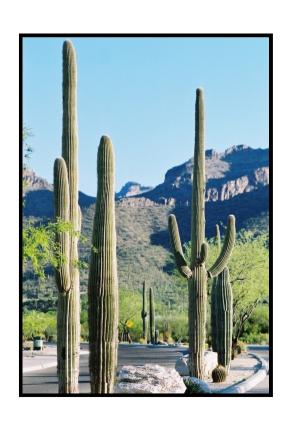# Gacks
Secure Resource Allocation for GENI

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Overview

- Secure binding of resources to slices

- Infrastructure to support a variety of resource allocation policies (e.g. auctions)

- Allow distrustful entities to exchange resources

- Different types of resource bindings:

    - Permanent (owned)

    - Temporary (borrowed)

Players

- Slices – consume resources

- Resources – consumed by slices

- Components – provide resources

  – Resource manager – enforces resource bindings

- Experimenters – bind resources to slices

- Allocators – allocate resources to experimenters

Gacks Architecture

- **Escrow service**
  - Secure resource exchange
  - Audit trail
  - Waist of the hourglass

Allocator	Allocator
Escrow Service	
Resource Manager	Resource Manager

Resource Manager

- Resources as first-class objects
  - Named
  - Owned
  - Borrowed
- *Receipts* enable auditing
- Authentication based on GENI credentials
  - (PlanetLab/geniwrapper implementation)