

# Herding Cats: LCFG on Mac OS X



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- 10.5 out for over a year, but lacking
- Most clients still 10.4.
- No flat or >2GB package support
- ACE using radmind for package mgmt.
- Limited manageability
- Configuration fragmentation

# Configuration

- NVRAM
- PIE config file
- EdLAN Database
- LCFG profile
- Radmind config file



Too much configured at build-time

# Leaps and Bounds

2009...

01/09: New build tools powered by CMake.

`lcfg-pie`: Build configuration → profile

08/09: `lcfg-ds`: Directory Service Config → profile

`lcfg-macpkg`: smaller, better, faster, more.

# Leaps and Bounds

2009...

## Launchd

- Process 1
- Launches Daemons (System) and Agents (User)
- Minimal LCFG interaction until...

## lcfg-launchd:

- Creates arbitrary launchd jobs
- Can enable/disable system services
- Launch jobs on login/mount/path/cron-style
- Jobs can be session type dependent

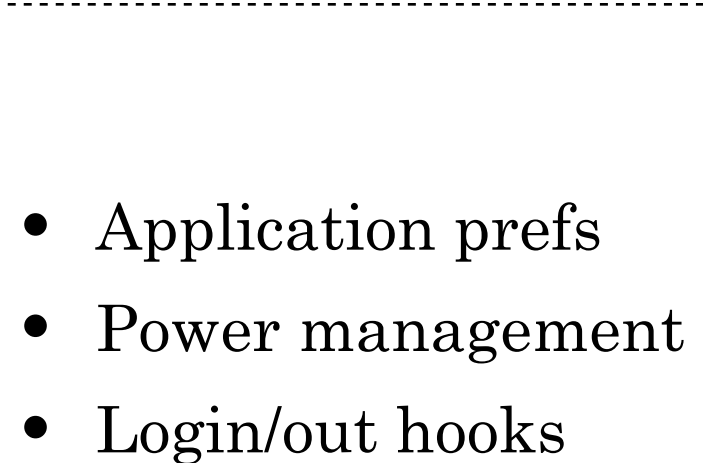
# Leaps and Bounds

The present...

## ‘The System’

- System updates
- Local Users/groups
- System Daemons
- Cron jobs
- Packages
- Kerberos
- Build-time variables
- Directory Services
- NVRAM
- CUPS

## ‘User Experience’

- Firefox
  - Login window
- 
- Application prefs
  - Power management
  - Login/out hooks

# ToDos

## Bootstrapping

- Launchd: minimal dependency mechanism
- Boot is asynchronous (racy!)
- LCFG needs to come up after the network has settled down
- OS X likes to change hostname... problems for LCFG.

## Currently:

- Using legacy StartupItem to bootstrap
- Enforces SCPreferences hostname == fqdn... sometimes
- Works OK when on university network

# ToDos

## Bootstrapping

- Move bootstrapping to launchd
- Replace macboot/client with a bunch of launchd daemons?
- How 'Maccy' do you want to be?
- Decouple hostname from profile name?
  - Radmin/puppet use SSL certs...



# ToDos

## Mobile computing

- Crankd (<http://code.google.com/p/pymacadmin/>)
  - Python, hooking into the Notifications Framework
  - Allows responses to various system events
- Crankd + LCFG Contexts
  - Check for new profile on wake from sleep
  - ‘I’m off EdLAN, give me profile updates but don’t install packages’
- OS X ♥ Python
  - PyObjC bridge allows access to most system frameworks from python
  - Python component framework would allow all kinds of fun.

Where to now?

