Opening a University Fiber Highway Between Mexico and the US

MX-101

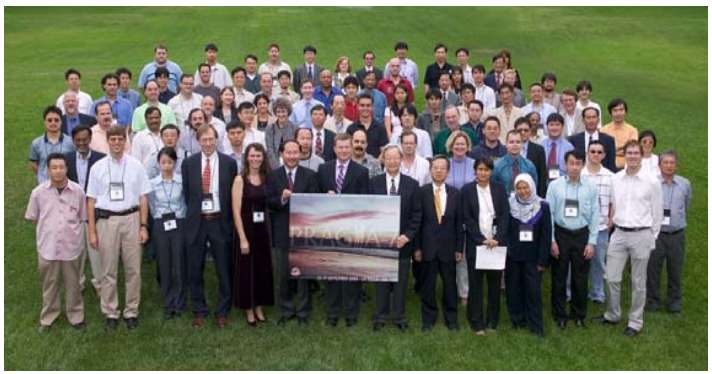
http://iGridMX.cicese.mx

CICESE's Grid Efforts

- Mexican Northwestern Grid along with UABC, 2003
- CUDI sponsored project: "Multi-institutional Grid in México", 2004
- GRid Académica MexicanA, GRAMA
- www.grama.org.mx

International Grid Colaboration

- CICESE has been invited to become a member of the Pacific Rim Applications and Grid Middleware Assembly, PRAGMA
- Part of PRAGMA's test bed since September 04



e-science drivers

- Ms. Maxine Brown, GLIF: “We need to find *e*-science drivers”
- *e*-sd: “..(by) adopting grid technology, and properly supported, becomes your ‘success story’.”

TELNOR crea tu mundo

CICESE

cudi

NSF

SDSU

Persuasion

- Dr. Putchong Uthayopas: “Encourage users to ‘cross the river’ to the grid side”
- Take baby steps
- Have lots of patience
- Nurture one successful project

Quest for an *e*-science driver

TELNOR cree a tu mundo

CICESE

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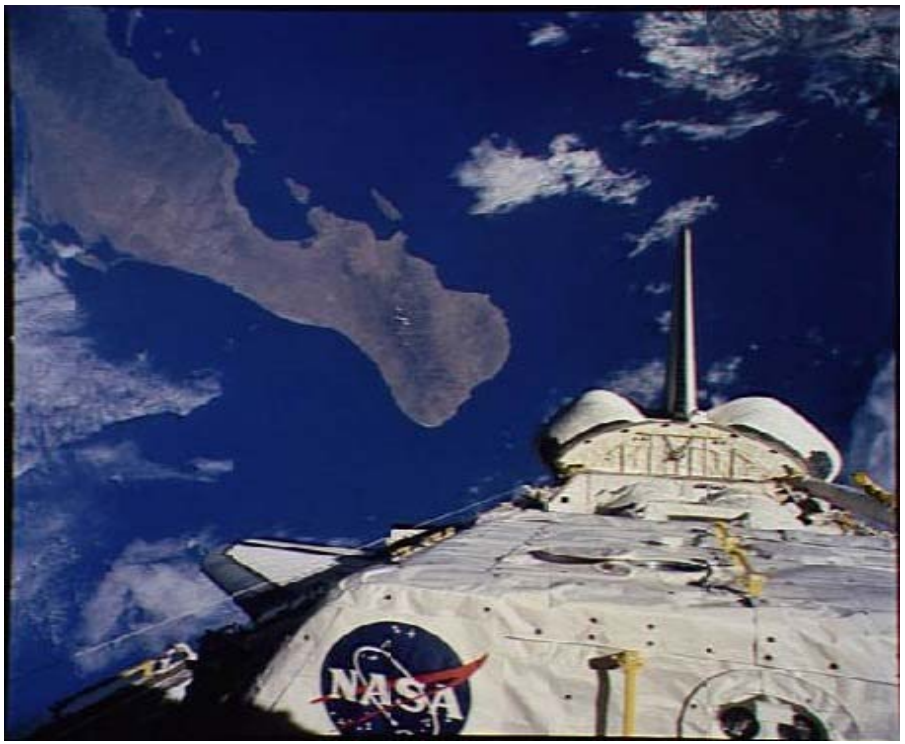
NSF

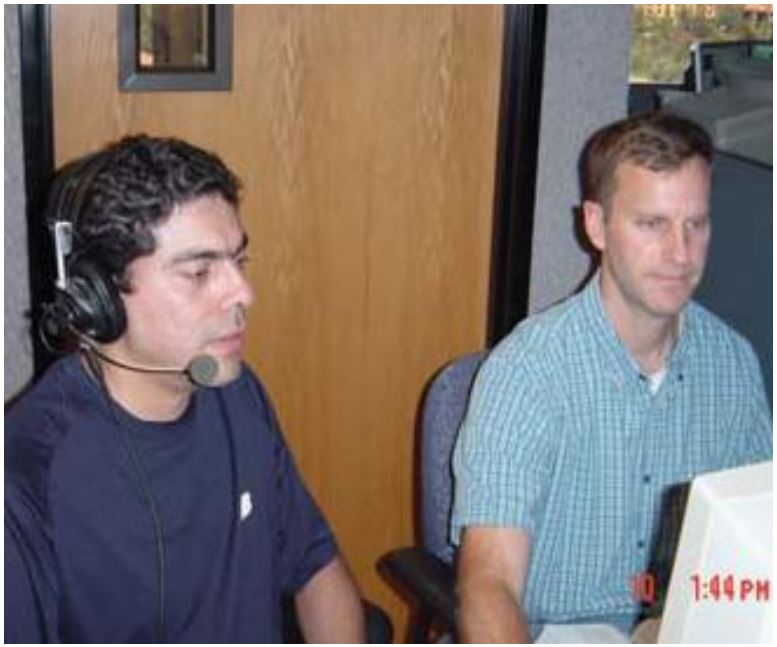
SDSU

..south of the Baja peninsula



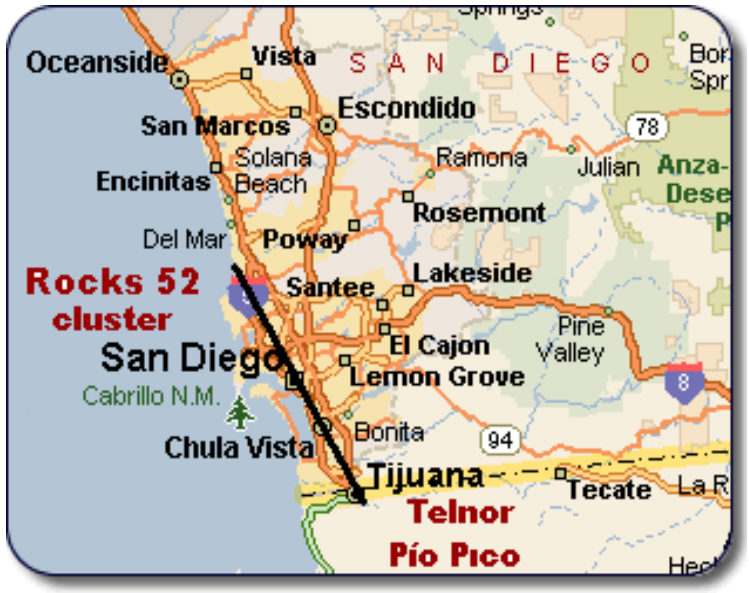
Our *e*-science driver

- Dr. Luis Farfán
- Weather researcher from CICESE's station at La Paz



Demo's set-up

- Rocks-52 cluster at SDSC
- 1 Gbps link
- Two blade-server cluster at Telnor premises



Demo's set-up (cont.)

- Installed Rocks cluster-managing software on cluster at Tijuana
- Set up MM5 meso-scale model for parallel runs on demo grid (dealt with last-minute bugs)
- Runs were made with several meteorological historical events
- Current events shown for comparison

Results

- 70 % shorter execution time compared to runs on CICESE's hpc computer
- Input data files ~350 MB
- Output data file size ~ 1 GB (both figures per run, every 6 hours)
- Greater resolution achieved on geographical sampling grid, as well as on elevation points

CICESE's Participants

- Domain Scientist
  - Dr. Luis Farfán
- HPC & grid technical support
  - Raúl Hazas
  - Salvador Castañeda
  - Julián Delgado
  - Daniel García
  - José Luis Rodríguez