OpenFlow Campus Deployment

Heidi Picher Dempsey, GPO
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www.geni.net

GENI OpenFlow status Heidi Dempsey 10 minutes

OpenFlow software update Srini Seetharaman 10 min

Campus Updates 20 minutes

    Stanford   Srini Seetharaman

    Indiana University (including NDDI) Matt Davy

    Others?

Requested Topics 20 minutes

    Leaks and what to do about them

    http://groups.geni.net/geni/wiki/NetworkCore/TrafficLeaks

    Firewalls on the Aggregate Info Pages
    http://groups.geni.net/geni/wiki/GeniAggregate

    What's next?

- Backbones
  - NLR takes new directions with National Coalition for Health Integration, but still strong GENI supporter w/ 10 Gbps OF interfaces and up to 30Gbps total available. OF peering with Internet2.
  - Internet2 continues mixed 1 Gbps and 10 Gbps interface support for GENI (OF + ProtoGENI/SPP). OF peering with NLR. GEC11 shows first experiment with PG/OF interconnect.
  - Internet2 announced SDN + NDDI + OS3E and Indiana University announced InCNTRE initiatives. Services may be available for Spiral 4.
- Regionals
  - Will expand coverage when GENI racks are funded for 5-6 regionals.
  - Some are exploring on their own
- Campuses
  - Expanded deployment, supported Plastic Slices, some research
  - CIO meetings in Cleveland, Boston on GENI and OpenFlow
  - Expect "buddy system" to help grow to 50 campuses next year. Next target: 200 campuses.

- ## Metropolitan Areas (USIgnite)

  - Expect 5-6 cities with high-bandwidth service in homes, schools, businesses to interconnect with GENI

  - Most active: Chattanooga, Cleveland, Lafayette, Salt Lake City region, Washington DC, Philadelphia

- ## Production readiness

  - Uptime

  - Software improvements

  - Tools improvements

  - Incident response

  - Security

- Complete milestones
  - Signed Aggregate Provider Agreements August
  - Draft response procedures August
  - Support 4 or more experiments September

- Complete operational requirements for at-scale production software and systems
  - See experimenter requirements in Plastic Slices project plan

    http://groups.geni.net/geni/wiki/PlasticSlices/RequirementsTracking

  - See campus requirements in monitoring mini-workshop
  - What do you need to recommend OF GENI to other campuses?
  - What do you need to recommend OF GENI to professors on your campus?
  - Software groups will act on your requirements!

Example campus how-tos for requirements

- How do I identify a traffic problem?

- How do I decide what to turn off for an Emergency Stop request with only a GENI URN?

- How do I decide whether to approve access for an experimenter I don't already know? to approve layer 2 connections to new GENI resource?

- How do I show that my GENI resources comply with my local campus security policy?

- How do I evaluate GENI risks/benefits to my campus?

- How do I decide what monitoring data to share when there are real users on my GENI resources?

- How do I control access to my GENI resources?