AAG Open Flow

- Sergio Rivera Ploanco

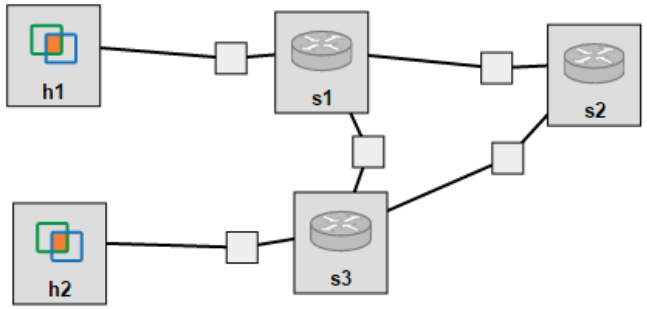
Adopt-a-GENI Extends the GENIDesktop to easily create an Open Flow experiment.

Manual Setup

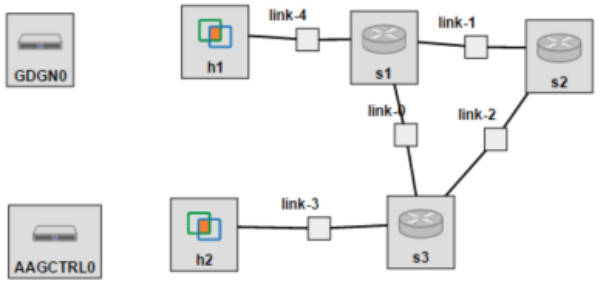
- Add extra node to your slice.
- SSH into that node to install Floodlight Controller
- Start the Controller
- Set up the bridge
- Adding the ports – which is the public vs control
- Write CURL commands to set routes
- ….

Adopt-a-GENI Setup

- Create your topology by just adding Nodes and Switches.



- When the resources are allocated using the GENIDesktop, the controller will be added automatically.



- When slice is Initialized/Instrumentized, the Open Flow Controller is setup.
- GENIDesktop then provides 3 modules to interact with the controller.
  - 1. Flow Install
  - 2. Flow Entry
  - 3. Flow Monitor
  - Note that these modules only appear on AAG slices.

How Does this Happen?

- RAPTOR - Rest Api TranslatOR
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- RAPTOR software set is up on the controller node to translate a subset of Open Flow commands.
- GENIDesktop module interacts with RAPTOR.
- Currently works with Floodlight or RYU.
- Does not interfere with normal controller operations.
- Only supports OpenFlow 1.0

RAPTOR API

For the curious, the RAPTOR API is documented on the AAG Controller

Browse to:

<controller node>:9090/apidocs/index.html