Barcelona Supercomputing Center
-
Centro Nacional de Supercomputación

Munich, July, 4th 2005

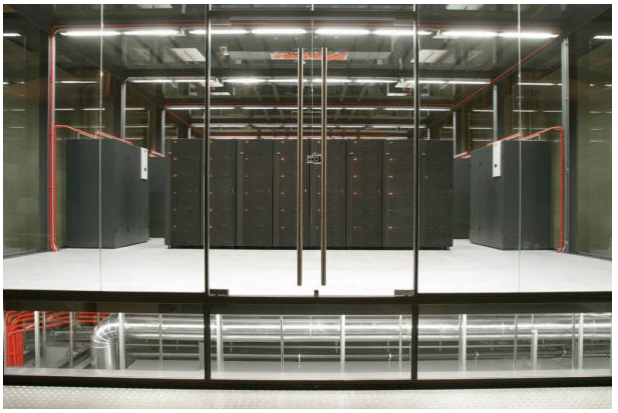
Sergi Girona
Operations Head

- Mission
  - *Investigate, develop and manage technology to facilitate the advancement of science*
- Objectives
  - Operate national supercomputing facility
  - R&D in Supercomputing and Computer Architecture
  - Collaborate in R&D e-Science
- Consortium
  - the Spanish Government (MEC)
  - the Catalonian Government (DURSI)
  - the Technical University of Catalonia (UPC)

MareNostrum

- 4800 IBM PowerPC 970 FX processors (dual processors)
- 9,6 TB Main Memory. 4 Gbyte per node
- 236 TB storage capacity
- 3 networks:
- Myrinet
- Gigabit
- 10/100 Ethernet
- Operating System
- Linux 2.6 SuSe

Peak Performance
42.2 TFlops



MareNostrum: Overall system description

29 Compute Racks (RC01-RC29)
- **171 BC chassis w/OPM and gigabit ether switch**
- **2400 JS20+ nodes w/myrinet daughter card**

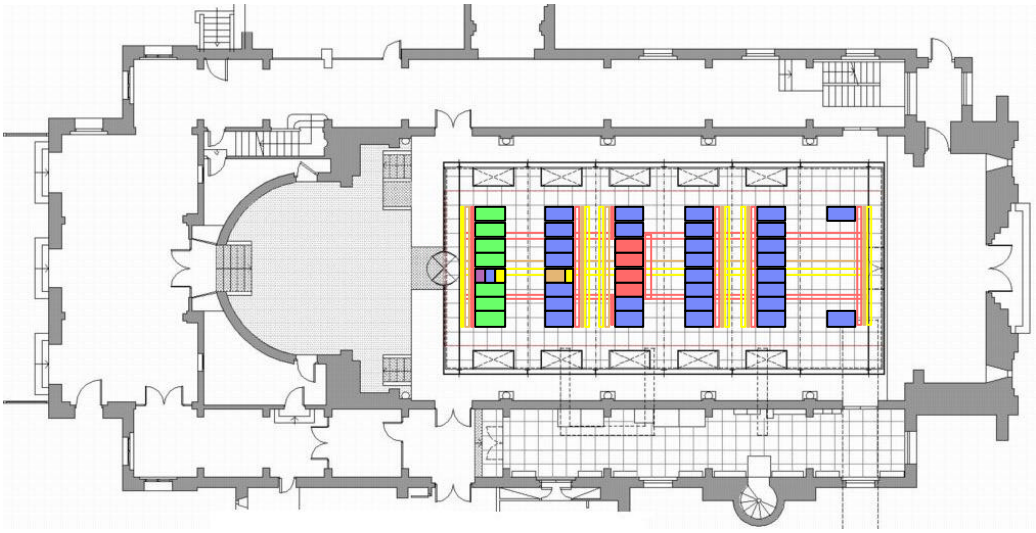
4 Myrinet Racks (RM01-RM04)
- **10 clos256+256 myrinet switches**
- **2 Myrinet spines 1280s**

7 Storage Server Racks (RS01-RS07)
- **40 p615 storage servers 6/rack**
- **20 FastT 100 3/rack**
- **20 EXP100 3/rack**

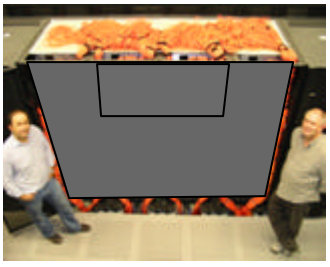
1 Operations Rack (RH01)
- **7316-TF3 display**
- **2 p615 mgmt nodes**
- **2 HMC model 7315-CR2**
- **3 Remote Async Nodes**
- **3 Cisco 3550**
- **1 BC chassis (BCIO)**

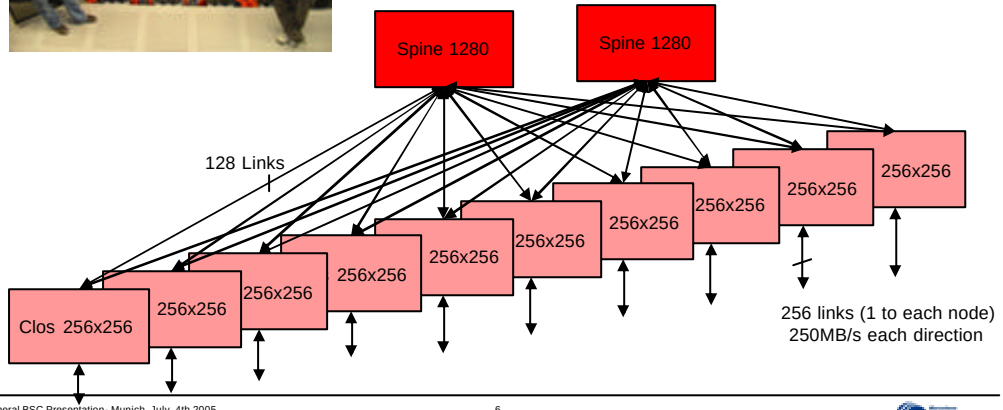
1 Gigabit Network Racks
- **1 Force10 E600 for Gb network**
- **4 Cisco 3550 48-port for 10/100 network**

MareNostrum Floorplan

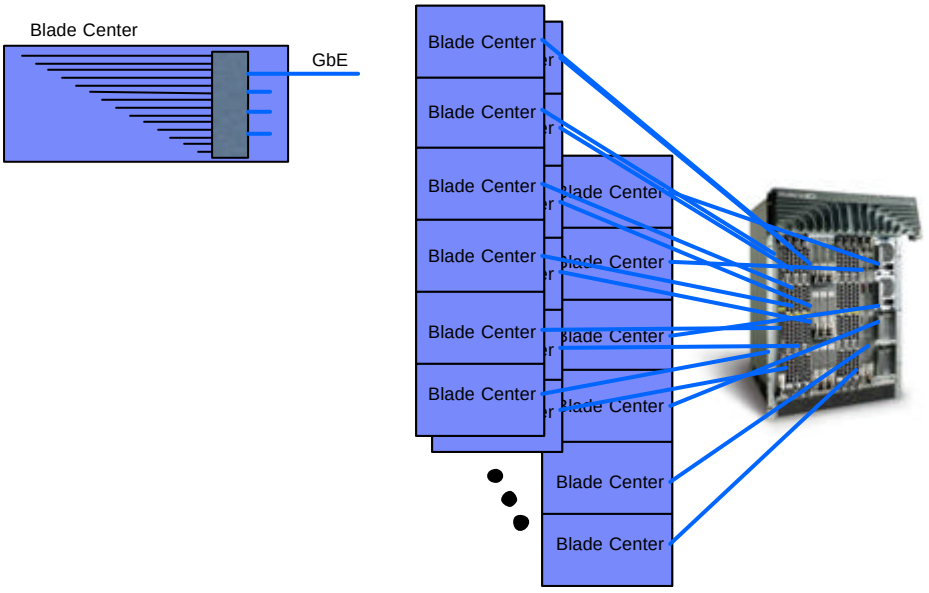


Myrinet



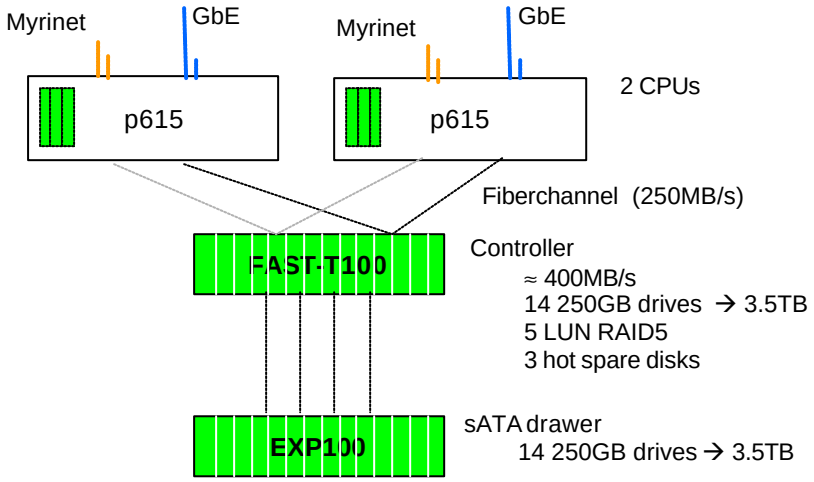


GB ethernet



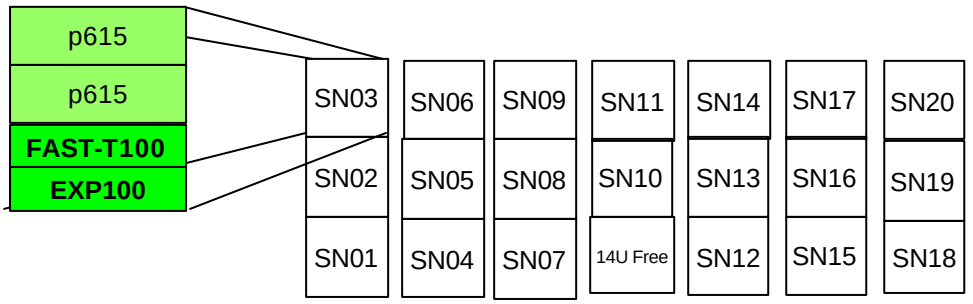
I/O connectivity

- Storage Server node



I/O server nodes

- 20 Storage server nodes
  - 140 TB
  - 6.6 racks



Thank you !