

Imaging, Security, Configuration, and Maintenance for the Masses

Brandon Koeller

Distributed Systems Manager

Catalyst Client Services

Office of Learning Technologies

Overview

- Context
 - Institution, Department, Facilities, People, Services
- Imaging
 - Create, Upload, Deploy, Freeze
- Configuration
 - AD/GP, Scripts
- Security
 - Authentication, Account Privileges, Viruses, Critical Updates, User Data, and Logging Out
- Questions

Context: UW

- Large, Public, Research Institution
- 43,000 students
- 23,500 faculty and staff
- Decentralized IT services
- ‘High Tech’ culture and community

Context: OLT/Catalyst

- Office of Learning Technologies
- Catalyst
 - Catalyst Knowledge Services
 - Catalyst Learning Spaces
 - Catalyst Tools
- Separate from Computing & Communications (Central IT-ish)

Context: Facilities

- OUGL Commons (~380 stations)
- MGH Computing Resource Center (186)
- Introductory Programming Lab (60)
- Access+ (260)
- Classrooms (~150)
- 12 Non-adjacent Buildings, 20+ Subnets
- Big Funding Source: Student Technology Fee

Context: People

- 7 Full Time Staff
- ~60 Student Staff
- 1 FTE + 9 Student Leads to handle all hardware and software maintenance for all spaces
- Clients Last Week (except classrooms):
 - 55,306 Logins
 - 15,257 Unique Users

Context: Services

- Lots of up-to-date, warrantied equipment (Thanks STFC!)
- Mix of Macs and PCs
 - Specialized Stuff (Adaptive Technology, Digital Video, Audio, Image Production)
- Broad software offerings (you name it, we got it, or something very like it)
- Excellent support and consulting

Imaging: Overview

- Rip, Mix, Burn
- Create
- Capture
- Deploy
- Freeze

Imaging: Create

- You know...the easy part
- Documentation key (check it out!)
- All work completed by student leads
 - Install OS, all software
 - Configure printers, autologout, security settings, appearance settings
 - Default User Profile (guh.)
 - Multi-step QA
- Sysprep, Deep Freeze Seed, Ghost Gather

Imaging: Deploy

- Custom Gather and Casting Ghost CDs (check it out!)
- DHCP (we hates it!)
- Multicast
- Object is to be as lazy as possible
 - Only 'touch' event is to walk to each computer and boot off CD...everything else is automated
 - In theory, Ghost is capable of magical things. Beautiful cross-subnet central console driven booting to ghost clients for completely no-touch imaging. I believe there is no such thing as magic. Only darkness, and walking.

Imaging: Freeze

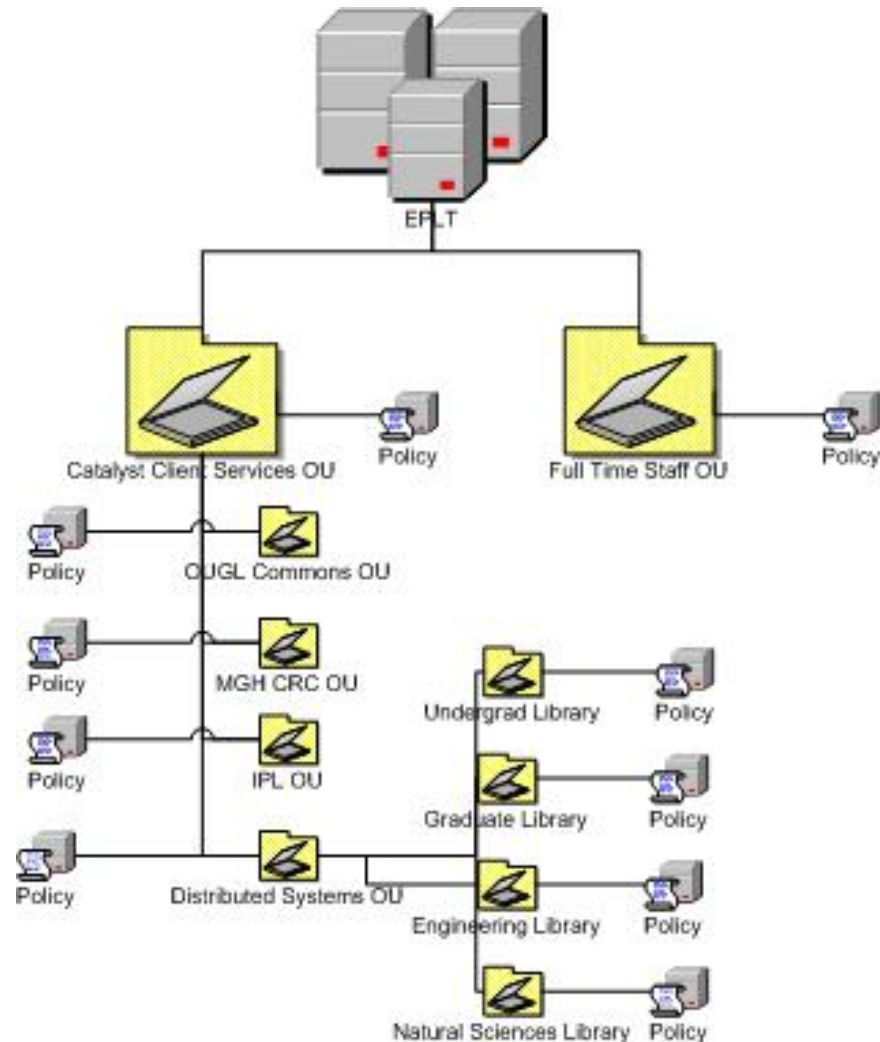
- Faronics Deep Freeze
 - All file system changes are temporary. Reboot == reimage and restore.
 - Magic...at last!
- Console to remotely install DF Client and 'Freeze' workstation hard drives...somewhat flaky, which we choose to call 'full of character'.

Imaging: Addendum

- The Freeze represents conceptually ‘done’ to us since we need not muck with the systems until we re-image.
- Of course, this is a lie. But an elaborate one, at least.
 - WSUS and Critical Updates
 - Startup, Login, Logout, Shutdown
 - Nightly, or Sessiononly reboots

Configuration: AD/GP

- Active Directory Structure
- Group Policy Mojo



Configuration: Scripts

- All the Little Things
 - Space-based customizations
 - Space-based fixes
 - Space-based troubleshooting
- Example Login Script

Security: Roundup!

- Authentication
- Account Privileges
- Virus Protection
- Critical Updates
- User Data (gah!)
- Logging Out

Questions, et al.

- Questions?
- Comments?
- Suggestions for improvements?
- Tools you use?
- Challenges you face?