OpenFlow Campus Trials
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Current OpenFlow Deployment
- Multiple buildings and labs
- Testing with switches from multiple vendors
  - NEC, Toroki, HP
- Wired and wireless access networks

Flagship Project: Resonance
OpenFlow-based Network Access Control
- **Current approach**: coarse-grained, requires VLANs
- **Resonance**: flexible, dynamic, supports complex policies
- Currently running on the campus

Applying Resonance
- Registration
  - Infection removed or manually fixed
  - Failed Authentication
  - Quarantined
- Successful Authentication
  - Still infected after an update
  - Clean after update
  - Vulnerability detected
  - Operation

Demo Setup
- Host A - Authenticated
- Hatch B - Not Authenticated
- Quanta Switch
- Kamel Switch
- Internet
- DHCP, DNS
- Controller
- Authentication Portal

Preliminary Evaluation

Next Steps
- More widespread deployment (e.g., more research labs, wireless network, dormitories)
- Other evaluation experiments
  - Scalability of controller
  - Security
  - Fault tolerance
- Slicing to support multiple experiments

Other OpenFlow Projects
- Distributed Intrusion Detection
- VoIP QoS
- IP/Interactive Television
- Various class projects in new graduate seminar