

Control Framework Topics

GENI Engineering Conference 12 Kansas City, MO

Tom Mitchell
November 2, 2011
www.geni.net



- Updates
 - Introduction
 - InCommon & GENI Portal
 - RSpecs
 - Stitching – Tom Lehman
- Clearinghouse Panel – Adam Slagell
 - Andy Bavier (Princeton, PlanetLab)
 - Ted Faber (ISI, ABAC)
 - Ilia Baldine (RENCI, ORCA)

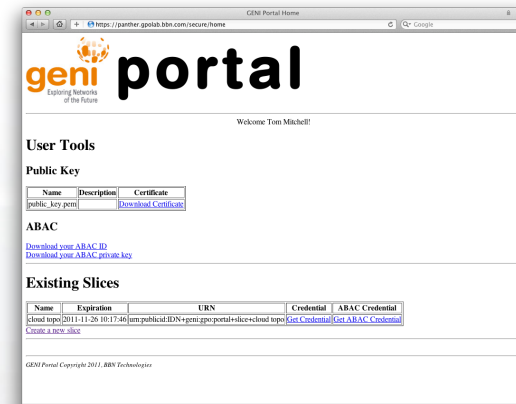
Introducing the GPO's Marshall Brinn



- Replaces Aaron Falk, but with a very different set of talents and abilities
- Widely regarded as one of the best software architects within BBN
- Significant evolution in GPO staffing to help move GENI from “proof of concept” to robust system

Updates: InCommon & GENI Portal

InCommon®



Timeline

- Membership approved
 - July 13, 2011
- SP metadata published
 - September 1, 2011
- Duke University configured to release attributes to GENI portal
 - September 12, 2011
- U. of Utah configured to release attributes to GENI portal
 - September 22, 2011

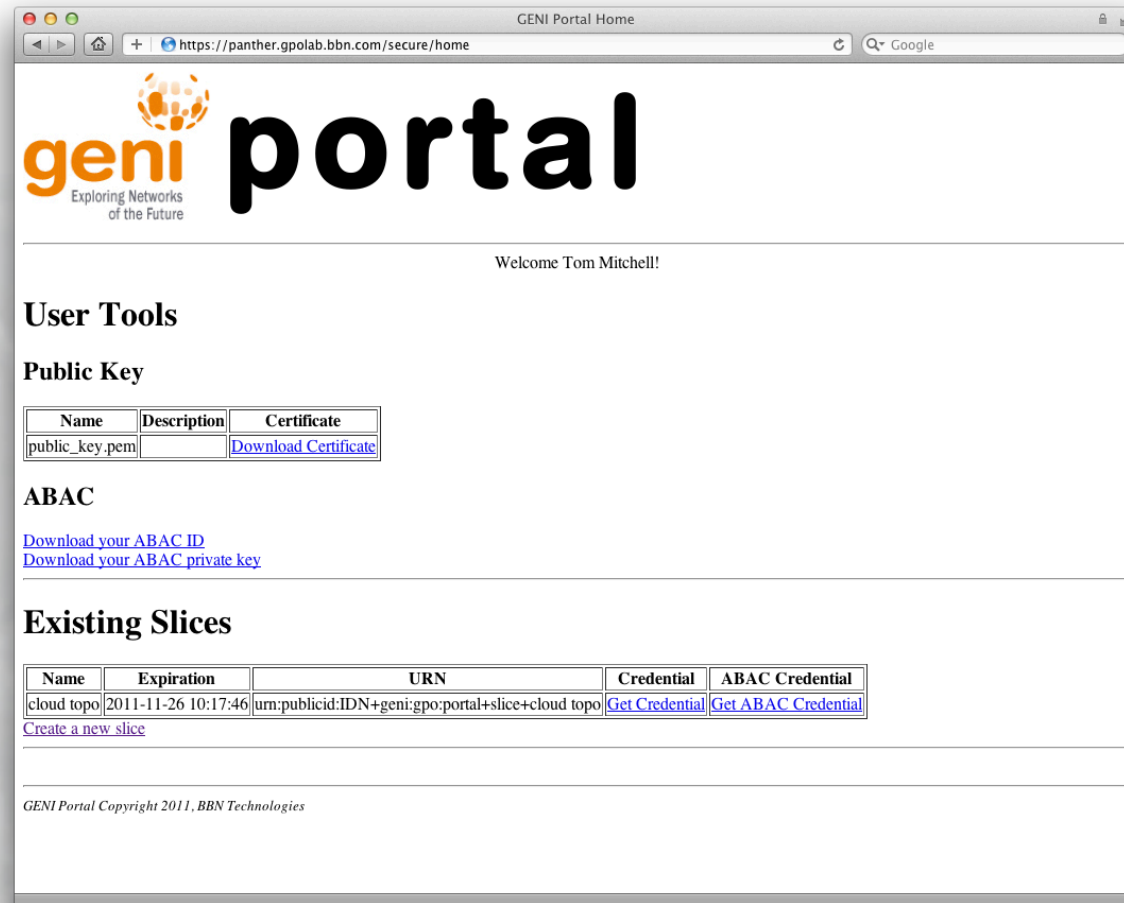


InCommon®



- Available to all with an InCommon Identity Provider account
- Portal accounts must be approved
- Still a prototype, still in development
 - Experimental credentials
 - Experimental ABAC assertions
- Work with your campus to release attributes
- Try it out!

<https://panther.gpolab.bbn.com/secure/home.php>



GENI Portal Home

https://panther.gpolab.bbn.com/secure/home

geni portal
Exploring Networks of the Future

Welcome Tom Mitchell!

User Tools

Public Key

| Name | Description | Certificate |
|----------------|-------------|--------------------------------------|
| public_key.pem | | Download Certificate |

ABAC

[Download your ABAC ID](#)
[Download your ABAC private key](#)

Existing Slices

| Name | Expiration | URN | Credential | ABAC Credential |
|------------|---------------------|---|--------------------------------|-------------------------------------|
| cloud topo | 2011-11-26 10:17:46 | urn:publicid:IDN+geni:gpo:portal+slice+cloud topo | Get Credential | Get ABAC Credential |

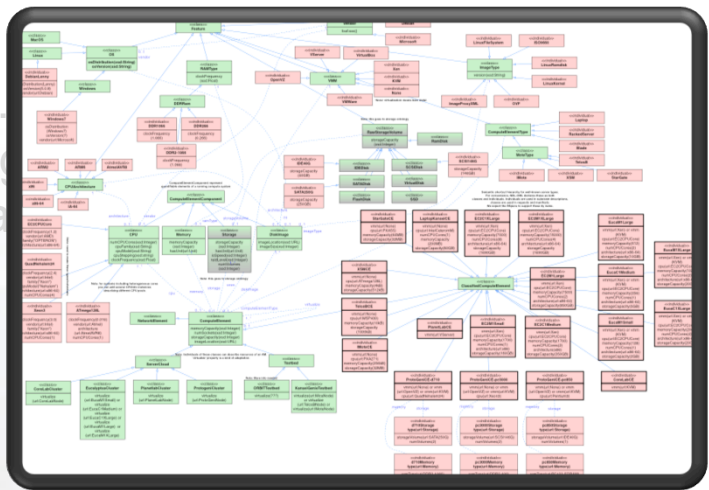
[Create a new slice](#)

GENI Portal Copyright 2011, BBN Technologies

Updates: RSpecs

```
<?xml version="1.0" enc
<rspec xmlns="http://www
xmlns:xsi="http://www
xsi:schemaLoca
http://www.geni.net/resources/rspec/3/request.xsd"
type="request" >
<node client_id="node">
<sliver_type name="raw-pc" />
```

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
xmlns:rspec="http://www.geni.net/resources/rspec/3">
<xs:include schemaLocation="request-common.xsd"/>
<!-- The ComponentName will only be available after an as
<xs:complexType name="InstallServiceContents">
<xs:group ref="rspec:AnyExtension"/>
<xs:attributeGroup ref="rspec:AnyExtension"/>
<xs:attribute name="url" use="required"/>
<xs:attribute name="install_path" use="required"/>
</xs:complexType>
<xs:complexType name="ExecuteServiceContents">
<xs:group ref="rspec:AnyExtension"/>
<xs:attributeGroup ref="rspec:AnyExtension"/>
<xs:attribute name="shell" use="required"/>
<xs:attribute name="command" use="required"/>
</xs:complexType>
<!-- The LinkMapping will only be available after an assi
<!-- The ComponentInterfaceDeclName will only be availabl
<!-- The ComponentInterfaceRefName will only be available
<xs:simpleType name="RspecTypeContents">
<xs:restriction base="xs:token">
```



- Aggregate Manager API Draft Revisions accepted
- ProtoGENI V2 (PGV2) Schemas adopted and published
- Deployment of PGV2 Support at PG and PL well along
- Ontologies in development
 - Network and Compute relatively complete
 - Wireless and Storage in process
 - Others will be needed

RSpecs Status: AM API Revisions

- Aggregate Managers must advertise what RSpec formats they support
- GENI AM API must specify that the RSpec arguments and returns are in a GENI standard format
- Jon Duerig of ProtoGENI proposed GENI AM API revisions to support this and discussed on dev@geni.net
- Published to GENI wiki and dev@geni.net
http://groups.geni.net/geni/wiki/GAPI_AM_API_DRAFT
- Revisions will be in AM API v2

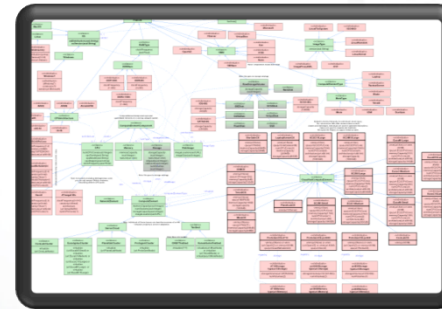
RSpecs Status: GENI RSpec format

- ProtoGENI v2 schema live as of April, 2011
<http://www.protogeni.net/trac/protogeni/wiki/RSpec>
- Most PlanetLab and ProtoGENI aggregates support ProtoGENI v2 RSpecs
- Orca supports ProtoGENI v2 requests using a converter, more support in process
- Omni and Flack clients support both ProtoGENI v2 and GENI v3 schemas

- RSpec Schemas migrated to GENI
 - GENI v3 is the GENI Standard schema
- GENI v3 is the same content as ProtoGENI v2, but in the GENI namespace
 - Supported in emulab-devel and in the latest SFA
 - <http://www.geni.net/resources/rspec/3>
- New OpenFlow AM supports only GENI v3 schema RSpecs, including a new GENI RSpec extension
 - The new AM will be available at the end of November

- Complete GENI v3 roll-out
- More ontologies
 - Storage
 - Wireless
 - I & M
 - Etc.
- Ongoing maintenance
 - Updates and additions as needed
 - Migrate extensions to core
 - Consensus approval

```
<!-- The ComponentName will only be available after an as
<xs:complexType name="InstallServiceContents">
  <xs:group ref="rspec:AnyExtension" />
  <xs:attributeGroup ref="rspec:AnyExtension"/>
  <xs:attribute name="url" use="required"/>
  <xs:attribute name="install_path" use="required"/>
</xs:complexType>
<xs:complexType name="ExecuteServiceContents">
  <xs:group ref="rspec:AnyExtension" />
  <xs:attributeGroup ref="rspec:AnyExtension"/>
  <xs:attribute name="shell" use="required"/>
  <xs:attribute name="command" use="required"/>
</xs:complexType>
<!-- The LinkMapping will only be available after an ass
<!-- The ComponentInterfaceDeclName will only be availabl
<!-- The ComponentInterfaceRefName will only be availabl
<xs:simpleType name="RspecTypeContents">
```



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The End.