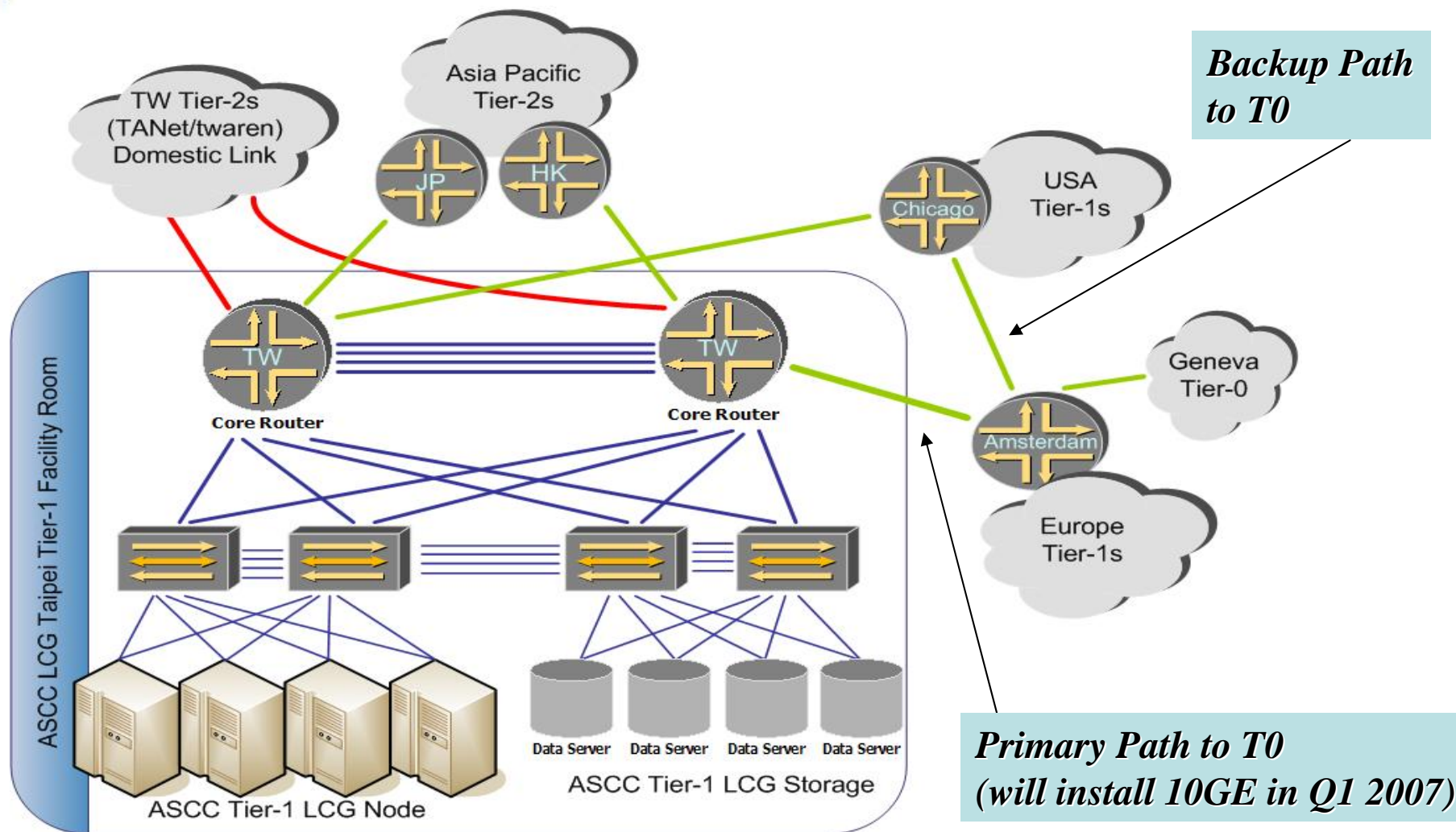




EGEE Participation

- Joined EGEE-I as a non-funded member from 2004
 - NA1: Management
 - NA2: Dissemination & Outreach
 - **NA3: Training & Induction**
 - **NA4: Application**
 - High Energy Physics
 - HealthGrid
 - Diligent
 - NA5: Policy and International Cooperation
 - **SA1: Support and Operation Management**
 - CIC/ROC
 - SA2: Network Resource Provision
 - **JRA1: Middleware Re-engineering**
 - gLite testbed
 - gLite pre-production site
 - JRA2: Quality Assurance
 - JRA3: Security
 - JRA4: Network Service Development
- Joined EGEE-II and signed contract as an official Partner from 2006

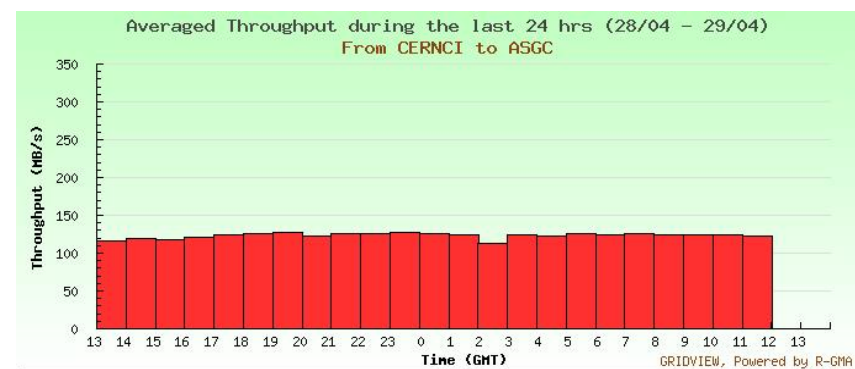
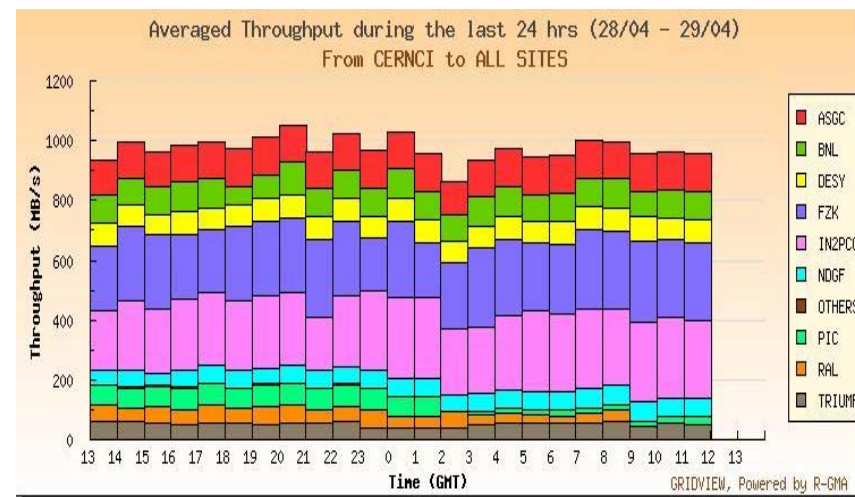
Activities - Networking





Activities - Networking

- Service Challenge
 - To sustain a continuous flow of physics data on a worldwide Grid infrastructure
 - Data transferred performance (from CERN to 10 Tier-1 Centre) reaches 1000MB/s
 - ASGC essentially stable at 120 MB/s





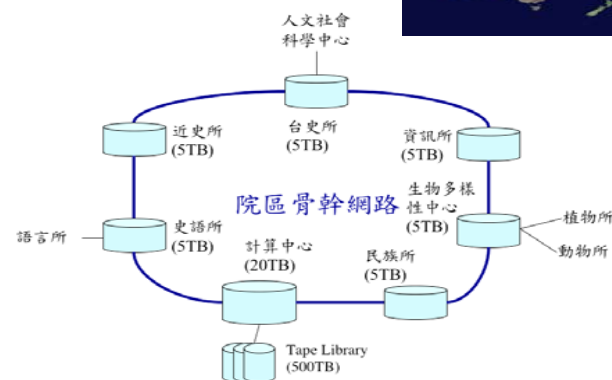
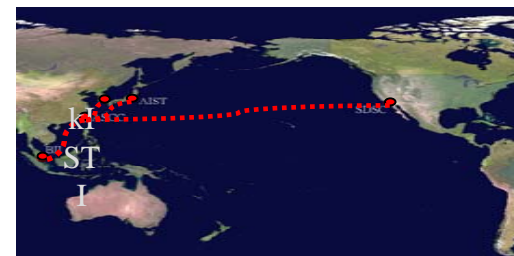
Activities – Grid Deployment

- Deployment Milestone
 - LCG-0 deployed: Mar. 2003 experimental stage
 - LCG-1 deployed: Sep. 2003 Grid in production
 - LCG-2 deployed: Jan. 2004 fully supported experiments
 - VOMS deployed: May 2005 provided VO services
 - PPS deployed: July 2005 gLite preproduction site
- WLCG MoU signing ceremony
 - Dec. 2005
 - First tier-1 centre in Asia Pacific.



Activities - Application

- ARDA (An Architectural Roadmap towards Distributed Analysis)
- Grid Application Framework
 - To provide a generic and systematic approach in building high quality Grid application services
- mpiBLAST-G
(Grid-enabled parallel Gene Alignment Software)
- DataGrid
 - Digital Archive DataGrid
 - Atmosphere DataGrid





Activities - Dissemination

- Target a full breadth of disciplines & industries
- Event / Activities
 - ISGC - International Symposium on Grid Computing
 - Grid Tutorial
 - Grid tutorial
 - Grid Administrator Training
- Printed Material
 - Gridcafe Chinese version
 - Brochure
 - EGEE Information sheet
 - EGEE press release

GridCafé





Industrial Cooperation

- NSC-Quanta Project
 - To evaluate and tuning performance of homemade Blade system for High Performance Computing and Grid Computing
 - Participants: AC, NTU, NCTS, NTHU and NCHC
- Microsoft collaboration Project
 - Grid Computing is based on linux environment at this phase.
 - Extending the EGEE MW to Windows platform for e-Science application
 - Porting gLite on MS.
 - Heterogeneous computing environment



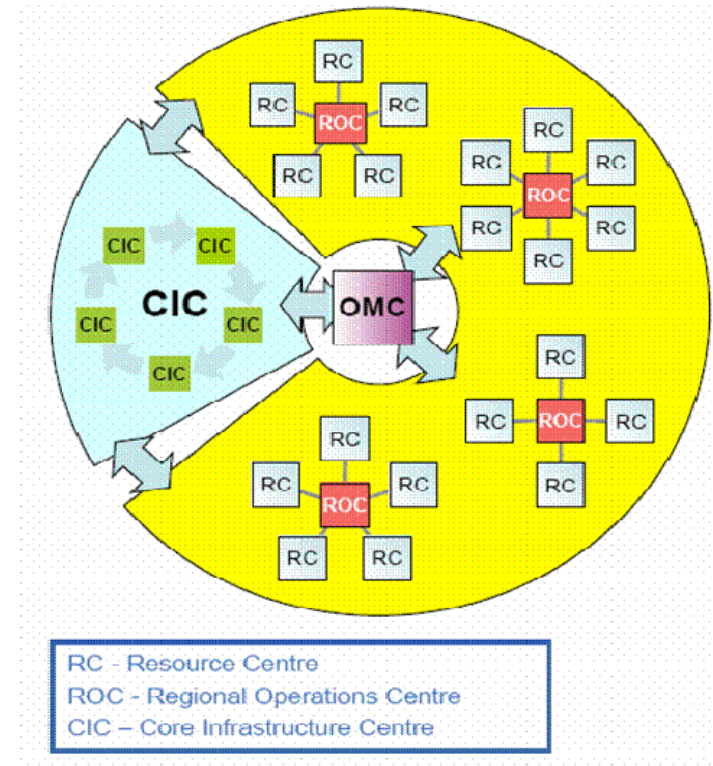
EGEE Services of Taiwan

- Grid Operation Service
 - CIC (Core Infrastructure Service)
 - APROC (Asia Pacific Regional Operation Centre)
 - GStat Monitoring services
 - CA Monitoring services
- Grid Security Service
 - ASGCCA (Production Certification Authority service)
 - VO Service
- Grid User Support
 - GGUS (Global Grid User Support)



EGEE Services of Taiwan (Grid Operation Service)

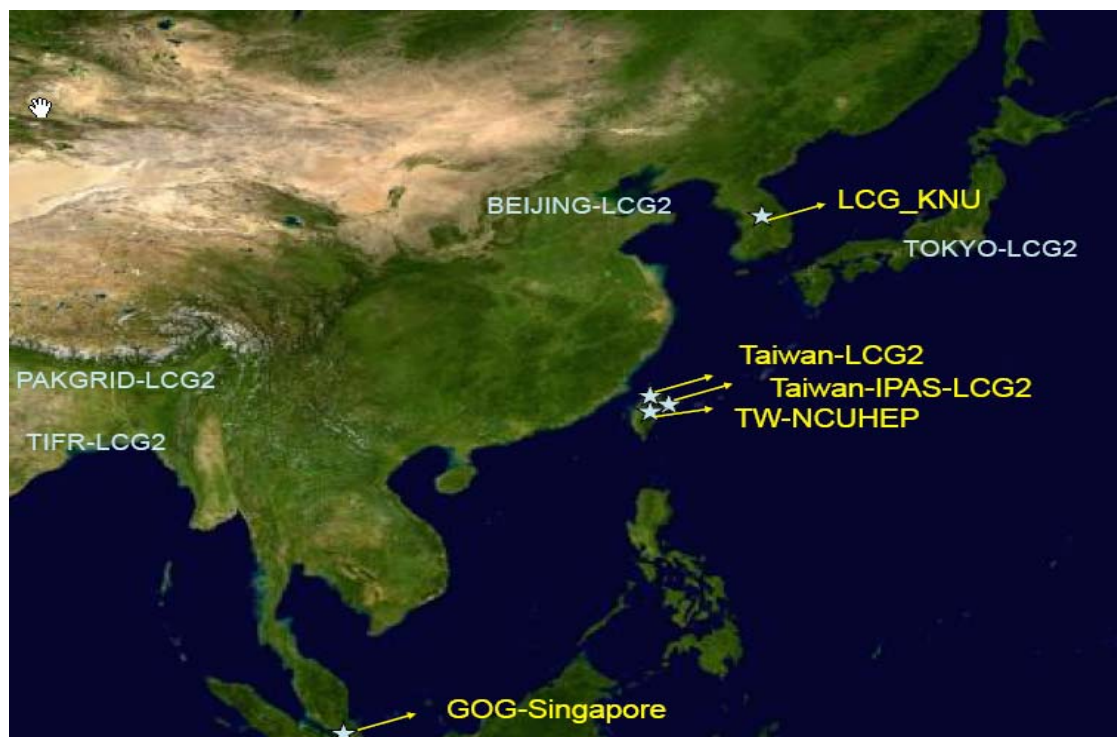
- Grid is flat but Responsibility is hierarchical
 - To scale the operation
 - CIC / ROC / RC
- CIC (Core Infrastructure Centre)
 - Act as a single Grid Operation Centre
 - Operational oversight
 - Report problem to ROC / RC
- ROC (Regional Operation Centre)
 - Responsible for organizing the regional operation
 - Overseeing regional RCs
 - Ensuring problem of RC is resolved





EGEE Services of Taiwan (Grid Operation Service)

- CIC
 - 6 CICs
 - ASGC, CERN, RAL(UK), CC-IN2P3, CNAF(Italy) and RDIG(Russia)
- APROC Service (<http://twgrid.org/aproc>)
- AP Resource Centre
 - Taiwan-IPAS
 - Taiwan-NCU
 - Taiwan-NTU
 - GOG-Singapore
 - PAKGrid-Pakistan
 - Beijing-LCG2, China
 - Tokyo-LCG2, Japan
 - Melbourne, Australia
 - ...





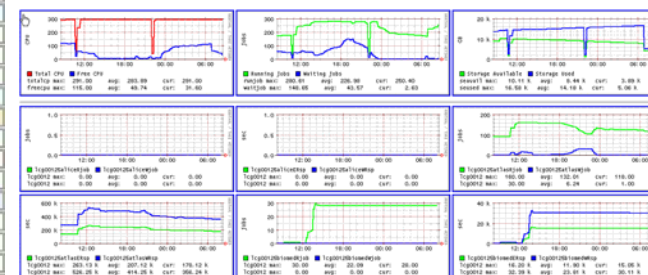
EGEE Services of Taiwan (Grid Operation Service)

- GStat (Global Grid Information Monitoring System)
 - To proactively monitor and search for anomalies in the Information System

ServDuplicate

AEGIS01-PHY-SCL	OK	ALBERTA-LCG2	OK	AMD64 PSNC.PL	OK	AUVERGRID	OK	BEgrid-KULeuven	OK	BEgrid-UGent	OK
BEgrid-ULB-VUB	OK	BEIJING-CNIC-LCG2-IA64	OK	BEIJING-LCG2	OK	BelGrid-UCL	OK	BG-INRNE	OK	BG01-IPP	OK
BG02-IM	OK	BG04-ACAD	OK	BG05-SUGrid	OK	BIFI	OK	BNL-LCG2	OK	BRISTOL-PP-LCG	OK
BUDAPEST	OK	CARLETON-LCG2	OK	CERN-CIC	OK	CERN-PROD	OK	CESGA-EGEE	OK	CGG-LCG2	OK
CIEMAT-LCG2	OK	CNB-LCG2	OK	cpDIASie	OK	CSCS-LCG2	OK	csTCDie	OK	CY01-LCG2	OK
CYFRONET-IA64	OK	CYFRONET-LCG2	OK	DESY-HH	OK	DESY-ZN	OK	Durham	OK	EENet	OK
egee.man.poznan.pl	OK	egee.srce.hr	OK	ekplog2	OK	FMPH-UNIBA	OK	FZK-LCG2	OK	GOG-Singapore	OK
GR-01-AUTH	OK	GR-02-UoM	OK	GR-03-HEPNTUA	OK	GR-04-FORTH-HCS	OK	GR-05-DEMOKRITOS	OK	GR-06-IA64	OK
GRIF	OK	GSL-LCG2	OK	GUP-JKU	OK	HEPHY-UBK	OK	Hepty-Vienna	OK	HG-01-GRNET	OK
HG-02-IA64	OK	HG-04-CTI-CEID	OK	HG-05-FORTH	OK	HPC2N	OK	HPTC-LCG2-ia64	OK	HR-01-RBI	OK
IEPSAS-Kosice	OK	ifag	OK	IFCA-LCG2	OK	IFIC-LCG2	OK	IISAS-Bratislava	OK	IN2P3-CC	OK
IN2P3-CPPM	OK	IN2P3-LAPP	OK	IN2P3-LPC	OK	IN2P3-SUBATECH	OK	INDIACMS-TIFR	OK	INFN-BARI	OK
INFN-BOLOGNA	OK	INFN-BOLOGNA-CMS	OK	INFN-CAGLIARI	OK	INFN-CATANIA	OK	INFN-CNAF	OK	INFN-FERRARA	OK
INFN-FIRENZE	OK	INFN-FRASCATI	OK	INFN-LNL-2	OK	INFN-MILANO	OK	INFN-NAPOLI	OK	INFN-NAPOLI-ATLAS	OK
INFN-PADOVA	OK	INFN-PERUGIA	OK	INFN-ROMA1	OK	INFN-ROMA1-CMS	OK	INFN-ROMA1-VIRGO	OK	INFN-ROMA2	OK
INFN-T1	OK	INFN-TORINO	OK	INTA-CAB	OK	IPSL-IPGP-LCG2	OK	ITEP	OK	ITWM	OK
JINR-LCG2	OK	Kharkov-KIPT-LCG2	OK	LCG-IL-OU	OK	LCG-KNU	OK	LIP-LCG2	OK	MK-01-UKIM II	OK
mpUCDie	OK	NCP-LCG2	OK	NHAM	OK	NIKHEF-ELPROD	OK	NSC-BLUESMOKE	OK	OXFORD-01-LCG2	OK
PAKGRID-LCG2	OK	PDC	OK	plc	OK	prague.cesnet.lcg2	OK	prague.lcg2	OK	GMUL-eScience	OK
RAL-LCG2	OK	RALPP-LCG	OK	RO-01-ICI	OK	RO-02-NIFNE	OK	RRC-KI	OK	ru-IMPB-LCG2	OK
MSN Messenger	OK	RU-Moscow-KIAM-LCG2	OK	ru-Moscow-SINP-LCG2	OK	ru-Novgorod-NOVSUL-LCG2	OK	RU-Phys-SPbSU	OK	ru-PNPL-LCG2	OK

GStat global resource centers status page



GStat site resource status

	sites	countries	totalCPU	freeCPU	runJob	waitJob	seAvail TB	seUsed TB	maxCPU	avgCPU
Total	180	42	33187	8354	9745	177293	2452.76	1183.94	46816	31196

Overall statistic information of Grid system



EGEE Services of Taiwan (Grid Security Service)

- **ASGCCA** (Academia Sinica Grid Computing Certification Authority)
 - Participated in LCG Global CA Group in 2003
 - Define CA common policy and practice statement
 - Provide CA service to Grid users in Taiwan
 - Joined APPMA (Asia Pacific Policy Management Authority) in 2004
 - to expand service scope, provided Regional CA service



- Certificate statistics

	User Certificate	Host Certificate	Service Certificate	Total
Issued	102	187	3	290
Effected	48	117	3	168
Revoked	54	70	0	124



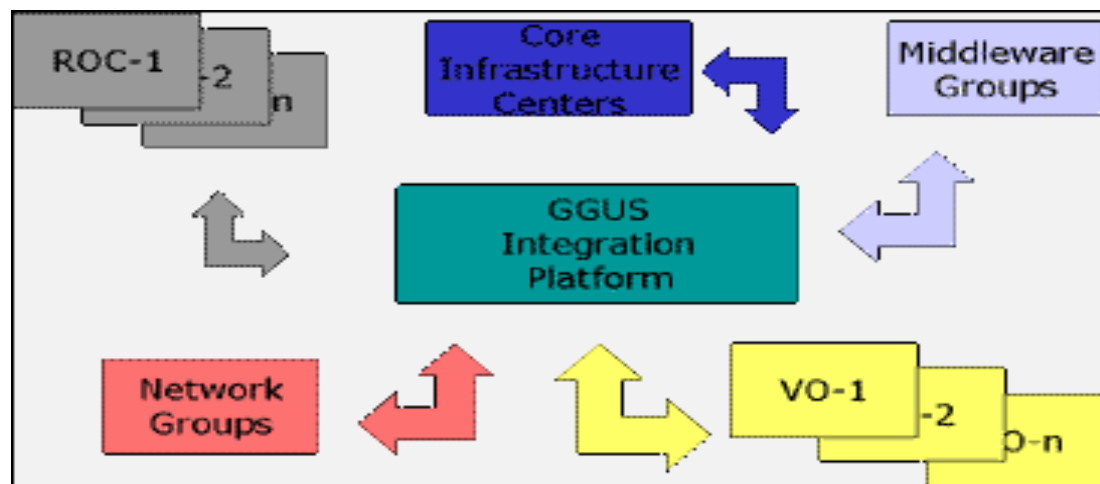
EGEE Services of Taiwan (Grid Security Service)

- VO Services
 - Atlas
 - CMS
 - BioMed
- VOMS (Virtual Organization Membership Service)
 - Deployed from May 2005
 - VO supported
 - TWGRID VO – support Grid communities in Taiwan
 - APeScience VO – support Grid communities in Asia Pacific



EGEE Services of Taiwan (Grid User Support Service)

- GGUS (G_{lobal} G_{rid} U_{ser} S_{upport})
 - to build a knowledge base for all grid related problems and their solution.
- APROC
 - was responsible for first line support for GGUS
 - started to receive / process ticket from GGUS since June 2005.





Summary

- Demanding program of work
 - Keep improving, expanding and stabilizing Grid Infrastructure (e-Science Infrastructure)
 - Keep inducting, disseminating and training user communities
 - Expand & Improve partnership in every aspects
- Failure is **NOT** an option
 - Success of the project will be decisive for long-term sustainability of Grid Infrastructure in Taiwan.



Summary



Grid is about people working together!





Reference

- TWGRID: <http://twgrid.org/>
- EGEE: <http://public.eu-egee.org/>
- APROC: <http://www.twgrid.org/aproc/>
- GStat Website: <http://goc.grid.sinica.edu.tw/gstat>
- ASGCCA: <http://ca.grid.sinica.edu.tw/>
- GGUS: <https://gus.fzk.de/>
- APROC Ticket System: <http://roc.grid.sinica.edu.tw/otrs/index.pl>
- GridCafe: <http://www2.twgrid.org/gridcafe/>
- EGEE Information Sheet: <http://public.eu-egee.org/sheets/>



Thanks You! ☺