

*CS Dept. Computer Systems
New World Order*

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Lunch Bunch Update 10/17/00

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

Outline

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

/home/andre

leblancd

rafi

/cs/courses/cs138

cs184

/cs/research/multires

networks

multires

prl

theory

vlsi

/cs/software

New File System

/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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Outline

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