Imaging, Security, Configuration, and Maintenance for the Masses

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Overview

• Context
  • Institution, Department, Facilities, People, Services

• Imaging
  • Create, Upload, Deploy, Freeze

• Configuration
  • AD/GP, Scriptseses

• 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 Sessionly 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?