

GENI and PlanetLab

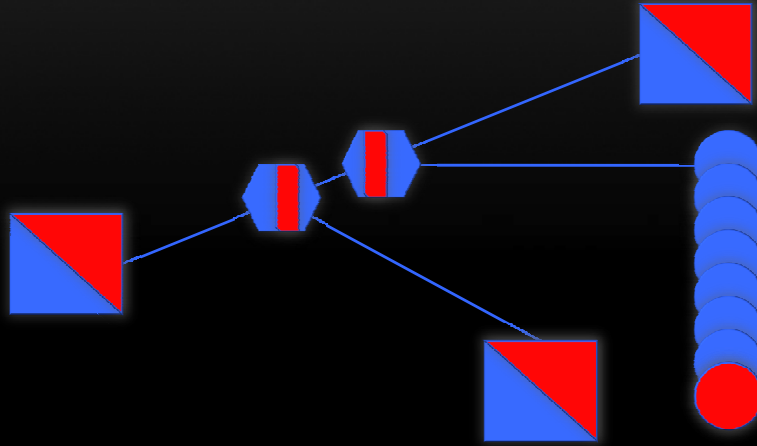
Craig Partridge
GENI Project Office
BBN Technologies

Controlling a Research Network

- # A central issue in GENI is how users will allocate resources for their experiment
- # PlanetLab has been allocating resources for years.
- # What might we learn?

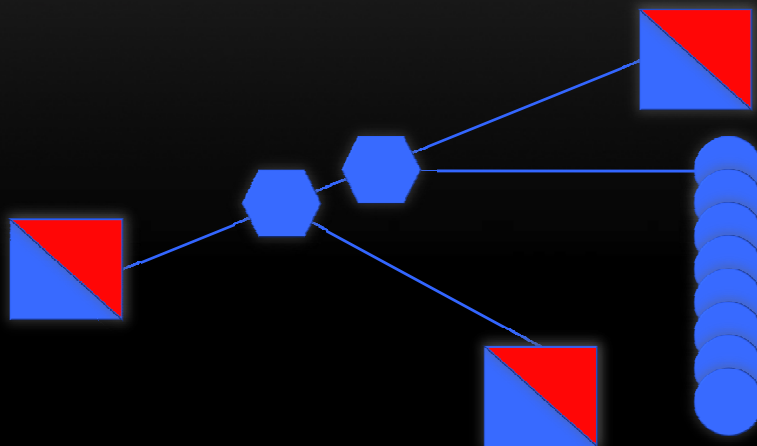
What GENI Needs

A way to allocate *slices* of all equipment in the network



What PlanetLab Does

Allocates *slices* of hosts on an overlay network



What GENI Needs that PlanetLab Doesn't Have

- # Isolation of slices
 - # Traffic from one slice should not impact another slice
- # Deep slices
 - # Not just fractions of hosts, but fractions of links, interconnection devices, disk farms, etc..
- # Reproducibility
 - # Some ability to repeat an experiment
- # Semi-automated data collection

What PlanetLab Has that GENI Needs

- # Ability to allocate slices
- # Ability to remotely control slices
 - # Ways to handle misbehaving remote **federated** nodes
- # A clear model of what resources you get in a slice
 - # Experimenters know what to expect when they get a slice

Creating GENI's Control Plane

- # A critical problem in GENI
- # Enhancing PlanetLab is one approach
- # There are other choices
- # We're going to kick off competing efforts later this summer

