Macs in the Enterprise
Presented at CANHEIT-HPCS 2016

Wade Wesolowsky
wadew@ualberta.ca
June 22, 2016
Client Support Analyst at the University of Alberta, tasked with assisting to find a way to unify Macs and Windows

Bachelor of Computing and Information Systems from Athabasca University
**Background**

- **Mac machines**
  - Individuals - user managed
  - Local scripts
  - Admin for everyone

- **Windows machines**
  - Central - Active Directory managed
  - GPOs
  - Limited admin
Goals

❖ Unify experience
  ➢ Drive & printer mappings

❖ Central AD integration
  ➢ Group policies
  ➢ One account

❖ Automated software updating

❖ Empower standard user accounts

“Mac/PC” by Randall Munroe is licensed under CC BY-NC 2.5
Possible Strategy?

I recommend standardizing on one type of computer for the office.

We must identify and eliminate the deviant users of Macintosh, Unix and... God help us... OS/2 Warp.

The Holy Wars begin

Don't lie to me, Gustav! You're a stinkin' Mac user!!
Possible Strategy? (Cont’d)

❖ Academic staff buy computers they are comfortable with.

❖ Go for the soft sell
  ➢ Incorporate devices users want

❖ Usually we can limit to *some* pre-approved options.
  ➢ PC / Mac / Linux
  ➢ Users are given choice
Active Directory

Our Strategy

#Shaping2016
THREE PIECES OF SOFTWARE

❖ Centrify Mac Identity Suite (non-cloud)

❖ Munki

❖ Munki Reporting
Centrify - Domain Policies for Macs

- **KEY**: Extends the capabilities of our central Active Directory domain to Macs
  - Policies that Windows admins can manage
  - Maps network printer shares
  - Maps Windows shares
Munki - Software Patching

- **KEY: Updates software on Mac computers**
  - Our implementation only updates existing software
    - E.g Chrome, Firefox...
  - Munki has a Managed Software Centre
    - Users can self-install apps
Munki Reporting - Status Dashboard

- KEY: Provides a web dashboard which reports on our Munki installs
  - Has information modules you can select to gather information about the Macs
Some Barriers

- Organizational Change
- Mac Expert Buy-in
- Mobile Users
- Domain Access Over Wi-Fi
  - Automatically Joining Wireless Network
  - Laptop Encryption
- Guaranteed Updates
**Barrier - Organizational Change**

❖ Why change the status quo?

❖ Solved by:
  ➢ Clear goals and expectations
  ➢ Communication with stakeholders
  ➢ Value proposition
Within our organization there are people who are Mac experts. We wanted our solution to be acceptable to them.

Solved by:
- Asking for input
- Pre-flight testing
- Using feedback
Accessing the domain network over the campus wireless network

Solved by:
- Indispensable mobile users
- Search for solutions
  - 802.1X Certificate based authentication?
**Barrier - Domain Access Over Wi-Fi**

- We need to be able to access the AD domain to login.

- **Solved by:**
  - Creating separate logical wireless network which users can access
  - Has network settings that allow domain access
  - Campus Computing IDs (CCIDs) to authenticate for access
Mobile Macs need to connect to the wireless network BEFORE connecting to the domain.

Solved by:
- Creating a Mac Profile in Apple Configurator
  - wireless credentials saved in System keychain
- *Automatically* logs them into the wireless network
University policy mandates FileVault 2 (full disk encryption) on all mobile Macs

Solved by:
- Converting network accounts to mobile accounts so they can unlock FileVault 2
For printers to have the correct preferences we need to have the printer drivers installed!

Solved by:

- Install vendor printer drivers from Apple, and then let Munki update them!

**Xerox Printer Drivers v4.0 OS X**

“Xerox Printer Driver v4.0 OS X” by Apple
Barrierz - Guaranteed Updates

- We wanted a way for “one click updating”

- Solved by:
  - Put icon on Dock. When user clicks it, Mac logs out and forces an update.
Gold Standard

- Mobile Mac laptops which are:
  - Secure, encrypted
  - ONE domain credential for access
  - Automatically map printers and network shares
  - Can access the AD domain over the campus wireless network
  - Kept up-to-date automatically
  - Tracked by Munki reporting

- Windows users can switch to their Macs without loss of functionality!
Future Direction

❖ How can we automate deployment?
  ➢ Very expensive to do manual deployments

❖ Case studies
  ➢ Unfortunately, our deployment is not far enough along to have reliable results which we can report here!
  ➢ For updates e-mail me directly!
CLOSING REMARKS

❖ There are many other ways to manage Macs!
   ➢ JAMF Casper Suite
   ➢ Parallels Mac Management for SCCM
   ➢ Simian on Google App Engine
   ➢ Mobile Device Management Server from Apple
   ➢ Among others...

❖ Difficult to chart a course on the Winds of Technological Change
LINKS

❖ Centrify
  ➢ http://bit.ly/1TP3KTN

❖ Munki
  ➢ http://bit.ly/1UbyOak

❖ Munki Reporting
  ➢ http://bit.ly/1XN9BbK
Questions?

Let *me* know about how you handle Macs in your enterprise:

wadew@ualberta.ca
Giving Thanks

❖ I am part of a much larger team!

➢ Brett Scotten
➢ Devon Mielke
➢ Gail Breum
➢ Jozef Kupnicki
➢ Jules Mounteer
➢ Karlo Bituin
➢ Ken Manke
➢ Lilli Chevrier
➢ And many more...
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