

GRID or Other Parallel Processing Solutions

Chair: Koichi Murakami
(KEK, Koichi.Murakami@kek.jp)

Geant4 Collaboration Workshop
(LIP – Lisboa)

■ Topics

- ✓ Parallel processing
 - » boost simulations in local PC-cluster environments
- ✓ Distributed analysis/simulation using GRID

■ Presentations

- ✓ Geant4 regression tests on the GRID
 - » A. Ribon (CERN)
- ✓ GRID related activities in Japan
 - » K. Murakami (KEK)

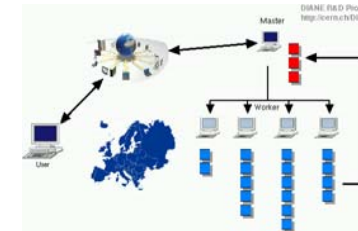


Geant4 regression tests on GRID

A. Ribon (CERN)

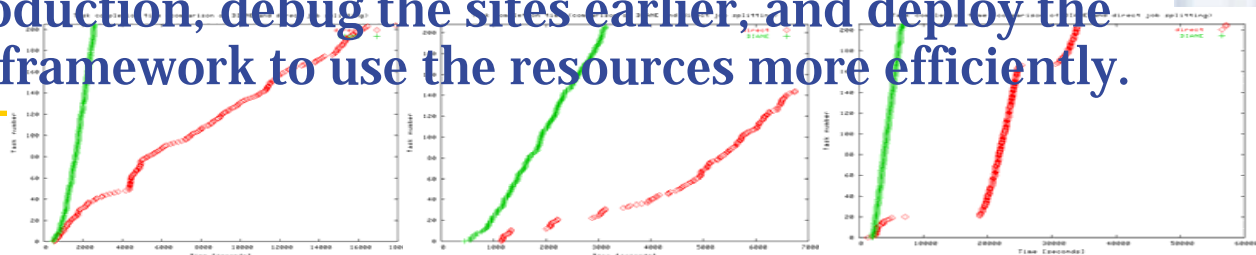


- “Geant4” VO (Virtual Organization) was established in LCG/EGEE.
- first/important experience on mass production for regression test on GRID
 - ✓ prior to every Geant4 release
 - ✓ higher priority in the production period in LCG
 - ✓ 4-6 years of CPU time is required, but concentrated in 1-2 weeks on GRID (LCG/EGEE)
 - ✓ 20,000 jobs submitted to the GRID
 - ✓ 99.9% GRID success rate



■ LCG job submission vs. GANGA/DIANE

- ✓ dynamic user-level scheduler in and beyond master/worker model
- ✓ For the GRID production, debug the sites earlier, and deploy the GANGA/DIANE framework to use the resources more efficiently.

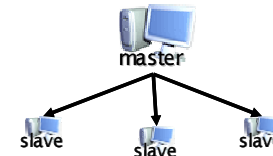


GRID-related activity in Japan

K.Murakami (KEK)

■ Experience on Geant4 parallelization

- ✓ implemented with MPI/MPICH
- ✓ event-level parallelization based on a master-slave model



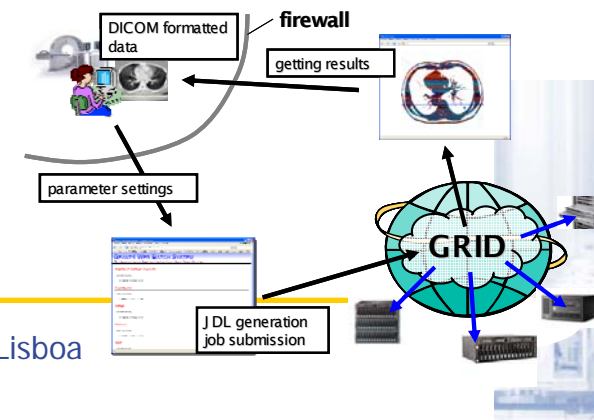
■ GRID (LCG/EGEE) deployment in KEK

- ✓ CA, VOMS services for supporting regional colleagues
- ✓ 2 systems registered to GOC and WLCG



■ Radiotherapy simulation on GRID

- ✓ GRID portal on Web across network firewall
 - » input parameters
 - » job submission/monitor
 - » get dose distribution



- How can the Geant4 collaboration make use of “Geant4” VO?
 - ✓ Contact person for Geant4 VO : J. Apostolakis / A. Ribon
 - » technical support: Patricia Mendez Lorenzo
 - ✓ Higher priority was/will be set for production of Geant4 regression tests (*A.Ribon*).
 - ✓ For other (mass) production, permission/negotiation is required for resource allocation in LCG.
 - ✓ What kind of applications can be accepted?
 - » physics validations/verifications are ok.
 - » test for job submission is ok.