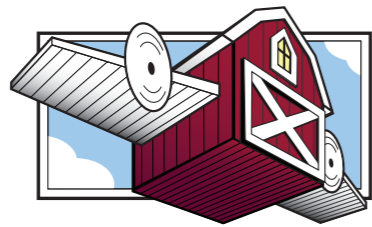


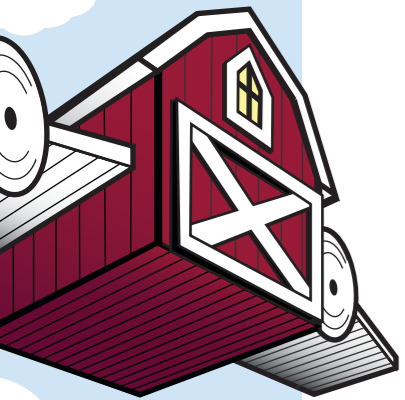
Using GENI with geni-lib



BARNSTORMER
S O F T W O R K S

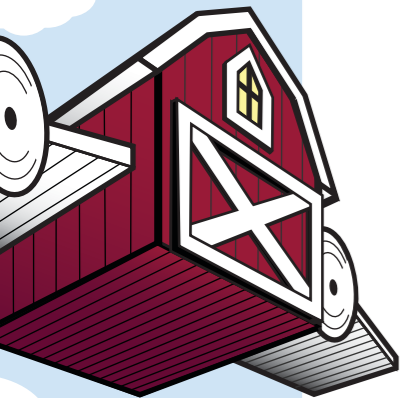
What is geni-lib?

- Python library for programmatically interacting with GENI aggregates
- Fully self-contained (does not require omni, etc.)
- No documentation!



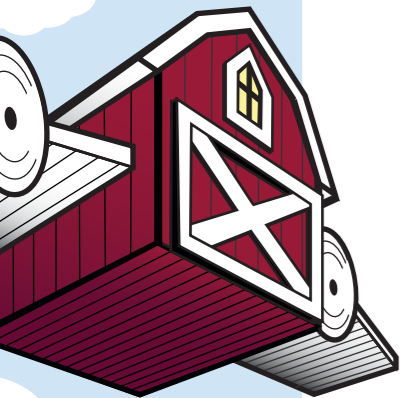
What do it do?

- OO API for generating rspecs
- Make AM API calls
- Pythonic data structures for inspecting advertisement / manifest data



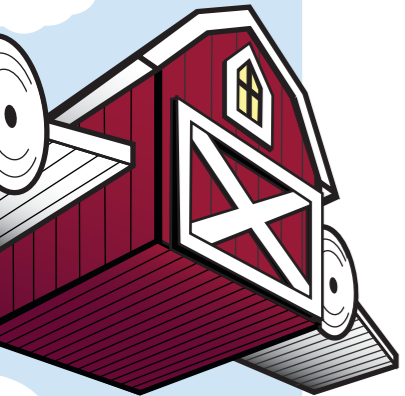
Example Uses

- Resource availability across the federation
 - <http://groups.geni.net/geni/wiki/ExpGraphs>
- Static ARP entries across my experiment
 - GPO monitoring slice
- “Cookie-cutter” bound requests at different sites



Simple Example

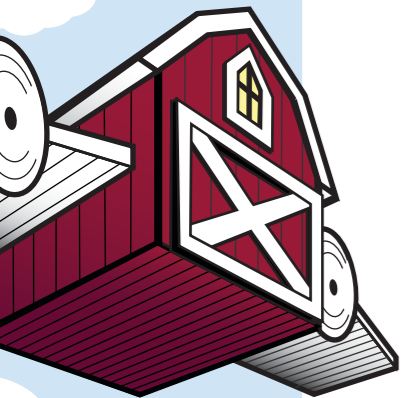
```
>>> ad = IG.MAX.listresources(context)
>>> for node in ad.nodes:
...     if node.available and node.shared:
...         if "emulab-xen" in node.sliver_types:
...             print node.component_id
...
urn:publicid:IDN+instageni.maxgigapop.net+node+pc3
urn:publicid:IDN+instageni.maxgigapop.net+node+pc2
```



MAC Extraction

```
import geni.aggregate.instageni as IG
import geni.aggregate.exogeni as EG
from geni import util

sites = [am for am in IG.aggregates()]
sites.extend([am for am in EG.aggregates()])
md = util.getManifests(context, sites, [SLICE_NAME])
for smf in md[SLICE_NAME].itervalues():
    if smf is not None:
        for node in smf.nodes:
            for intf in node.interfaces:
                print "%s" % (intf.mac_address),
                if intf.address_info:
                    print ",%s" % (intf.address_info[0])
            else:
                print ", (No IP) "
```



Where do I get it?

- <http://bitbucket.org/barnstorm/geni-lib>
- Examples in samples/ directory
- Direct questions to geni-users (for now)

