

APRA-GENI: Applying a Project-based Approach to Understanding Multiple GENI Resources for Networking Research and Education

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APRA-GENI

Acknowledgement

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Goal, Objective, and Approach

- Goal: Promote GENI and attract students, faculty, and scientists to use GENI for networking research and education
- Objective: Explore a project-based approach to understanding multiple GENI resources
- Approach: Offer a series of workshops and summer camps for undergraduate and graduate students, faculty, and researchers over a three-year period

Project Plan

Workshops

Locations

- The first one-day workshop will be jointed with GEC 13 in Los Angeles in March 2012
- The second and third workshops will be jointed with GENI GEC conferences or other major conferences, such as INFOCOM and ICDCS

Workshop committees and expected experimenter services

- **Workshop Committees:** BBN-GPO team, GENI Developers, and experienced GENI experimenters including faculty and scientists
- **Formats:** Keynote speeches, panels/open discussions, tutorials, and faculty/student experimenter paper presentations (subject to change)

Project Plan

Workshops (cont.)

Benefits to GENI community

- Keynote speeches
 - Give a recent **progress** and a future **direction** of the GENI resources from an **experimenter's** point of view
 - Inspires new comers to conduct GENI experiments in **future projects** and for GENI funding requests
- Workshop panel/open discussions
 - Provide a communication **channel** between GENI developers and experimenters
 - Current and future GENI experimenters will **benefit** from the guidance and GENI experience provided by the workshop panel consisting of GPO staff, GENI developers, and experienced experimenters

Project Plan

Workshops (cont.)

Benefits to GENI community

- Experimenter presentations
 - **Share** their GENI research/education experience
 - Other experimenters and potential experimenters will **benefit** from these experiences
 - GENI developers may **shape** their development plans by learning these experiences
- Tutorials
 - Have a better understanding of **latest** GENI resources and instrumentation tools

Partial travel support from BBN-GPO/NSF are available

Project Plan

Summer Camps

Locations

- The first one-week summer camp will be held at Rochester Institute of Technology in summer 2012
- The second and third summer camps will be held at University of Connecticut and Iowa State University in the summer of 2013 and 2014, respectively

Summer camp committees and expected experimenter services

- **Committees:** BBN-GPO team and GENI instructors
- **Campers:** 10 students and faculty with a majority of students
- **Formats:** Instructions including guest instructors' lectures, labs, team-based projects, and their project presentations (subject to change)
- **Methodologies:** Project-based approaches

Project Plan

Summer Camps (cont.)

Benefits to GENI community

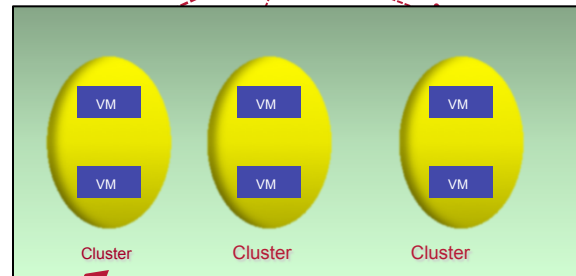
- Plan to select summer campers from a **diversity** of universities that help **promote** GENI in the different types of universities
- **Inspire** campers to use GENI for networking research and education at their home institutions, such as GENI experiments for their course projects, master thesis projects, and dissertations
- Provide **faculty campers** an opportunity of understanding GENI and using GENI in their teaching and research
- Pre- and post evaluation will help GENI instructors and researchers to **enhance** their teaching and research approaches, and GENI developers to shape their development plans

Travel support and stipend from BBN-GPO/NSF are available

Goal and Challenges

Goal:

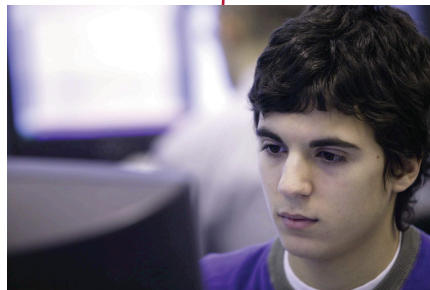
Promote GENI and help people to understand the GENI resources for their research and education



GENI Testbeds

Challenges:

1. Multiple users
2. Limited resources
3. Limited budget
4. Scalability of networks
5. Real-world networks
6. Testbed management



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Summary

- Promote **GENI** and help people to have a better understanding of GENI resources for research and education
- Provide a **communication** channel between GENI developers and GENI users/experimenters for the improvement of GENI developments and their GENI experiments
- **Freely** share the project materials with GENI users for education and research

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Thank you

Questions, Suggestions, and Comments?

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Thank you

Contact information

- If interested, please send your email to:
GENI-workshop2012@rit.edu or
GENI-summercamp2012@rit.edu
- You are also welcome to contact PI or co-PIs for questions and more information
 - PI: Prof. Kaiqi Xiong, Rochester Institute of Technology
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 - Prof. Yong Guan, Iowa State University
 - Prof. Yin Pan, Rochester Institute of Technology
 - Prof. Bing Wang, University of Connecticut