MATH FACULTY INVENTORY SYSTEM

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INTRO

- Computer Science Computing Facility (CSCF)
- Math Faculty Computing Facility (MFCF)

- …Totaling 28 full-time staff

SUMMARY

- Who uses our inventory system?
- What do we do with it?
  - » Manually record equipment changes
  - » Assert authoritative information used elsewhere
  - » View relevant information from external sources
- Demo
- Learnings

WHO USES OUR INVENTORY?

- Inventory's users are:
  - » CSCF and MFCF staff
  - » very busy; wide range of responsibilities

  - » MFCF – has client-billing process based on types and counts of equipment under support
  - » CSCF – subscriptions billing process, includes desktops

WHAT DO WE DO WITH IT?

Workflows for both CSCF and MFCF:

- Everyday searches for equipment: age; software age; physical location of hardware
- Integration with our home-grown service desk tool: Service Tracker (ST)

WHAT DO WE DO WITH IT? (MFCF)

- MFCF uses command-line tools to set and query inventory
  - » client-billing process
  - » regular automated checks for renewing service contracts
- Automated deployment using SaltStack and Inventory API
  - » to generate inventory records and push updates to DNS

WHAT DO WE DO WITH IT? (CSCF)

- Integrating systems and automating workflows
  - » DNS fields: automatically pushed to Infoblox
  - » Service monitoring: pushed to Nagios
  - » Subscription billing code: used by billing app
  - » Equipment acquisition: .csv export/import
  - » DHCP data: pulled from inventory for specific CS networks

DEMO

FUTURE DIRECTIONS

- Automating configuration management
  - » SaltStack, tftpboot, pxeboot
- Equipment hierarchies: X contains Y

LEARNINGS

- Inventory app has been ~.2 FTE last 7 years (myself and co-ops)
- Time spent:
  - » learning and improving workflows
  - » software development
  - » improving development process
    - (gradually more PM, more Agile)
- Communicating changes
  - » Catalog of system dependencies

QUESTIONS?

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