US Future Internet Research

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Research vs. Testbeds

- Research:
  - NSF FIND program
  - NSF ERCs
  - ??
- Testbeds:
  - Emulab (central, 24 satellites, s/w)
  - PlanetLab (distributed)
  - DETER (central)
  - GENI (in planning…)

Issue Importance

- *FI research projects around the globe are tackling a broad range of issues (routing, security, trust, etc.). Do you view any of these as more or less important? Why?*

- Most important:
  - Science of networking (Day, Touch, Ford, et al.)
  - *Reason*: lay foundations
  - Relationship between routing, provisioning (DTN routing)
  - *Reason*: solve old issues by avoiding old roadblocks

- Least important:
  - Name/addr split, scale/dynamics of label distribution (LISP)
  - *Reason*: head-on approaches, revisiting "dead horse" issues

Ensuring Ops/Research Dialogue

- *What's the best way to ensure dialogue between network ops and the research community?*

- Dialogue may not be key.

- Research should lead net ops, not just react to perceived needs.

- Important to review reports (e.g., NANOG, etc.), poll and discuss with net ops. community, to:

  - Find an ops problem
  - Do NOT fix the problem; seek to avoid it, e.g., BTNS

Overcoming Deployment Challenges

- *How do you expect FI research results to overcome deployment challenges?*

A) Overlays, e.g., Mbone, 6bone,...

B) Ask for simple hooks rather than full extensions, e.g., OpenFlow

C) Circumnavigate impediments, e.g., BTNS as it avoids the need for a key distro protocol