RSpecs
Engineering Meeting

Leads: Ilia Baldine, Aaron Helsinger
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www.geni.net

RSpecs: Introduction

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- Introduction and Background – Aaron Helsinger
- Proposed Solution – Ilia Baldine
- NML work at OGF, network resource abstractions; Measurement resource abstractions - Martin Swany, University of Delaware
- Ongoing NDL work – Jeroen van der Ham, University of Amsterdam
- Invited Discussion – Rob Ricci
- Invited Discussion – Rob Sherwood
- Invited Discussion – Aaron Helsinger for Max Ott
- Discussion – All
- Summary and Wrap Up – Aaron Helsinger

- Prior to GEC 10:
  - Several workshops
  - Ilia discussed the topic with a few key stakeholders
  - We generated a consensus proposal
- Key stakeholders
  - Ilia Baldine - Orca
  - Rob Ricci - ProtoGENI
  - Rob Sherwood - OpenFlow
  - Max Ott - NICTA, OMF/Orbit
- Today - make **concrete engineering decisions**
- How should GENI resources be described (RSpecs)?

- Need a common language so software can interoperate

- Ilia has organized a series of RSpec workshops

- Have shown the breadth and depth of the problem
  - What format: RDF? XML? Property lists?
  - Network resources, wired resources, wireless resources, services, measurement data, etc
  - Highly specified formats? Or flexible, loosely specified?
  - Based on what we have? IEEE or ITU standards?

- There are benefits to the various approaches
- We've seen no signs of anyone abandoning their approach or agreeing on much

- But we need something:
  - A key criticism of the GENI AM API is that without common RSpecs, it doesn't give us much

- Today, Ilia has managed to add a couple of key voices to this discussion
  - Martin Swany will describe the Network Markup Language
    - NML is an OGF effort to find common conceptual ground among various network resource descriptions, including:
      - perfSonar XML
      - NDL
    - Work in perfSonar to describe measurement resources
  - Jeroen van der Ham will describe Network Description Language
    - NDL is an RDF based ontology for networks
      - Has helped shape NML and conforms to NML
      - Basis for Orca RSpecs

- We need a decision.
  - Clients need to describe the resources they want
  - Resource providers need to describe what they have.
- *Ideally* everyone would talk the same language.
- *At a minimum* we should agree on basic concepts
- And finally, we need to put *a stake in the ground* on what the bits on the wire look like so we can write software.

- If GENI is going to grow and succeed, the time for discussion is over, and we need to select a way forward.

- GENI will use ProtoGENI Rspec V2 on the wire

- Aggregates can use Translators

- Agree on Semantics
  - Ongoing discussion via email/phone calls

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