

CASPUR Site Report

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Central computers: update

IBM SMP:

- **Doubled capacity: new SP3 frame operational as of February 2002.**
- **Used the occasion, and installed new frame with AIX 5.1**
- **Currently running with two control workstations:**
 - **Batch system needs to be recompiled (SGEEE)**
 - **Some applications that work on 4.3.3+ stopped working on 5.1**
- **Hope to be able to solve both problems and merge frames on Switch-2, before the end of May**
- **Will then migrate to AIX 5.1 also all stand-alone machines.**

Compaq SMP:

SMP:

- **Upgraded half of the park to Tru64 5.1.**
- **Upgraded all machines**
- **By the end of May: 5.1 on all machines.**

Solaris 8

Sun

-

to

Storage news

Gigabit storage network

- Two NAS systems (NFS and AFS) are now on the private Gigabit Ethernet network
- Switching device: NPI Keystone, will soon be replaced with Extreme

- Only service, number-cruncher and front-end nodes may

Storage Laboratory

- AFS servers disabled multithreaded function to avoid timeouts
- Set it up to see if Linux-based file services may compare in performance with our current solutions (NFS on NetApp F760, AFS on Sun R220s), especially for large files
- Excellent occasion to investigate other issues, and to compare different methods of file serving, to see where bottlenecks are etc
- Will also try new media: tapes and disk systems
- A stand-alone report on these activities will be presented tomorrow

Tape news

Tape Drives and Robotics

- Gave up our part in 9740 STK Library, now it fully belongs to Babar-Italy
- All tape-related systems are using FC LTOs, everything is very stable

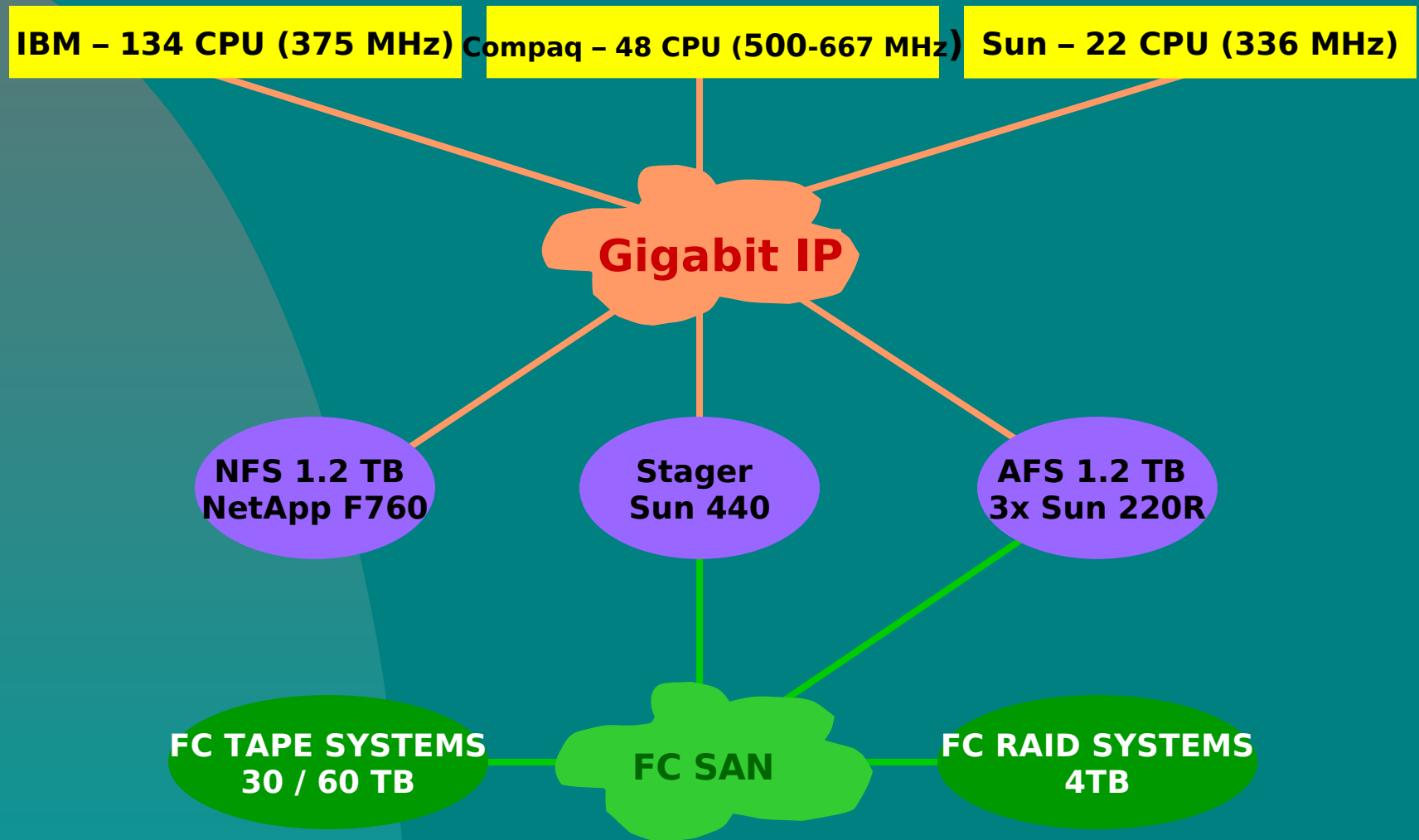
Tape Dispatcher: now downloadable
An open source machine-independent software for tape drives and carabiners. **Tape Dispatcher** provides a tape locking and mounting service within organization

- Allows to share all tape resources between all services that claim the tape access
- Performs a minimal bookkeeping, automatically assigns empty tapes from the pool
- Handles multiple mount requests on all libraries, supports a drive session

CASPUR Staging

- Staging implemented on the web and downloadable. Features multiple i/o streams, fast tape / file database (MySQL), fully-recoverable tape format
- New feature is being added: Multimover Support (Staging 2)
- Like Tape Dispatcher, Staging System will also be made downloadable

CASPUR: principal resources in 2002



AFS

- OpenAFS: solid on Linux

- Deployed many servers, not a single glitch
- Current version in use: 1.2.3, on kernel 2.4.17
- Software-wise, we are ready to migrate to OpenAFS
- Performance on Linux has yet to be checked (will do it within our Storage Lab)

- Maintenance (IBM product is being withdrawn!)

- OpenAFS on Linux - satisfactory
- IBM AFS on other architectures - we are covered until the end of 2002
- Looks like there is a possibility to purchase maintenance for 2003 from IBM
- Will anyway study other independent maintenance providers

CASPUR and HEP

Relations with INFN:

- Fullscale AFS system support (maintenance and hotline)
- ASIS mirroring to 18 INFN Sections
- Linux tree maintenance incl. bootable CDs at the latest patchlevel
- Babar Cluster at CASPUR (contract ends up in

November 2002)

CASPUR/CERN Collaboration

- WAN Storage Laboratory (CASPUR/CNAF) – just started
- Contract renewed in the end of 2001
- Three main lines of joint activities stood out since that date:
 1. Storage evaluation (joint Storage Lab test program, later - AFS monitoring)
 2. ASIS. CASPUR will take care of architectures that CERN no longer supports:
AIX, Tru64, IRIX, HP/UX. A set of reference machines is already up and running
at CASPUR, complete with the compilation machinery
 3. Security: event logging and visualization (common format of db tables adopted)

Projects for year 2002

Control and Monitoring phase 2

- **Sensor Library for all architectures**
- **Server tuning, scalability checks**
- **General clean-up, integration with a new event database**
- **Autoconf on all architectures**

Storage evaluation

- **Vast program of tests in the framework of Storage Laboratory**
- **Technology tracking**

Security

- **Consultable event log**
- **IDS system (host-based)**
- **Network topology rearrangement (no incoming connectivity for personal workplaces)**

Authentication

- **Kerberos 5**
- **Cross-cell authentication**