

Visualizing your Content Centric Networking (CCN) application using the GENI Desktop

These are instructions for the optional part of the [Understanding the AM API using a Content Centric Networking application](#) tutorial. Make sure you have completed the instructions at [GENIExperimenter/Tutorials/GettingStarted_PartII_ccn/Procedure/Execute#a5.1RuntheCCNapplication](#) before you continue.

5.2. Launch the GENI Desktop

- a. Find your slice in the [GENI Portal](#) and click on the GENI Desktop button

Home → Project *vicsandbox* → Slice *lab1vt5*

Notice
Created slice lab1vt5

GENI Slice: *lab1vt5* Need help? Look at the [Portal Help](#) or [GENI Glossary](#).

Slice Actions
Add Resources Manage Resources Manage Slice Members Slice Identifiers Recent Actions

Renew Slice
Project does not have an expiration date
Slice expires on 2014-06-24 01:20:49 Z Renew slice only slice & known resources until 2014-06-24 **Renew**

Slice Tools
Flack **GENI Desktop** LabWiki Omni

Figure 5-1 Click on the *GENI Desktop* button in the Slice Tools section of your Slice page.

- b. Before the GENI Desktop launches, it will ask for the passphrase on your ssh key. Type that followed by a return.

c. You will be taken to the Slices page of the GENI Desktop. Select your Project from the top right of the page.

vthomas ch_geni_net [account](#) | [log off](#) | [FAQ/Help](#) | [Feedback/Bug Report](#)

geni desktop Slices

Exploring Networks of the Future

Work With Your Slices Select Project

Click the slicename to open the GENI Desktop for that slice, or Select an Action to apply to all the checked slices.

Create A New Slice Name Project None Create Slice

d. To find your slice, click on the *Show* button next to Other Slices

geni desktop Slices

Exploring Networks of the Future

Work With Your Slices

Click the slicename to open the GENI Desktop for that slice, or Select an Action to apply to all the checked slices.

Check	Name	Members	Topology
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Apply Action to Checked Slices Action = Update Status

Other Slices. Show

Create A New Slice Name Project vicsandbox Create

- e. When you see your slice listed, select it and click on *Display Checked Slices*

Work With Your Slices

Click the slicename to open the GENI Desktop for that slice,
or Select an Action to apply to all the checked slices.

<i>Check</i>	<i>Name</i>	<i>Members</i>	<i>Topology</i>
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Apply Action to Checked Slices Action = Update Status

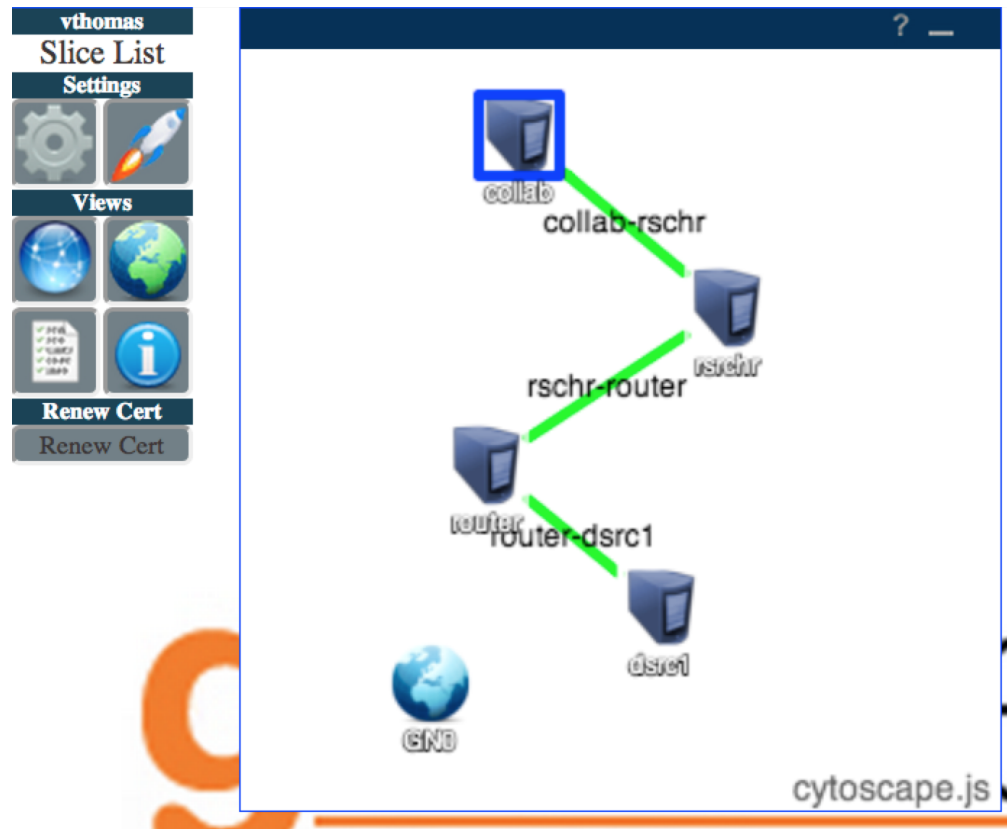
Other Slices. Hide Display Checked Slices

lab1vt2
 lab1vt5

Create A New Slice Name Project vicsandbox

- f. Your slice will appear in the list of slices and you will see a ? under the Status column as the GENI Desktop queries the aggregates for the status of your slice. Wait until the status changes to *Has Resources*
- g. Now click on the *Initialize* button in the same row as your slice listing.
- h. After the slice is initialized, click on the *Instrumentize* button.

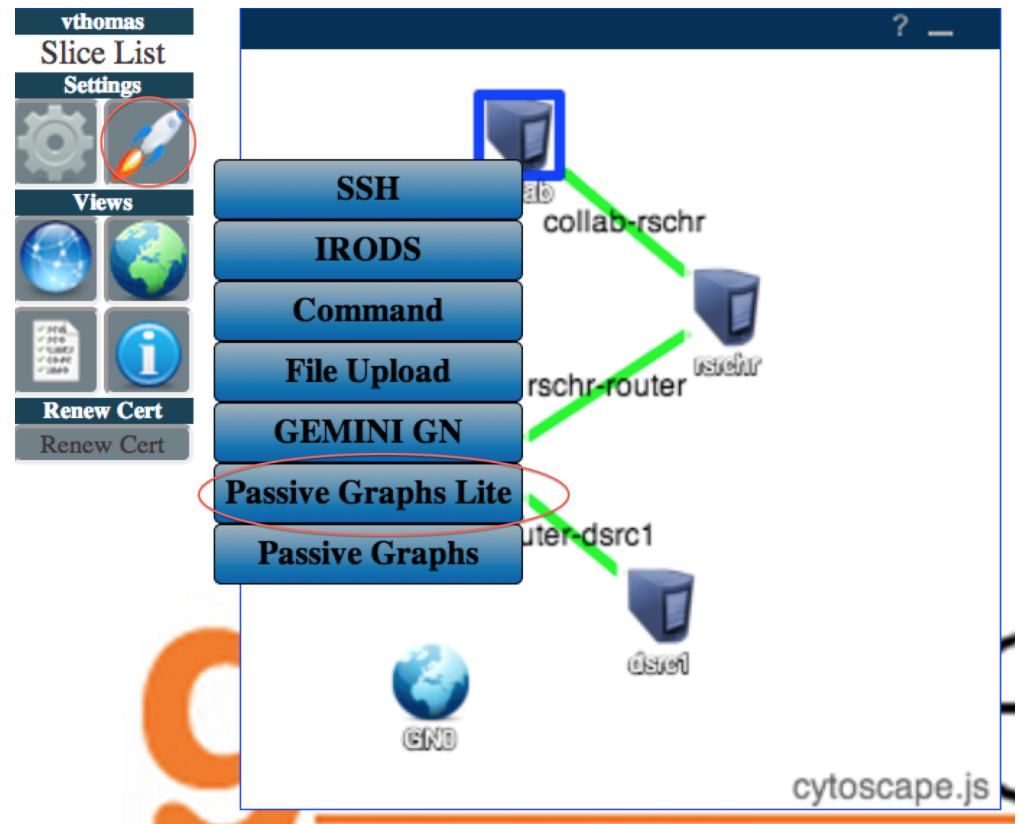
- i. When the instrumentize is complete, click on the *GENI Desktop* button. **You will get a warning from your browser about the site's security certificate not being trusted. Be sure to accept the cert.**
- j. You will see a page that looks like this (see figure). You may have to rearrange the nodes in the graph so the topology is clear.



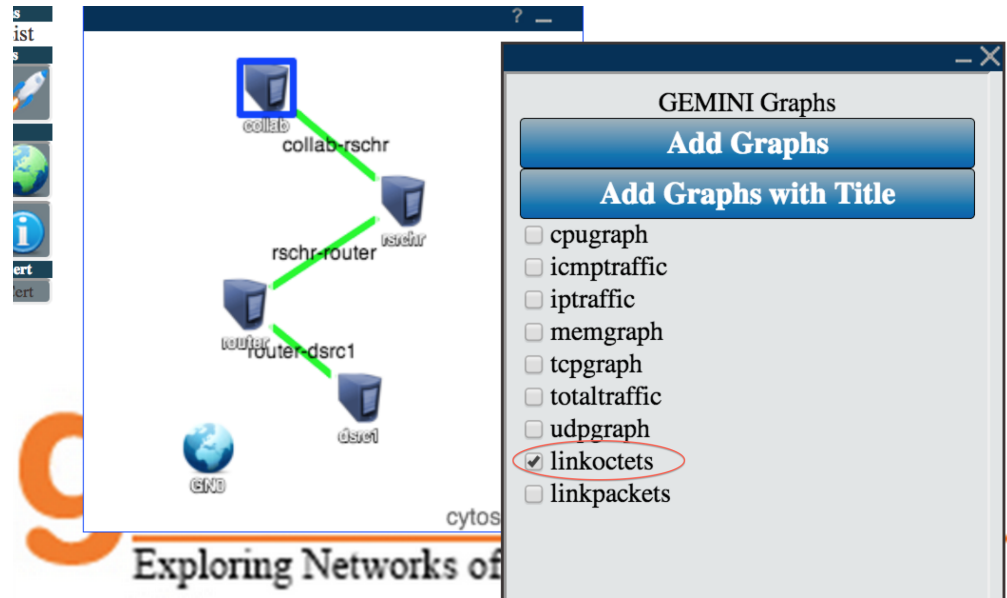
5.3 Setting up the visualization

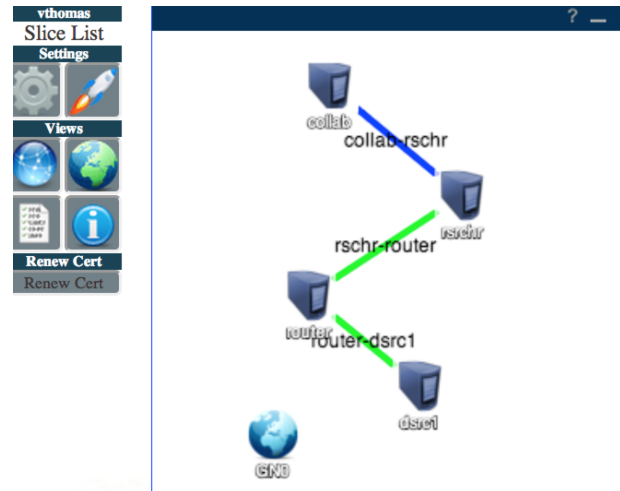
We are now ready to graph traffic on the four links of our topology.

- a. Click on the *launcher* which is the button with the rocket icon and select *Passive Graphs Lite* in the menu that pops up

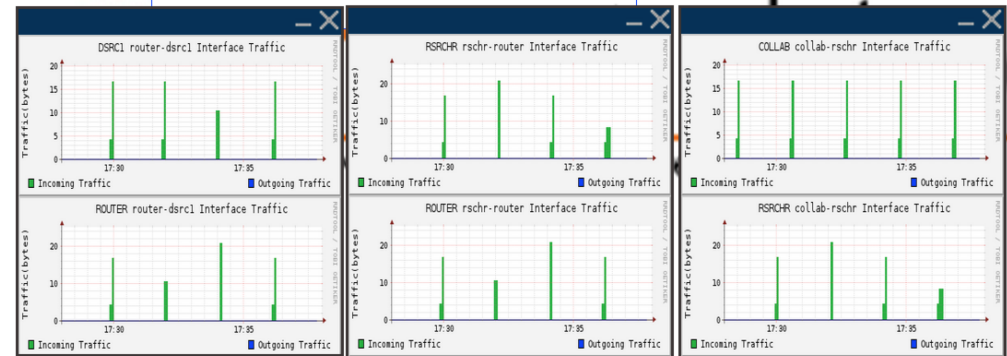


- b. On the GEMINI Graphs menu that pops up, deselect all boxes and select *linkoctets* . We will be graphing the number of octets on the links.





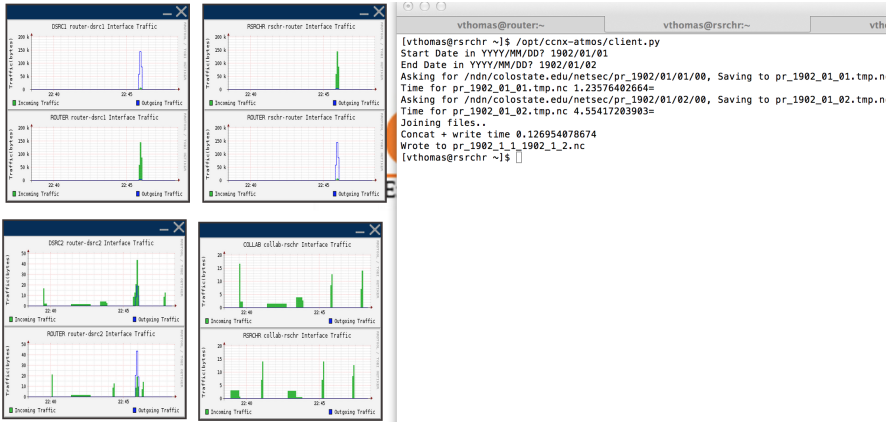
- c. For each of the links in the experiment: (1) Click on the link to select it and (2) Click on *Add Graphs with Title* . For each link you will get a pair of graph showing the number of octets going in and out of each interface on the link. (See figure.)
- d. You can close the GEMINI Graphs menu.



5.4 Visualizing your Experiment

1. At this point you will see four graphs showing traffic on each of the four links on your experiment. The traffic you see on the links is broadcast traffic from the switch on the rack to which these nodes connect. It is not related to your experiment.
 - a. Go back to the ssh window you used to log into the researcher node when you did the CCN exercise.
 - b. Use the `/opt/ccnx-atmos/client.py` program to fetch precipitation data for a time period you had not previously fetched. This is to make sure the data will be fetched from the data source (`dsrc1`) and not from the cache at some node. The time period must be between 1 Jan 1901 and 31 Jan 1902.

2. Your graphs should now show traffic on the `rschr-router` and `router-dsrc1` links (see example below). This is because the precipitation data was not cached anywhere and had to be fetched from the data source.



3. Fetch the same data again. Notice there is no experiment traffic on the links. This is because the data was fetched from the cache on the node `rsrchr`.

4. You can investigate the CCN application further:

1. Log into the collaborator node (`collab`) to fetch data that was previously fetched by the researcher node (`rsrchr`). Can you tell from where the data is fetched based on the graphs?
2. From the collaborator node fetch data that was not previously fetched by the researcher. Where did the data come from this time?

5.4. Cleaning up

Go back to the [CCN exercise](#) to free up the resources you used in this experiment.

Attachments

- [GENIDesktopButtonCropped.png](#) (142.6 KB) - added by [vthomas@bbn.com](#) 4 hours ago.
- [desktop-selectProject.png](#) (103.6 KB) - added by [vthomas@bbn.com](#) 3 hours ago.
- [desktop-otherSlices.png](#) (145.6 KB) - added by [vthomas@bbn.com](#) 3 hours ago.
- [desktop-dispCheckedSlicesCropped.png](#) (156.7 KB) - added by [vthomas@bbn.com](#) 3 hours ago.
- [pull-researcherCropped.png](#) (0.6 MB) - added by [vthomas@bbn.com](#) 94 minutes ago.
- [desktop-mainCropped.png](#) (420.8 KB) - added by [vthomas@bbn.com](#) 59 minutes ago.
- [desktop-launcherCropped.png](#) (0.5 MB) - added by [vthomas@bbn.com](#) 53 minutes ago.
- [desktop-addGraphsCropped.png](#) (0.6 MB) - added by [vthomas@bbn.com](#) 46 minutes ago.
- [desktop-allGraphsCropped.png](#) (0.8 MB) - added by [vthomas@bbn.com](#) 34 minutes ago.