The Virtues of Total Management or:
How I Learned to Stop Worrying and Love Radmind

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The Job

- Software Developer
- UNIX guy
- No end users
The Actual Job

- Software Developer, System Administrator, Help Desk, Application Expert, Problem Solver
- Unix, Windows, AIX, Linux
- Many end users
- The new guy
The Year of the Laptop

- Mac OS X
- Mobile office
- SubEthaEdit
Diversity

- Hardware and Machine Classes
- User Needs and expectations
- Locations and Network
The Worry
Support

- Complexity
- Troubleshooting
- Not My Job
Security

- Untrusted Wires
- Untrusted Users
- Automated
User Buy in

• Administrator access
• Application selection
• Minimal interference
Observations

- Some users *need* admin access
- Commonalities
- Easy trouble shooting
Existing Solutions
NetBoot

- Pull
- Image Based
- MAC address access control
NetInstall

- Pull
- Apple package based
- Automated software installations
ARD 2

• Push
• Apple package based
• Password access control
• AES encryption
Radmind

- Pull
- File level maintenance
- Network optimized
- TLS certificates
Apple Packages

- Installation only
- Unverifiable
- Not universal
Ideal Solution
Client initiated updates

- Minimal interruption
- User retains control
- Hardware provisioning
Security

- No passwords
- End to end encryption
- Authentication and Authorization
Total Management

- Manage every filesystem object
- Return system to a baseline
- Allow for exceptions
Deployment
NetRestore & NetBoot

- Initial image
- Speed
- Single image
RadWeb & Radmind

- User Configuration
- Certificate Creation
- System Update
ARD 2.0

- Direct Client Support
- Remote Access
- Hardware Analysis
User Buy-in

- All users can have admin access
- Updates can be automatic or user initiated
- User selects applications
Sharing

- Each client gets a unique certificate
- Common configurations are stored in shared base
- Applications separated from OS
New Client

- Bootstrap
- Select software
- Install certificate
- Run Radmind
New Client Demo
Update Process

- Check server for new policy description
- Compare filesystem to policy
- Modify filesystem to match policy
Automatic Updates
Power User
New Hardware
Update Demo
Benefits

- “I just want it to work”
- “I might break things”
- “I’m too good for that”
Benefits

• No need to redo factory load
• Allows user to install custom applications
• Easy way to select and install applications
• No difference between managing clusters, desktops and laptops
Future Work

- Windows Port
- Further network optimizations
- Package translation
- Radmind 2.0?
More Information

- http://radmind.org
- radmind@umich.edu
- http://macenterprise.org
- http://bombich.com
Q & A