# GENI WiMAX Testbed

## CS 407 Spring 2014

Sponsored by the National Science Foundation

# Overview

- WiMAX testbed
- Poll
- Reserving Time Individually

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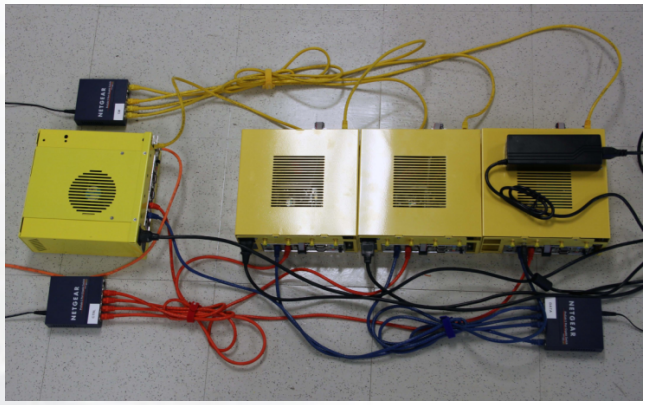
# WiMAX Testbed

- Comprised of physical hardware
  - Base station
    - WiMAX base station RF unit
    - 120º directional antenna
  - Server
    - Modified ASN-GW
    - GENI aggregate manager
  - Clients
    - Orbit “yellow nodes”
    - PCIe WiMAX chip
    - Experimental controller (OMF)



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# WiMAX Testbed (Ctd.)

- How it works
  - Write an experiment description file
    - Tell the WiMAX node(s) what to do
      - Ping
      - Ipref
      - Vlc
      - Etc.
    - What information to collect from the experiment
      - Ex. Ping - rtt
    - Graph of live experiment data (optional)
  - Execute the file (omf exec)
- For the purpose of the assignment, this is written for you.

# WiMAX Testbed (Ctd.)

- Physical hardware limitations
  - Multiple people can't control the same WiMAX node
    - Limits to one person at a time per testbed
- Testbed reservations
  - UW-Madison
    - Single reservations
  - NYU Poly
    - Single reservations or group reservations
      - Queue for group reservations
        - » Execute one persons experiment, then the next, etc.

# WiMAX Testbed (Ctd.)

- Assignment testbed reservations
  - NYU Poly
    - Single reservations
      - 1 hour timeslots (85 students = 85 hours > 3.5 days)
      - (demo later)
    - Group reservations
      - Need to accommodate most number of students for a given block of time

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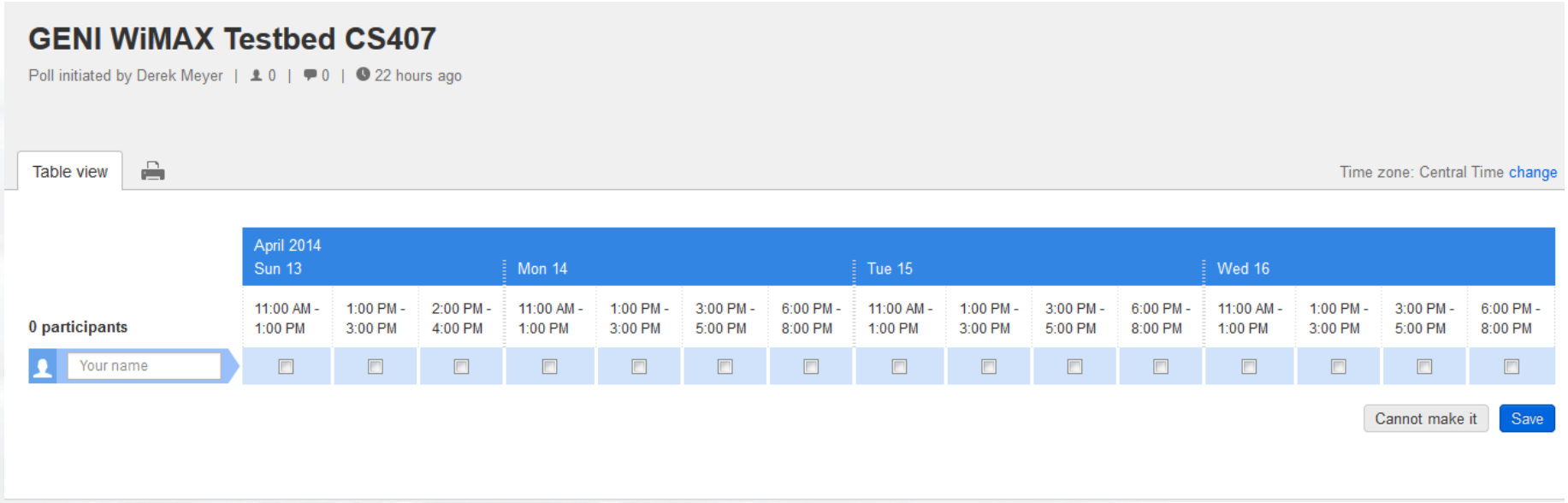
# Doodle Poll

- http://doodle.com/xkuz4mgbxbgqs362



# Doodle Poll

- Selecting the top 2 or 3 time slots based on distribution
- I can't make it…
  - Schedule time for yourself on the testbed
  - **Don't wait until the last minute!**
    - There may not be time slots available to reserve
- Poll open now and closes on Friday at Noon!

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# How to reserve time

- http://witestlab.poly.edu
- Click “Log In/Out”
  - Click “Log In”
- Click “Pages”
  - Click “Reserve Testbed Time”
- Select a date
- 1 hour blocks to reserve
  - Time is in 24-hour format in EST
  - Subtract one hour to put in CST

# Setting up the testbed

- Prepare the node for experimentation
- Follow the instructions here:
- http://witestlab.poly.edu/respond/sites/cs407spring2014/module/introduction-set-up

# Brief Demo

- Questions?