Computer System Administration

Lecture 2
Setup and Installation
Irix & FreeBSD

Remainder of Course

- Last in class hands on lecture.
- “hands on” participants need to pick their OS
  - Mindfull of groups
- “Lecture only” participants will be assigned to machines randomly
- Machines will be located in AE Machine Room
  - ssh will be setup for all machines
  - Console access only available during office-hours and by appointment

Irix Install Process

- Copy miniroot from media to swap partition
- Execute inst
- Partition/Label disk
- Select distributions for install
  - Load many media sets... many
- Install media sets
- Requickstart
- Reboot
- configure

Repartition?

- Swap is already active/in use
  - Cannot shrink/grow/move swap
  - Often pins existing filesystems
- Separate miniroot/standalone program for repartitioning
  - fx
  - fx.ARCS
Irix Network Booting

- Power on machines
- Wait for Starting Up System
- Press Stop for system maintenance
- Enter Command Monitor
  - printenv
  - setenv netaddr IP
- boot -f net():/stand/fx.ARCS –x

FX: Disk Partitioner

- Ctlr# 0, Drive #1
- [r]epartition
- [e]xpert
  - Yes
- Partition0 (root)
  - xfs, base: 130, size: max(881)
- Partition1 (swap)
  - Raw, base: 2, size: 128

FX: Other Partions

- Partition2-8: none
  - xfs, base 0, size 0
- Partition8: VolumeHeader
  - Volhdr, 0, 2
  - Boot-Blocks
  - System Diagnostics
  - Mini-miniroot

FX: Disk Partitioner

- Partition 10:
  - Overlap partition
  - Volume, base: 0, size: max
- Others
  - xfs, base:0, size: 0
  - Inactive
Fx: saving partition

- ..
- /sync

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FX: Writing Partition

- ..
- Dksc/0/2
- r/e
  - Yes
- Partitions
  - 1 raw 2 128
  - 6 xfs 130 MAX
  - 8 volhdr 0 2
  - 10 volume 0 max

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Fx: finishing partition

- /show/part
- /sync
- exit
  - Restart

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Irix: beginning install

- Install System Software
  - Remote host
    - ./
  - Install
    - System reboots
- Miniroot
  - “Make New Filesystem”: yes
  - “y”/512

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Configure second disk

- `admin`
- `mkfs /dev/dsk/dks0d2s6`
  - Block size: 512
- `mount /dev/dsk/dks0d2s6 /root/usr`

Loading Media

- `Sethostname`
  - `Hostname`
    - `0xffffffff`
- `load` `http://128.213.30.2/install/IRix/install_selections`
- `[2]“feature stream”`
- `..`

Selecting Packages

- `install default`
- `list`
  - `[q]uit`
- `confict`
  - Manages dependencies between packages
    - `confict 1a 2a 3a 4a 5a 6a 7a 8a 9a 10a 11a 12a 13a`

Doing the Install

- `go`
  - Preinstall check
  - Copying files...
  - This takes a long time.
FreeBSD: Starting install

- Floppies
  - PCs generally don't have an option to Network Boot
    - PXE (these machines don't have it)
  - CD Rom
    - Not all machines will CD-Boot
      - These Won't
    - Only used to get miniroot on system.

boot/install floppies

- 4 Disks
  - kern.flp (system kernel)
  - mfsroot.flp (system miniroot)
  - fixit.flp (recovery utilities)
  - Boot.flp (kern + mfsroot in one, 2.88MB image)

Loading miniroot

- Boot with kern.flp
- Wait for prompt
  - “Please insert MFS root floppy and press enter:”
- Insert the mfsroot.flp disk
- Press enter
- Skip kernel configuration

Disk Layout

- Custom
- Partition
  - “a”ll disk
  - “q”uit
- Boot Manager
  - Bootmgr
Disk Layout Continued

- Label
  - “C”reate, “128M”, “swap”
  - “C”reate, default (all), “fs”, /
- Set FS options
  - Highlight “/” partition
  - “s” (softupdates)
- “Q”uit

Distributions

- Distributions
  - Custom
    - All but “src”, “local”, “ports”
  - Media
    - Ftp
    - URL
      - ftp://128.213.30.2/pub/FreeBSD

Configure Network

- “ep0”
- Ipv6: No
- DHCP: no
- Hostname/IP from front
- Gateway: 128.213.30.1
- Name-server: 128.213.1.1
- “Ok”

“Commit”

- “Commit”
  - Format
  - Extracts Distribution Sets
  - Brings you to post-configuration screen.