

## *HPSS at SDSC*

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## *HPSS Hardware Configuration*

- 20 SP nodes
  - 4 Silver wide
  - 4 Winterhawk wide
  - 8 Winterhawk thin
  - Gigabit ethernet
  - Hippi
  - ATM via HPGN



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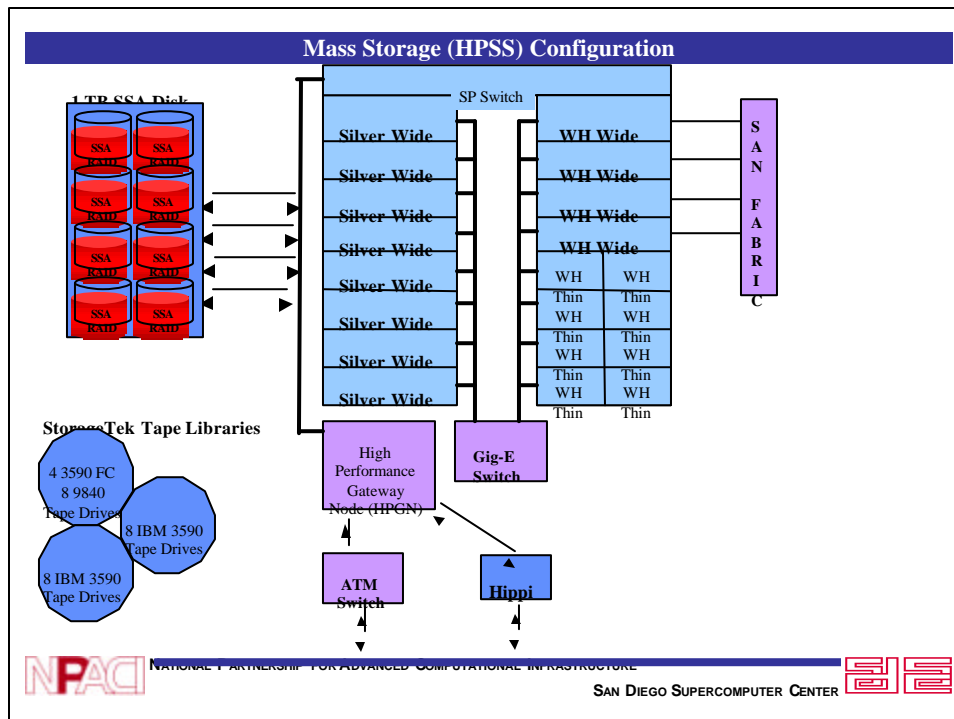
## Configuration

- 2 TB disk cache
  - 1 TB SSA raid
  - 1 TB Sun T3 fiberchannel raid in production
    - Up to 3 TB possible
  - 3 STK Powderhorns
  - 28 tape drives
    - 20 IBM 3590E
    - 8 STK 9840



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## *Software Level*

- AIX 4.3
- DCE 2.2
- Encina 4.2
- HPSS 4.1.1
- HPSS user interfaces
  - Hsi
  - Pftp
  - SRB



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## *Data Storage*

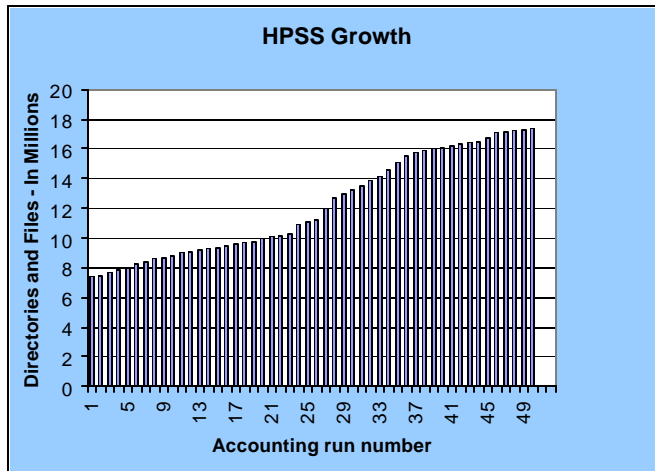
- 280 TB Stored
- 14.8 million files - 3 million directories
  - NPACI and PACI research applications
  - System backups
  - Industrial users
  - User Workstations
  - 11,373 users



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## To do list

- Upgrade to 4.2 as soon as possible
- Encourage NPACI and PACI sites to use Hsi
- Repack all 3590 to 3590E tape
- Add more tape storage and drives
- Improve performance
  - Reconfigure Storage classes
  - Retire one copy small file cos
  - Consolidate small volumes



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## HPSS to T3 tests

- 4 Brocade 2800 16 port switches
- 14 Sun T3 bricks (36G and 72G)
- 4 IBM 3590E tape drives
- 10 Sun hosts
- 12 IBM SP hosts

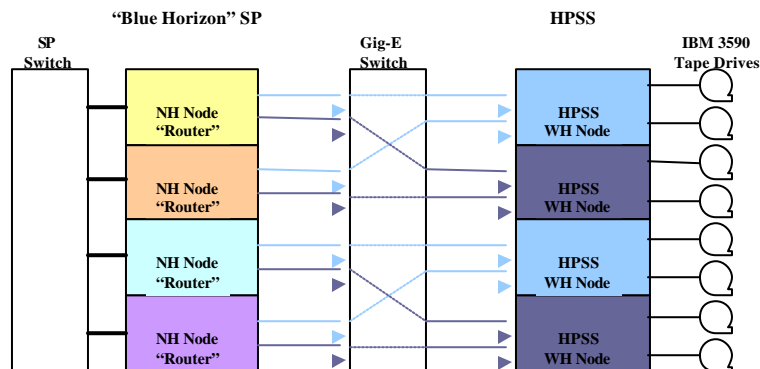


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## 8 way striped data transfers to HPSS



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## Striped Data Transfers to HPSS

- Machines are logically sub-netted at the router
- “Blue Horizon” SP organized in 4 network ‘quadrants’
- HPSS servers divided across 2 networks
- “Router” nodes do network I/O to HPSS on behalf of remaining nodes in a quadrant.

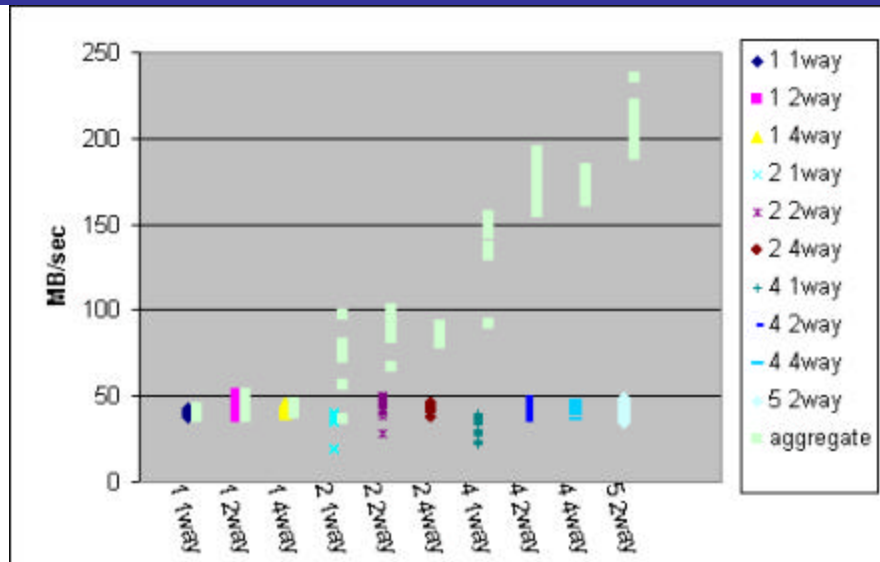


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Transfer Rates: Blue Horizon to HPSS Disk



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## *Issues and Concerns*

- Tape read problems
  - Bad tapes propagate through all drives
  - Relabeling and imports very slow



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## *Wish list*

- Incorporate Hsi and Htar into HPSS
- Add comment field to devices and drives when disabling for administrative purposes
- Have Houston run a production system onsite for reproducing reported problems
- More useful content in messages where appropriate
  - for example - STK responses



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