Service Challenge at
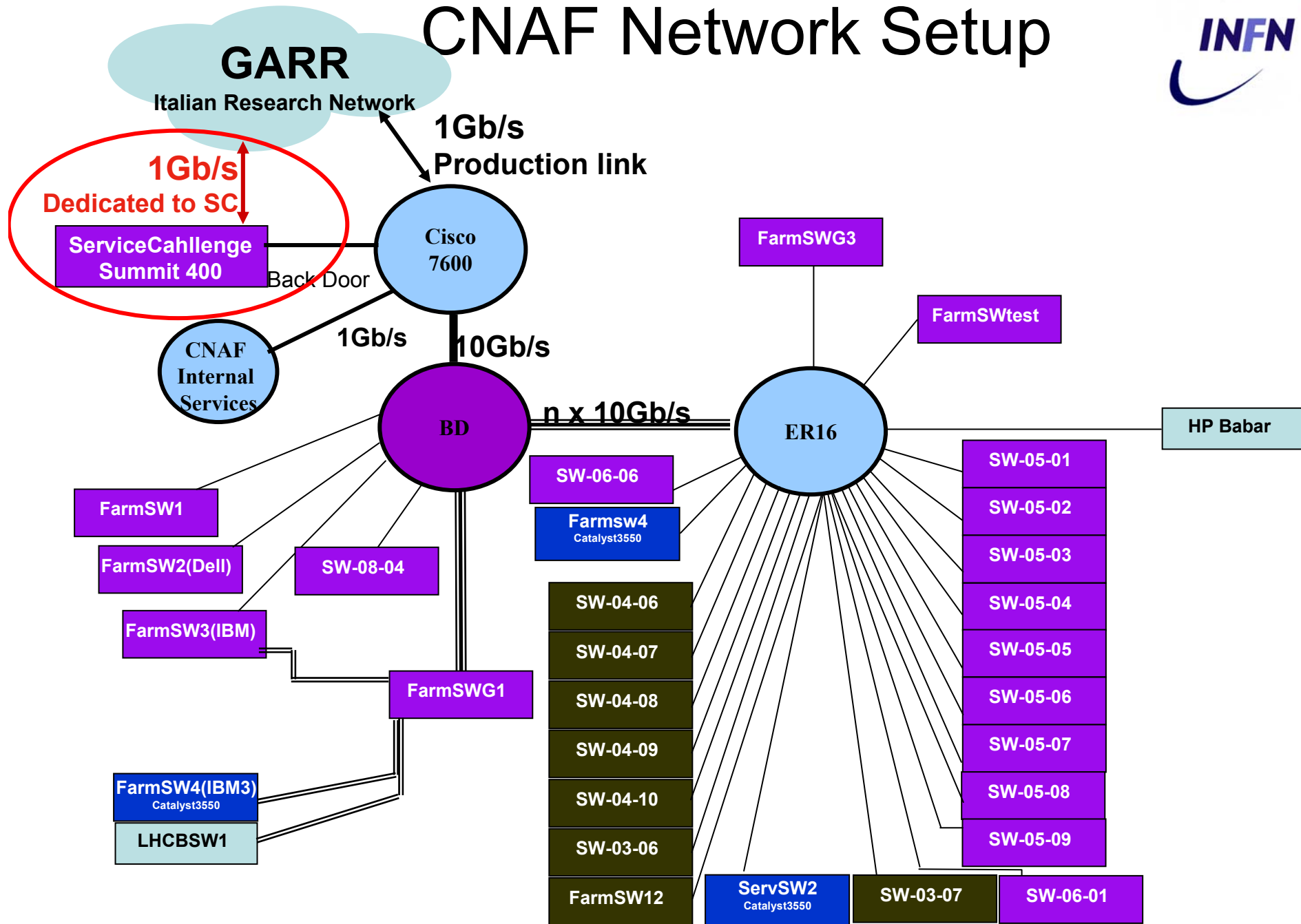# INFN Tier1

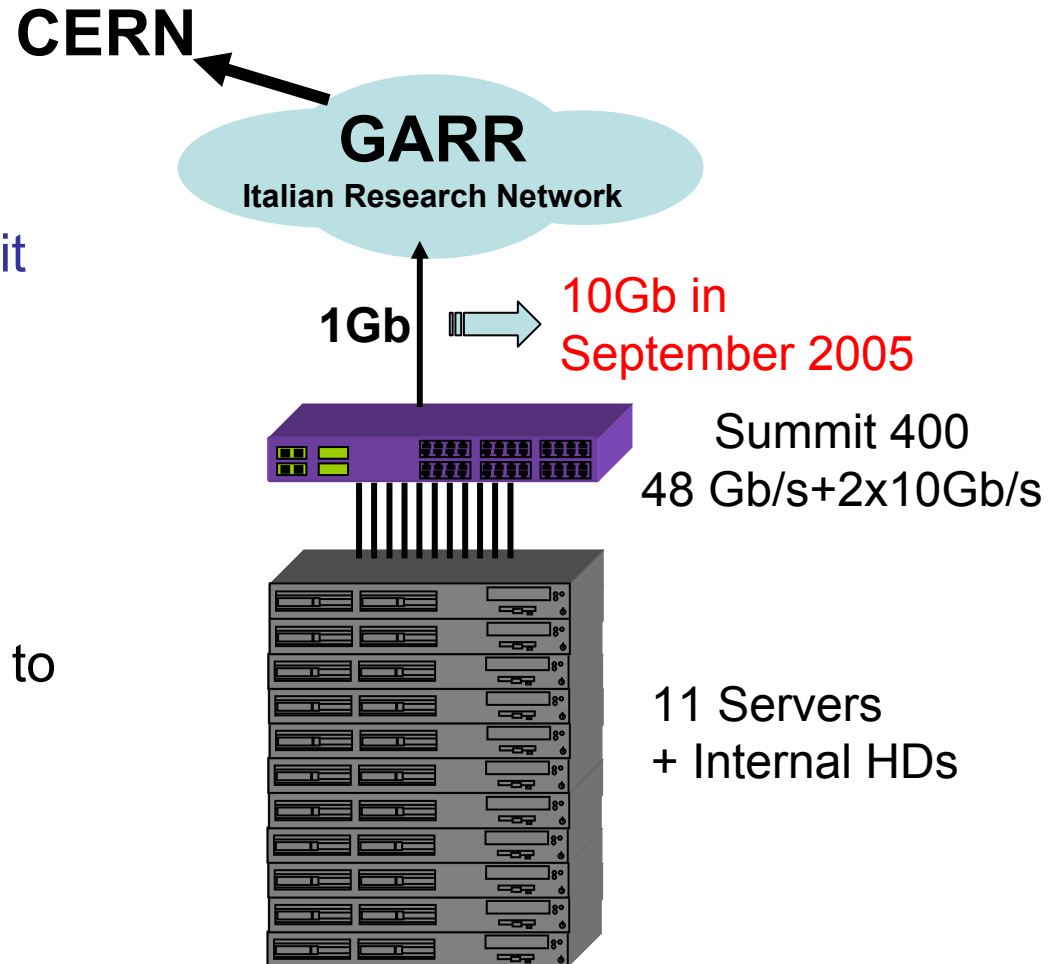*T.Ferrari, L.d.Agnello, G.Lore, S.Zani*
INFN-CNAF

CNAF Network Setup

SC Dedicated Network

- **WAN**
- Dedicated 1Gb/s link connected NOW via GARR+Geant (ready to test it with CERN)
- 10 Gb/s link available in September '05

- **LAN**
- Extreme Summit 400 (48xGE+2x10GE) dedicated to Service Challenge.

CERN

GARR
Italian Research Network

1Gb → 10Gb in September 2005

Summit 400
48 Gb/s+2x10Gb/s

11 Servers
+ Internal HDs

Transfer cluster (1)

- Delivered (with 1 month of delay) 11 SUN Fire V20 Dual Opteron (2,2 Ghz)
  - 2x 73 GB U320 SCSI HD
  - 2x Gbit Ethernet interfaces
  - 2x PCI-X Slots
- OS: SLC3 (arch x86_64), the kernel is 2.4.21-20.
  Installation going on this week. Tests (bonnie++/IOzone, CPU benchmarks, iperf on LAN) within February.
- Globus/GridFTP v2.4.3, CASTOR SRM v1.2.12, Stager CASTOR v1.7.1.5.
  Installation and tests within the first half of March.

Transfer cluster (2)
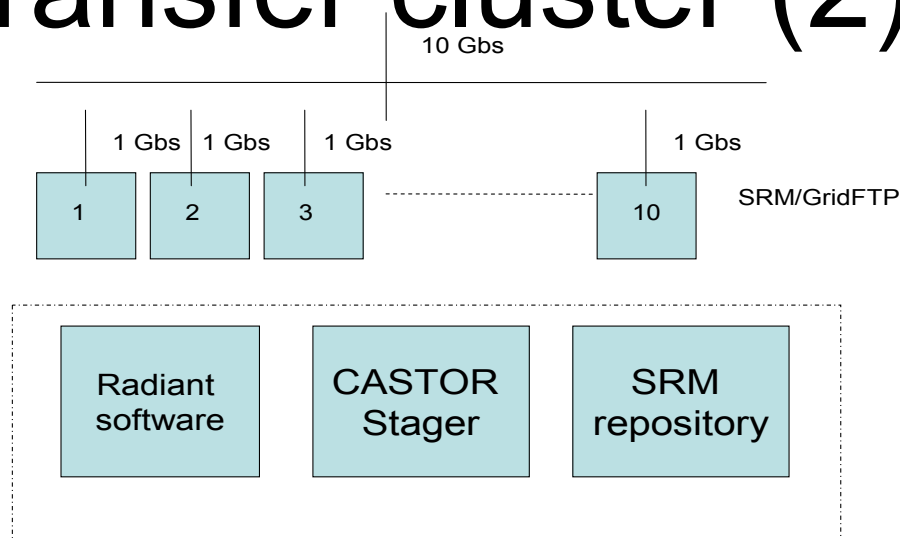
- Ten of these machines will be used as GridFTP/SRM servers, 1 as CASTOR Stager/SRM-repository/Radiant-sw. Preliminary WAN Iperf/GridFTP tests within the 2th week of March.

- The load balancing will be realized assigning to a Cname the IP addresses of all the 10 servers and using the DNS round-robin algorithm.

- Real sustained transfers in the 2th half of March, our minimal target is a disk2disk throughput of 100 MB/s between CNAF and CERN. Let see if we can do better.

Storage

- For SC2 we plan to use the internal disks (are 70x10=700GB enough?).

- We can also provide different kinds of high performances Fiber Channel SAN attached devices (Infortrend Enstor, IBM Fast-T900,..).

- For SC3 we can add CASTOR tape servers with IBM LTO2 or STK 9940B drives.