

Background Information for GENI Governance and Transition Timeline Discussions

GENI Future Planning Workshop, Washington DC

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Abstract

The purpose of this document is to provide background information to support discussions related to GENI's future governance and timeline for transition. Nothing in this document should be taken as authoritative. Rather, it represents my best current understanding of various options and attempts to identify both areas of community consensus and those of continuing debate.

1 Transition Goals and Gross Timeline

Over the next two years, the NSF's Global Environment for Network Innovations (GENI) project will transition from a stage of development and deployment managed by the GENI Project Office (GPO) to a phase of continuing operations and support of research innovations under a new governance model, with roots in the larger research community. During the period from Fall 2015 through Fall 2017, the relevant community to include academia, industry, and government stakeholders, including NSF will establish governance, administrative, and operations resources and procedures to meet the following goals:

- Continue and expand GENI's success as a platform for research and education;

- Identify and recommend research investment opportunities in support of future GENI operations and capabilities; and
- Maximize the contribution of existing cyberinfrastructure design and community to future research cyberinfrastructure projects.

This transition process is expected to play out over the coming two years and complete by the end of 2017. Table 1 summarizes the high-level timetable. The establishment of a more detailed plan of action and milestones is one goal of the future planning workshop.

Time Period	Activity
Now	Transition planning
2016 - 2017	Continued operation under GPO and transition implementation
2018 -	Ongoing operation and new project innovation under new governance

Table 1: Time phases for GENI Transition

Throughout this transition period and beyond, GENI continues to fulfill its core mission of supporting and driving research and education in networking, computer science, and related sciences.

2 Governance and Administrative Model

Discussions regarding governance have settled quickly on the basic structure of future governance and administration, although several details remain to be worked out. The governance model that has gained traction with the community includes two entities. One is a policy body, here called the *GENI Council*. The other is an executive / administrative group, here called the *GENI Administrative Office*.

2.1 GENI Council

The GENI Council is a policy-making group, drawing representatives from some or all of the constituencies identified in table 2 (recognizing that some individuals may represent multiple groups).¹

The main goals of the GENI Council are to represent the needs of the various community stakeholder groups, to insure that GENI continues both to support and to drive future research, and to advocate for relevant new research programs. Most discussions have presented the GENI Council in the role of a board of directors, with the GENI Administrative Office and its director playing the executive role. However, consensus has not yet been reached on this division of responsibility.

2.2 GENI Administrative Office

The GENI Administrative Office (GAO)² is a small professional staff, charged with managing the day-to-day business of GENI, within the parameters established by the GENI Council. It likely includes an executive director, with responsibility for funding and general management, and a handful of technical staff, who may be responsible for performing and/or coordinating support, maintenance, and operations.

¹There is debate within the GENI community whether industry members should be included on the council and whether membership should be tied to sponsorship.

²GAO is an acronym intentionally chosen to motivate the selection of a better name for this group. I personally favor the continued use of the term *GENI Project Office*, unless confusion with the current BBN-managed GPO is an issue.

Community Segment	Relationship to GENI	Needs / connection to GENI
Researchers	End users	Access to advanced infrastructure with emphasis on capability and sustainability.
Educators	End users and advocates	Access to advanced infrastructure with emphasis on reliability, availability, and affordability.
CIOs and campus IT professionals, network and data center providers	Infrastructure owners and operators	Meeting faculty research and education needs; participation in cutting edge cyberinfrastructure and cross-institution cyberinfrastructure federation.
Infrastructure and testbed builders	Technology developers	Alignment with (and influence over) current and future cyberinfrastructure research programs.
Industry	Equipment vendors and industry researchers	Strengthening ties with academic community; industrial research and development.

Table 2: Candidate stakeholder constituencies for GENI Council.

The GAO may need access to financial and administrative professionals, particularly if it continues the current GPO practice of subcontracting out a large portion of its work.

2.3 Additional Questions

While the GENI community appears to have consensus on the basic notions of a GENI Council and GAO, a number of unresolved questions remain.

- What is the division of responsibility and authority between the GENI Council and the GAO?³
- How are council members chosen, rotated, etc.?
- What is the best relationship between the council and research sponsors?

3 Candidate Governance Partners

Currently, the GENI project shares its legal identity with the BBN-managed GPO. There are several reasons, including the following, why the GENI project will need to retain a legal identity independent of BBN.

- GENI is expected to own intellectual property and may also own physical property.
- GENI will receive and expend funding from sponsors.
- GENI will enter into federation agreements with GENI host institutions and with collaborating testbeds.
- GENI may need to write subcontracts.

Discussions within the GENI community appear to have resulted in a consensus that GENI should be

³A number of GENI community members have expressed a belief that a strong GAO, with the authority and energy to drive GENI's future goals, is essential to avoid stagnation. A smaller group has argued for limiting or perhaps eliminating central administration.

managed by a non-profit organization, with strong academic ties. To date, five possible partners have been discussed to varying degrees.

3.1 GENI Foundation

One possible approach is to establish a new, independent 501(c)(3) non-profit entity, here called the GENI Foundation. This plan is certainly possible, but it has gathered little support so far in informal discussions. The primary drawbacks identified include (a) the startup effort required to organize the new entity and (b) a missed opportunity to join an organization with established connections in the research and academic communities.

3.2 Existing, closely aligned non-profits

A second strategy is to execute GENI activities under the umbrella of an existing non-profit, with a closely aligned mission. To date, this option has received the most attention, including some level of discussions with the leadership of three specific organizations: *Internet2*, *US Ignite*, and the *Computing Research Association (CRA)*.

Two of these groups, Internet2 and US Ignite, are interested in continued discussions. They will present sketches of the potential relationship during the GENI future planning workshop. Initial discussions with the CRA indicate that it is not a good match for this purpose.

The clear advantages of such an alliance include (a) the potential for mutual benefit, based on existing relationships and shared goals between GENI and the partner organization; and (b) the ability for GENI to use the partner organization's existing administrative capabilities, rather than establishing its own.

In addition, there are pros and cons associated with any specific partner. In the specific cases of Internet2 and US Ignite, discussions have highlighted the following.

- Internet2
 - **Pro:** Strong relationships with academic administration and CIO community

- **Con:** Weaker relationships with computer science research community

- US Ignite

- **Pro:** Strong mission alignment with GENI
- **Con:** Relatively immature corporate structure

3.3 University-affiliated research center or institute

A third approach, which has not been fully explored is to house GENI within a (newly created or existing) university research center or institute.

This approach shares the key advantages of alignment with an existing, focused non-profit, namely the potential for shared mission and connections and access to existing administrative structure. An additional possible advantage is the opportunity to coordinate the recruitment of key GAO staff with the selection of a university partner. It may be more appealing, for example, for a future GENI executive director to join a research center that does not require him or her to relocate or to change institutional affiliation.

A potential disadvantage of this approach is that it would link GENI more tightly to a specific university, perhaps reducing the sense of community for researchers at other institutions.

3.4 Something else

It is important to observe that this list does not exhaust all possibilities, and discussion of both the list above and additional general models or specific candidate organizations remains desirable.

4 Strawman Transition Timeline

A strawman transition timeline is set forth below. This calendar comes from discussions between the

GPO and NSF leading to the award of the GPO's current transition grant. It has not yet been fully socialized with the GENI research community. Both the milestones themselves and the associated dates remain topics for additional discussion. However, NSF has stated a desire to complete transition by the end of 2017.

- Winter 2015 milestones (based on recommendations from December meeting)
 - Identify governance and administrative organizational models.
 - Identify financial model and strawman operating budgets.
 - Identify refresh and repair policies and priorities.
- Spring 2016 milestones
 - Governance / administrative leadership recruitment
- Summer 2016 milestones
 - First meetings / organizational kickoffs of governance and/or administrative organization(s). (Spring or summer 2016, potentially in conjunction with GEC24 or other community venue)
 - Detailed budget, including candidate specific sources of revenue, key expense allocations (e.g., hardware refresh costs, anticipated operations staffing and/or contracting costs).
 - Issue initial RFPs
 - Publish initial refresh schedule
- Fall 2016 milestones
 - Secure initial revenue commitments
 - Receive proposals and select suppliers
 - Initial activity transitions from GPO to new organization(s)
- Spring 2017 milestones

- Secure ongoing revenue commitments
- Fall 2017 milestones
 - Finalize transition