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- What GENI capabilities are most important?
- What activities should GENI continue, expand, or wind down?

The current GENI system includes federation of integrated host and network resources. This capability is unique within the R&E and commercial communities. Federation of heterogeneous resource types across multiple domains will be an increasingly important capability needed in order to develop the critical cyberinfrastructure services envisioned by the R&E community. This will require some level of standardization and/or compatibility to allow true end-to-end cyberinfrastructure services to evolve.

The GENI project may want to build on previous work to provide coordination, functional requirements, and standards in this area. A key objective would be to enable a cooperative system of federated cyberinfrastructure services to evolve. There are many research groups and organizations developing automated control solutions which are focused on their specific infrastructures. This typically takes the form of a unique application of Software Defined Network (SDN) and Cloud technologies best suited for their specific resources and use cases.

The GENI community may be well positioned to lead a forum where the functionality and APIs for federated systems could be discussed, defined, and documented. A forum which included an implementation of a federated infrastructure around which services could be developed and tested could be a valuable focal point to facilitate R&E community collaboration. The GENI system with the Clearinghouse and existing resource APIs could be a good starting point for this activity. The idea is that this effort would support the ad-hoc development of a range of federated cyberinfrastructure services. This would likely require the existing federation system to be expanded to include more sophisticated and flexible policy, identity management, and external system integration capabilities. The resource APIs, would need to extend beyond the current GENI AM APIs and allow a wider variety of system APIs to be supported. This would likely require that the resource API definition focus more on functionality/semantics/ontologies as opposed to specific interface syntax/technologies/data formats. Some of these new capabilities were discussed in the context of future GENI AM APIs, but not implemented.

- How should GENI be governed and sustained?

It seems like a community based model which included a structure for various organizations and people to participate as desired is important. However, it also seems like some level of consistent funding would be needed to support the coordination and organization role.

- How can the GENI experience inform better research cyberinfrastructure?

The R&E community is uniquely positioned to develop multi-domain federated cyberinfrastructure services. The commercial industry is very active in technology development in the SDN and Cloud realms. However, business and competitive realities will likely limit the degree of multi-domain federated services which will be developed. GENI is an example of how the R&E community can more readily make progress in this space. The GENI experience may be helpful as the R&E community looks to expand this type of development.