Using SNAPP to Find and Visualize GENI Monitoring Data

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SNAPP

- A suite of tools initially designed to do SNMP collection and display.
  - Time series based data
  - Expanded to do also NON SNMP data collection
    - Data API
    - Planetlab Comon

- Has a very nice UI and API for programmatic access.
  - You can embed it on your own front/end

Terminology

- ## Collections:

  Groups of closely related Time series based data. Such as:

  - Interface data (in/out pps, in/out bytes).
  - Sliver state

  Each collection is of one type. (specifies what is measured and its units).

- ## Categories

  Groups of Collections that are related in some manner.

  These can be hierarchical. (think iTunes by: artist, by album)

Using SNAPP

- How to get where you want?
  - Using the browsing (Good for deep categories)
  - Using search (Good for wide categories)
  - Using the portal
- In the GENI world most of we have very wide categories so search is the best option IF you have a keyword(s) for what you are looking for
  - IE. Slice name
  - Resource name

Using SNAPP(2)

- Currently GMOC hosts we have ~= 4000 time series data (most of it is sliver data).
  - when the unification and SNMP of planetlab is done we will be at around 50000.
- Further most data is not hierarchically tagged (only location + aggregate).
  - Browsing thus is not very effective.
  - We will focus on searching

http://gmoc-db.grnoc.iu.edu/measurement/

Search

- We use a 'google' like syntax

We supoort only 2 logic operators: and and not

- We can do group intersection: for example:
  - 'category:atla category:openflow' would match all collections that are both in atla and in openflow.

Use Cases

- Researcher using SNAPP to check his/her experiment

- Campus NOC checking the state of their resources.

- ??? Something else

Demo

Demo

Portal:

http://gmoc-db.grnoc.iu.edu/measurement/
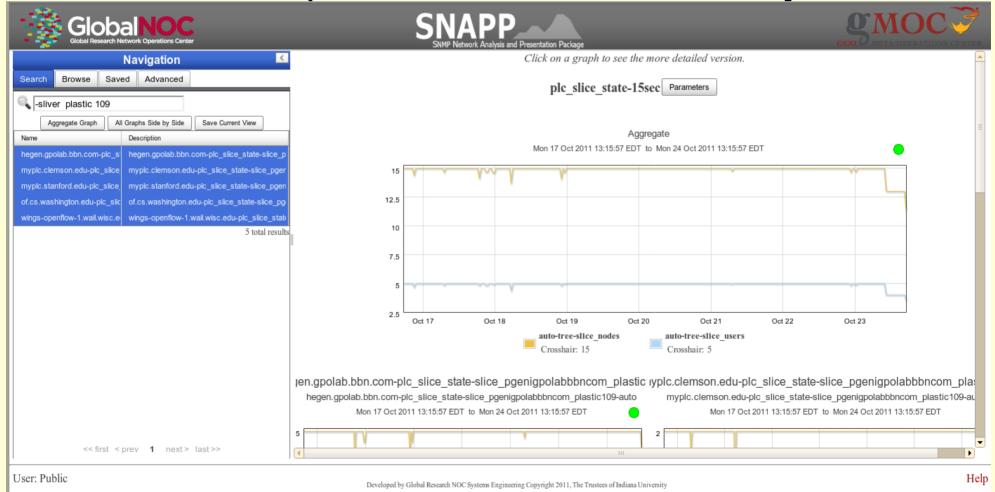portal.cgi

Regular access:

http://gmoc-db.grnoc.iu.edu/measurement/

Scenario: User (slice creator)

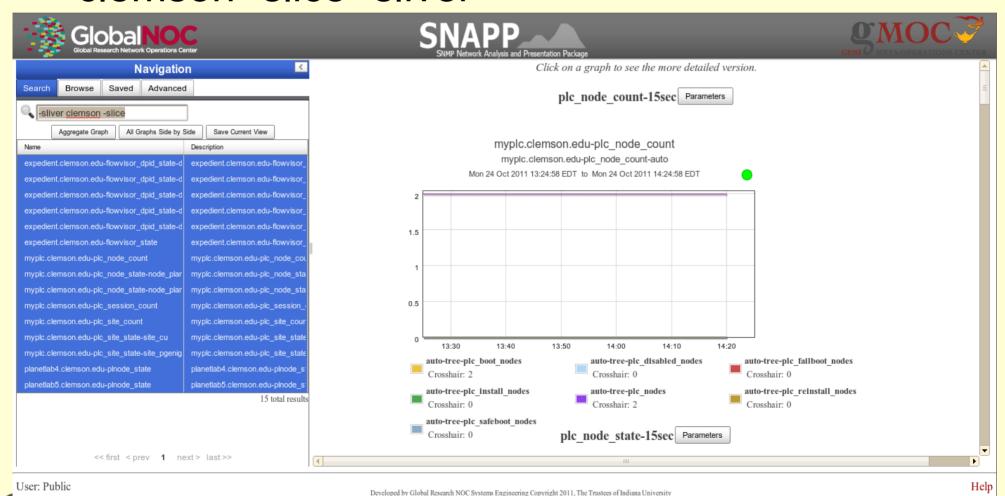- The search parameter -slice is the key here

Scenario: Campus NOC

- "clemson -slice -sliver"

Graph Controls

Parameters:

- Series (what do you want to see)

- Time range. (from when to where)

- For aggregate graphs you also have the options of stacked/overlay graphs.

Getting help

There is documentation on the page:

See the bottom of the page

Campuses:

What do you want on your portal?

Do you want another portal?

SNAPP- Monitoring GMOC Roadmap

- Allow a single snapp frontend to also query data from remote backends (mid 2012)

- Time machine (fall 2012)

- Reporting (fall 2012)

- Auth integration

- Integration with the current monitoring by GPO

END

Nagios

- Public Face of the data reported by our internal collections
  - Currently limited to OF devices on the mesoscale effort

SNAPP UI

- Two mechanisms to get data

  - Browsing

  - Search

- Two types of data

  - Collections: Sets or related time series data

  - Categories: groups of collections with hierarcchy