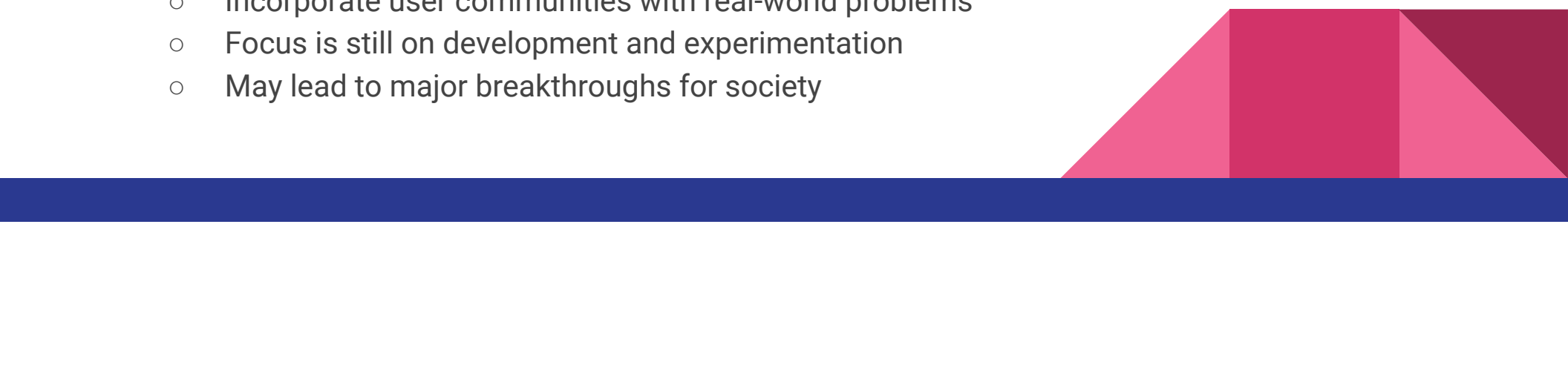# We Dream of GENI

Jim Griffioen and Andy Bavier
GENI Future Planning Workshop
December 10-11, 2015

Identifying GENI's Purpose

- GENI will transition to a community governance model
- Skimming whitepapers -> differing assumptions about *why GENI exists*
- Without agreement on GENI's purpose, it's difficult to evaluate whether a particular proposal will meet GENI's objectives
- Let's try to achieve a shared understanding of why future GENI should exist
- This talk: Sum up the (overlapping) purposes suggested by the community
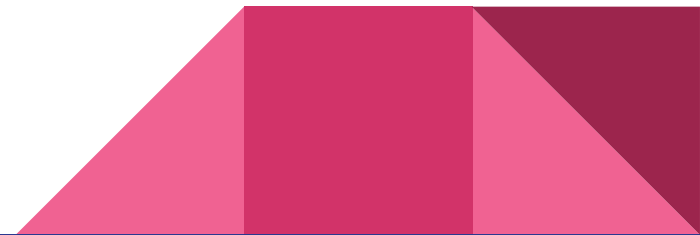
Potential Purposes of GENI (1)

- A Testbed for Network Researchers and Educators
    - Current purpose: at-scale testbed for network research and education
    - Many in the community assume that this is the primary future role of GENI as well
- A Comprehensive Integrated Research Testbed
    - Part of a broader ecosystem: cloud testbeds, data hubs, supercomputing, and grid resources
    - Dedicated to research and education, but serving a wider community
    - Creating opportunities for cross-domain research
- An Application-driven Testbed
    - Drive innovative applications using GENI's unique capabilities
    - Incorporate user communities with real-world problems
    - Focus is still on development and experimentation
    - May lead to major breakthroughs for society

Potential Purposes of GENI (2)

- A Research / Commercial Programmable Network
  - Use slicing capabilities to allow commercial use in parallel with research
    - GENI platform could offer both commercial and research resources
    - GENI peers with commercial providers that incorporate GENI support
  - Potentially sustainable source of funding
  - Many challenges: policy, authentication/authorization, security, money flow, etc.
- A Basis for the Next Generation Internet
  - Ultimate goal: create a new Internet using GENI principles of slicing and programmability
  - Incremental, transparent transitioning of conventional IP traffic to the GENI network
  - Enabling new GENI-aware applications to take root alongside conventional IP applications
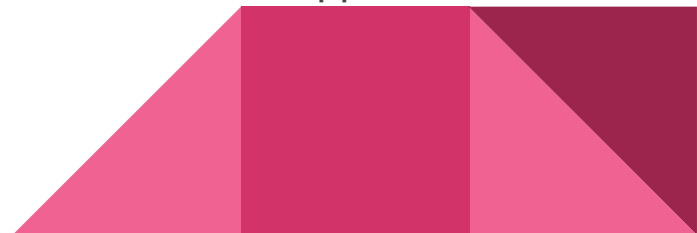
Summary

- At least five possible purposes of GENI
    a. A Testbed for Network Researchers and Educators
    b. A Comprehensive Integrated Research Testbed
    c. An Application-driven Testbed
    d. A Research / Commercial Programmable Network
    e. A Basis for the Next Generation Internet
- Each likely requires *different* funding, governance, and usage models
- Can we agree on a crisp mission statement for Future GENI?