Million-node GENI (Seattle): Year 1 Review and Outlook

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Progress in Year 1

Built:
  Repy (VM), Node Manager, Seash (shell)

Prototyped:
  SeattleGENI (component manager)

Collaborated:
  PlanetLab, GpENI, ProtoGENI*, Digital Object Registry*,

Publications:
  SIGCSE, PN-ASEE/WCERT, NW-DCSD workshops, 12 talks

Testbed:
  1 to > 1000* nodes

Challenges in Year 1

Adoption
  PlanetLab, GpENI
  Universities
    Firewalls
  End users

Robustness
  SeattleGENI (component manager)
  Software updater

Portability
  sockets, file systems, resource accounting

Lots of undergrads, few grad students / senior personnel

ProtoGENI Clearinghouse Integration

Seattle running on ProtoGENI
- Automatic grader for instructors (proof of concept@GEC 5)

Obtaining Million-node GENI resources from ProtoGENI

- ProtoGENI brokers resources on Seattle (plan)
  Implement the interface but not the semantics (?)

Storing node information in the Digital Object Registry

- Backup data store

Internet2 progress

Campus: June 1st, 1999

Million-node GENI nodes: N/A

Adding Internet2 nodes at UW (?)

Plans for Outside Experimentation

Educational use:

- - Lots of docs for educators / undergraduates / developers
- - Used in 6 classes
- - Support from NW-DCSD
- - Want more adoption this Fall!

Research / Development use:

- - Adding support software
- - Interest from many groups

Spiral 2 Plans

Increasing support for researchers / developers

16 mo: Installer / end user interface v0.1, example apps
   - add NTP recovery, NAT traversal
20 mo: Repy v0.2, Node manager v0.2
   - Performance / resource reassignment / measurement
   - Services
23 mo: Specification for end-host Clearinghouse API
24 mo: Prototype of end-host Clearinghouse
   - Mash-ups
   - Identity management
Collaborate with O&M team and security team

Specific contribution to GENI outreach plan