

Bringing GENI to the Classroom: Challenges for GENI Developers

GEC 14

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www.geni.net

- Outreach through in-class use is a very powerful way for GENI (and shared testbeds in general) to maximize our impact
 - Exposure to large numbers of young practitioners
 - Training for many new experimenters
 - Help create a culture that moves more learning from paper analysis and simulation toward emulation and execution in a real environment

Increased classroom use of GENI is an important goal.

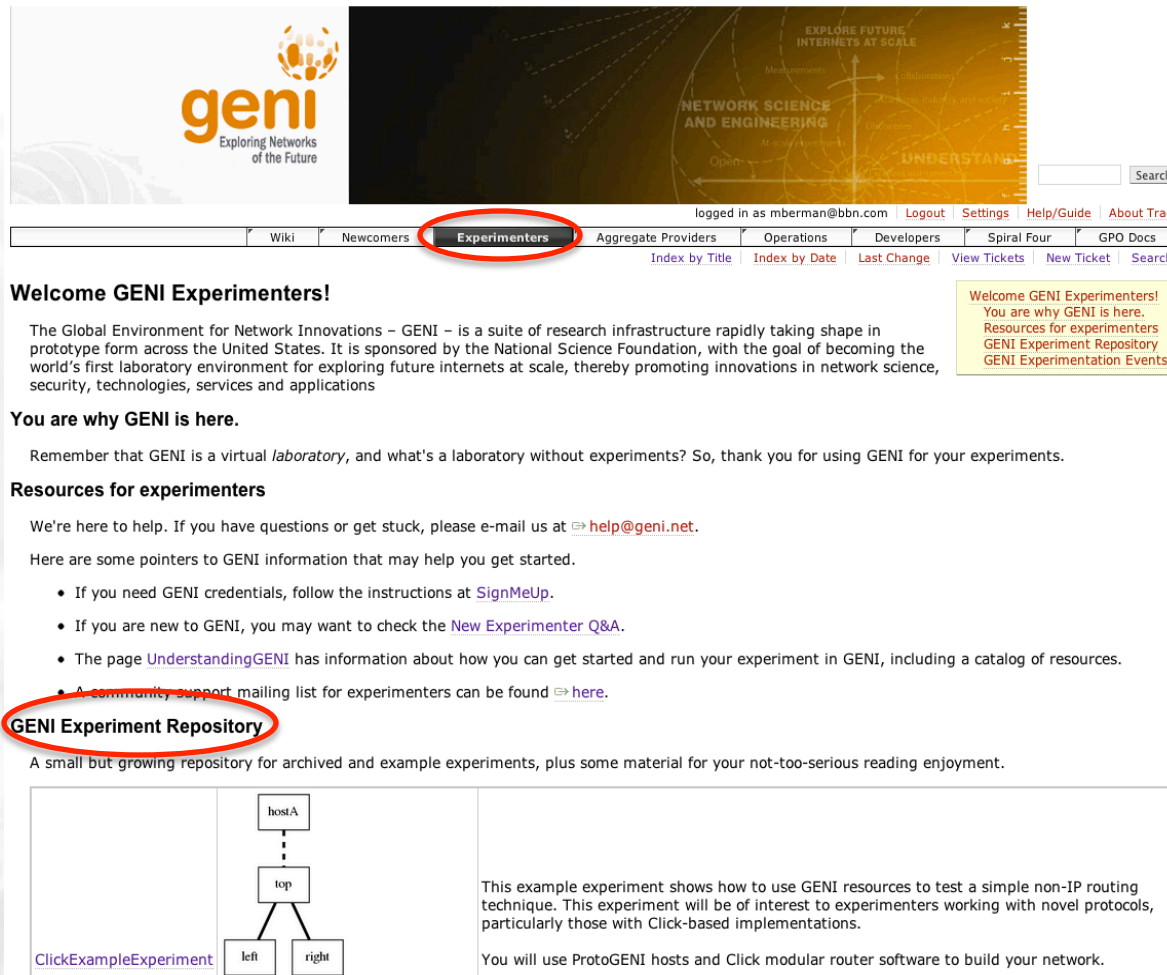
Some Lessons from Sunday Workshop

- Instructors see strong potential in using GENI (or testbeds in general) in their classrooms
 - Opportunity to use more resources than they could otherwise obtain
 - Consistent platform on which to build
 - Reduce churn of configuring lab (or student) machines
- But, classes are different from experiments
 - Simplicity can trump capability
 - The cost of getting started can dominate

To be ready for widespread classroom use,
we need to bring some ease-of-use issues to the fore.

Starting a catalog of tested examples on the GENI wiki:

<http://groups.geni.net/geni/wiki/GeniExperimenterWelcome>



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Welcome GENI Experimenters!

The Global Environment for Network Innovations – GENI – is a suite of research infrastructure rapidly taking shape in prototype form across the United States. It is sponsored by the National Science Foundation, with the goal of becoming the world's first laboratory environment for exploring future internets at scale, thereby promoting innovations in network science, security, technologies, services and applications

You are why GENI is here.

Remember that GENI is a virtual *laboratory*, and what's a laboratory without experiments? So, thank you for using GENI for your experiments.

Resources for experimenters

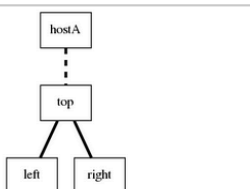
We're here to help. If you have questions or get stuck, please e-mail us at [⇒ help@geni.net](mailto:help@geni.net).

Here are some pointers to GENI information that may help you get started.

- If you need GENI credentials, follow the instructions at [SignMeUp](#).
- If you are new to GENI, you may want to check the [New Experimenter Q&A](#).
- The page [UnderstandingGENI](#) has information about how you can get started and run your experiment in GENI, including a catalog of resources.
- A [community support mailing list](#) for experimenters can be found [⇒ here](#).

GENI Experiment Repository

A small but growing repository for archived and example experiments, plus some material for your not-too-serious reading enjoyment.



[ClickExampleExperiment](#)

This example experiment shows how to use GENI resources to test a simple non-IP routing technique. This experiment will be of interest to experimenters working with novel protocols, particularly those with Click-based implementations.

You will use ProtoGENI hosts and Click modular router software to build your network.

- What artifacts are most useful for classroom uptake?
 - Documentation?
 - Sample curriculum elements?
- What infrastructure / logistical support is needed?
 - Training (faculty, TAs)?
 - Class administration (existing testbeds like PlanetLab, Emulab, and DETER have much experience to share)