Advanced Electric Meter Update
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About ARS

• Research Arm of USDA
• 3,200 buildings in 95 locations
• Annual utility cost $35 million
• Labs, greenhouses, animal facilities, agricultural buildings
• 13.5 Million SF
• $1 Billion Agency
• 50,000 large animals, 400,000 acres
Federal Metering Requirement

- EPACT 2005
  - Install building level advanced electric meters where cost effective by FY 2012 (>10,000 SF)
- EISA
  - Install building level natural gas and steam meters where cost effective by FY 2016
- EO 13693
  - Install water meters
- DOE guidance
Our Approach

• Install building level meters
  – Met the FY 2012 goal
  – Met the FY 2016 goal
  – Wash, rinse, repeat
  – 215 meters installed to date

• Network meters
  – Square D ION 6.0 & Windows Server 2003
Cybersecurity Issues

• Patches and updates
• Windows 2003 end of life July 14, 2015
  – Purchase updates and patches for $800/qtr
  – Obsolete box. Move from a physical server to a virtual server
  – Upgrade application to Schneider Electric PME 8.0
  – IP addresses changed
  – Update meters and reconnect them
HACU

- ARS employs over 100 HACU interns
- FD hires Energy Manager Trainees
- Claudia Gamble, a University of MD Electrical Engineer, was tasked with updating meters and connecting them to the server. Not only did she do that but she wrote a manual on how to do it.
Updating Meters

• Check the firmware version in the meter
• Check the latest version on the manufacturer’s website
• Download the upgrade
• Disable the meter
• Install the upgrade
• Enable the meter
• Don’t stop and follow the steps
Connecting to the Server

- To configure a new device enter the information for the device in the server, the device appears, then select “connect.” If it can’t connect ping the IP address. If no reply, local IT help is needed.
Success Story

- Graduating December 2018
Questions?

Thank you!

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