#### Virtual Machine Management

laaS Abstraction

#### Provisioning Management

- Rain
- Cloud Shifting
- Cloud Bursting

## Information Services

CloudMetrics

#### Experiment Management

- · Shell
- IPython

# Future Grid Cloudmesh

## User On-Ramp

Amazon, Azure, FutureGrid, XSEDE, OpenCirrus, ExoGeni, Other Science Clouds

### Accounting

- FG Portal
- XSEDE Portal