geni
Exploring Networks of the Future

GENI

Experimentation Outbrief

GEC12

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www.geni.net

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New Projects in Experimenter Support

- Presentations from four new project teams
- Robert Ricci (Utah): Education and Support for GENI Experimenters
  - GENI tutorials, model experiments, and support mailing list
  - ★ Looking for experiments, suggested examples and tutorial venues
- Kaiqi Xiong (RIT): APRA-GENI
  - Project-based summer camps and workshops
  - ★ Seeking participation: **GENI-workshop2012@rit.edu (at GEC13)**
- Jay Aikat (UNC): Education and Training Resources for Experimenters
  - Reproducible experiments via realistic synthetic workloads
- Anish Arora (OSU): GENI Educational Kits for Wireless Sensor Networks
  - Low barrier-to-entry wireless sensor experimentation kits

Experimenter Roundtable

- Presentations from three experiment teams
  - Aaron Gember, University of Wisconsin
  - Ezra Kissel, University of Delaware
  - Aaron Rosen, Clemson
  - Ruma Paul, Washington State
- Open Discussion

★ Keep the feedback coming: help@geni.net

Experimenter Roundtable Feedback Trends – What's Working?

- ✓ Seeking community support is nearly always a good idea
  - ✓ Mailing lists
  - ✓ "Love the GENI jabber channel"
  - ✓ "Experimenters can be driving force behind new features."
- ✓ Individual aggregates generally work as advertised
- ✓ Tool and resource support is constantly improving
- ✓ PlanetLab supports scale needed

Experimenter Roundtable Feedback Trends – "GENI Nuances"*

- × Manual approval process for OpenFlow slivers
  - – Expecting improvement with FOAM rollout
- × Too many packet operations need to go through the software path
  - × Packet rewriting
  - × Dynamic flow modifications clog up software path
  - × Aggravated by artificial proliferation of flow space rules

* Euphamism courtesy Aaron Gember

Experimenter Roundtable
Feedback Trends – Wish List (Capabilities)

- More dedicated “vanilla linux box” resources
  - In more places
  - Visibility into “reserved” vs. “broken” node
- Understanding experiment setup over time, trusting results
  - Help with resource renewal
  - State of the substrate, physical changes, outages
- Advertisement of substrate connectivity
  - Even if experimenter can’t control it

Experimenter Roundtable
Feedback Trends – Wish List (Support)

- More sophisticated example configurations
  - Especially across multiple aggregates
- Expanded community support venues
- Improved documentation
  - Specific aggregates
  - Documentation for omni configuration
  - List “common rspec mistakes” (e.g. flowspace should include ARP ether type)
  - Better error messages in slice / sliver setup