Spiral 1 Requirements

- Demonstrate GENI Clearinghouse & control framework in Spiral 1 projects as a central GENI concept.
- Demonstrate End-to-end slices across multiple technologies in Spiral 1 projects as a central GENI concept.
- Identify and exercise important interfaces between projects and between GENI components and existing networks.
- Support detailed integration of these interfaces with each project's technical staff.
- Feed prototyping and integration experience into Working Group deliverables, and vice versa.
- Support early experimental users of Spiral 1 prototypes as much as possible.
- Spiral 1 should be up and running April-October 2009 (ongoing).

Spiral 1 simultaneously moves ahead with demonstrations and with defining interfaces. Demonstration interfaces may be rough and may work for a single project, but interfaces (APIs/protocols) suitable for a wider community should result from integration as Spiral1 progresses.
Selected Milestones (PlanetLab and Enterprise GENI)

2009
PlanLab 12/05: Component and clearinghouse release v0.1
PlanLab: 04/01 Component and clearinghouse release v0.2
PlanLab: 04/01 Make testbed available to GENI users.
PlanLab: 04/01 Open testbed to GENI researchers

PlanetLab: 09/01 Document architecture for v0.2
PlanetLab: 09/01 Establish direct connectivity between project facilities and Internet 2
PlanetLab: 09/01 Complete integration of v0.2 sw into CF cluster aggregates
PlanetLab: 10/01 Make CF available for use by students
PlanetLab: 10/01 Open integrated cluster testbed to users

2010
PlanLab: 04/01 Component and clearinghouse release v0.3
PlanLab: 09/01 Complete integration of v0.3 sw into CF cluster aggregates

2009
ENTGENI: 04/01 Version 0 Aggregate/Component Manager
ENTGENI: 04/01 Draft API/protocol between ENTGENI AM and Clearinghouse (Lightweight)
ENTGENI: 07/01 Deploy Phase 0 Enterprise GENI network at Stanford
ENTGENI: 07/01 Start integrating interfaces from ENTGENI AM to Clearinghouse (ongoing)
ENTGENI: 10/01 Demonstrate OpenFlow in GENI
ENTGENI: 10/01 Integrate EntGENI with GENI virtual ethernets
ENTGENI: 04/01 Version 1 Aggregate Component Manager
ENTGENI: 07/01 Expand Stanford Deployment
ENTGENI: 07/01 Deploy Phase 1 Enterprise GENI at a second campus (possibly Princeton)
ENTGENI 10/01 Integrate campus deployments with GENI clearinghouse and infrastructure
ENTGENI 10/01 Open Phase 1 testbed to users (limited)
Spiral 1 Milestones (full text)

Year 1

a) Implement Version 0 Aggregate Component manager for an OpenFlow network. (6 months)

b) Deploy Phase 0 of Enterprise GENI comprising an OpenFlow network of few switches and wireless APs and a couple of computers in the Gates building of Stanford campus. (9 months)

c) Start work with other parties to agree on the API/protocol between the GENI Clearing House and Aggregate Component Manager. (begin in 6 months and then ongoing)

d) Start integrating interfaces to a GENI control framework clearinghouse in an aggregate component manager for an OpenFlow network. (begin in 9 months and then ongoing)

e) Integrate Enterprise GENI Stanford deployment with the GENI Spiral 1 switched Ethernet VLAN infrastructure assuming tunneling to Internet2. (12 months)

f) Host an OpenFlow workshop at Stanford to educate university researchers and CIO organization about the technology and how it can enable networking research on their campuses -- outreach activity. (9-12 months)

g) Collaborate with GENI O&M and Security teams on enterprise network topics. This work will be part of working group participation. (on going)

h) Demonstrate use of OpenFlow switches with a GENI clearinghouse in the Phase 0 deployment. Present demonstration at a GEC meeting -- outreach activity. (9-12 months)