CS Dept. Computer Systems New World Order

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Lunch Bunch Update 10/17/00

Outline

- Goals
- File System
- UGCS
- Instruction
- OS Standardization
- Servers/Services
- Wireless
- Security
- Priorities
- Windows?
- Q&A

CS Systems

- Getting information:
  - system web page
    http://www.cs.caltech.edu/~sysadmin
    - significant system events will be noted in news items
    - some info on this site with more to come
  - mail unix-help@cs for specific needs

New File System

/home/andre
leblancd
rafi
/cs/courses/cs138
cs184
/cs/research/multires
networks
multires
prl
theory
vlsi
/cs/software

/cs/research/arvogroup
bio
gems
gg
ic/
users/
andre
benchmarks

File System Hardware

- NetApp 760 dedicated file server
- 1.5TB Raw (1TB yielded?) current capacity
- 1Gb/s network connection
  - connect into building router in 76

Backup & Snapshots

- RAID
  - RAID 4 on filer
    - automatic recovery of single hardware failure
- snapshots
  - quick recovery of recent files
- tape backup
  - catch-all

Snapshots

- Provides directory of old versions
  - tracks changes
  - categorizes changes by hours, days, and weeks
  - located in .snapshot

[demo]

Backup

- Full dumps of filer done weekly
  - provides protection against multiple failures
  - longer term of data kept
  - currently 4 sets of tapes
  - rotates 3 weekly, 1 monthly
  - currently don’t have anything older than 1 month
    - until we get more tapes, this is all
  - backups do not have snapshots

Backup Policy

- Will backup mail directories
- Mail backups overwritten within 2 months
- Non-mail backups *may* be kept indefinitely

UGCS cooperation plan

GOAL:

- account interoperation
  - André's ideal: one homedir w/ reasonable behavior for login in both places
    - TAs, etc. should be able to login to UGCS and have things work similarly as in CS
    - students login to CS and work for them (formerly UGCS only)

UGCS cooperation plan

Components:

- directory cross export w/ common mount points
  - /home, /cs/courses, /cs/research, /cs/software
- UID unification
- single homedir (may be optional)
- possible user/machine restriction classes

UGCS cooperation plan

Status:

- UGCS->CS rollover works (if no UGCS account)
- UIDs separate; can/will sync now on case-by-case (maybe general sync in future)
- homedir's separate (if separate account)
  - can sync case-by-case where desirable
- no common/interoperating system (dot files; will fix)
- future plan default is to not create separate accounts
  - future users getting CS access from UGCS
  - extend single account rather than create separate

Instructional Facilities

UGCS:

- Linux: 16 older, 10 new w/ Nvidia video
- priority is CS1/2/3, CS 17x, respectively

VLSI Lab:

- 30 machines
- plan to upgrade to latest FreeBSD

SunRays & Sparc 450:

- to be deployed
- Solaris

Instructional Facilities

- All can see /cs/courses
  - still have to deal w/ OS differences for now
- Goal of unified user accounts

Future plan:

poll instructors for needs month or 2 before term & feed requirements to CS & UGCS admins

Machine types (current/planned)

- Linux
  - prototype phase now; needs more software
  - linux-people@cs.caltech.edu
- FreeBSD
  - next to standardize
- Irix
  - phasing out, planning to standardize as well
- Sparc/SunRays
  - special case? --support unclear

Machine types (current/planned)

Plan:

- standard/uniform environment
  - system config, dot files
- directories and paths
  - /cs/software is arch dependent
  - where possible, same core of software
- auto procedure for build/rebuild/config new machines to the standard

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CS Dept. Computer Systems
New World Order (part2)

Lunch Bunch Update 10/23/00

Servers/services

- File service
  - filer
- mail
  - IMAP, UNIX mail
- WWW
- external FTP

- DHCP
- Printers
  - graphein (154) & scribere (268)
- backup
- DNS
- LDAP

Servers/services

- New
  - filer, LDAP, DHCP, printer
- Migrating
  - mail, DNS, external FTP, backup

Wireless

- JRG covered (mostly)
  - reports of Red Door coverage...
- Technology
  - Lucent, also Apple Airport, IPAQ?
- 3 access points (hopefully increase)
- DHCP addresses issued by CS
  - extended from 10 to 15
- MAC address lockdown/registration (wireless@its)
- plan for EAS-wide coverage
- data unencrypted now (maybe encrypt future?)

Machine use/availability

- Old world
  - 3 classes of users used to restrict access to machines
- New world
  - will have way to restrict machine to user subset
    - e.g. workbench ONYX to GEMS folks
    - research machines to research group where feel necessary
    - maybe special/unique instructional machines to class

Security

- Currently up to the user
- be aware:
  - connection in the clear
  - if use ftp/telnet/etc., sending password in clear
  - all data to filer (any file system) is transferred in clear
- what can (should) you do:
  - ssh/scp to transfer data
  - PGP for sensitive/private mail
  - don't keep nuclear secrets or love-letters on filer

Security (future plans)

- probably going to disable internal FTP, telnet, etc
  - already disabled on new machines
- start finding scp, ssh, etc. for clients you use from home
  - of course, we'll provide for CS machines
- group accounts will change to group access
- comprehensive policy under development

Windows

- No official support at present
  - currently have problems with mutant
  - various groups support their own domains
- filer will be accessible directly from Windows
  - potential goal of single UNIX/Win homedir space

[demo]

Other Changes in the Works

- Net 131 is going away
- Net 78 to become Net 42

Plans & Priorities (1 of 2)

- UPS 76 (but in $$ wait)
- filer backup solution
- move web servers
- move mail servers
- more linux software (help set priorities)
- other nwo servers (dns, ftp, backup ldap…)
- finish moves to filer (courses, alains, ???)

Plans & Priorities (2 of 2)

- new, unified dot files
- NWO FreeBSD
- NWO IRIX
- upgrade 154 to NWO FreeBSD
- sunray lab setup (unify nwo)
- ???GG unification???

Q&A

backup

New File System

- Directory organization
  - homedirs have specific place
    - either in research group's users, or students
    - access by /home/*user*
  - research groups are in 'research'
    - multires, prl, ic, etc.
  - instructional data in 'instruction'
  - software
    - categorized by OS