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
Resource Manager

- Resources as first-class objects
  - Named
  - Owned
  - Borrowed

- Receipts enable auditing

- Authentication based on GENI credentials
  - (PlanetLab/geniwrapper implementation)