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Dear Readers,

I want to congratulate the GENI project from turning a fuzzy vision into reality, while incorporating, digesting and rationalizing several new technologies, software and work of researchers and graduate students. It was a very tough task, masterfully executed with all the caveats due to the complexity.

Given I reside in DOE land, very few of the national labs have GENI equipment, or researchers that use it. Thanks to the GENI Project Office and the ExoGENI program, ESnet/LBL was recipient of one GENI rack that we connected @ 40Gbps, one end of the two racks with such a high-speed connection. Unfortunately, other than us, not a lot of people used the high-speed capability for experimentation.

With this context and perspective, I answer the questions below:

- What GENI capabilities are most important?
- The software and mechanisms created by GENI are most important. Unfortunately, given this world, people like to recreate things given funding, and it is sad to see that testbeds in Japan, Europe, are creating their own software very similar to GENI. The following capabilities of GENI I consider important, given my limited experience
- The Federation model developed by GENI is really important. In the academic world, we are always looking to federate resources across our funding partners, and sometimes commercial partners. No good model exists for resource usage, resource capabilities and a secure model to reserve and use resources. This model of GENI, the ABAC project, should be made into a separate consumable open source project by the wide world.
- The software to run ExoGENI like project is also very important. Either the ORCA software or ProtoGENI and FOAM software should be funded to be made portable and an open-source software project that can provision storage, compute and network. This might compete with the CloudLab project or OpenStack in a certain sense, but maybe used for a more focused use-case.
- The teaching labs created by GENI - using GENI for education, should definitely be packaged and leveraged by all universities. It is not often you get a situation where the software can be used to create new things, and/or you can study the software to learn about federation, resource management, multi-domain, measurements etc.

- What activities should GENI continue, expand, or wind down?

GENI should pick a certain set of software capabilities, document it, maintain it, and take it towards production in the University environment. It is hard to create a hardware testbed without money for constant refresh - the old hardware gets old fast, and especially cannot be used for cutting-edge research. I would recommend that the GENI team focus on usable software, and do not invest in the hardware infrastructure like the GENI rack. The rack is something each site can invest in, and it should then be easy to download the GENI software and make it work on that rack.

Education or using GENI for education should be encouraged.

Governance of an open-source community to keep enhancing the GENI software should be created and encouraged.

Outreach to different countries should be supported.

- How should GENI be governed and sustained?

GENI software should be governed and sustained as a vibrant software open-source project - points above. There can be a transition period with funding from NSF, but it may be taken over by a volunteer committee from the people using the racks. Building a volunteer open-source community, with open governance procedures should be very important.

- How can the GENI experience inform better research cyberinfrastructure?
 - through software
 - best practices
 - experiments and results captured for all to see.