

Access Grid 2.0

Node Management

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Overview

- Node Management will:
 - enable users to easily configure and control their Node's hardware and services
 - provide access to this functionality to local and remote clients

Use Cases

- Discover Resources
- Add a Service
- Remove a Service
- Configure a Service
- Discover a Node for leashing
- Leash to a Node

Requirements I

- Discover and control node hardware and services
- Network accessible, to deliver control to any authorized user

Architecture I

- Attributes
 - Identification
 - Authorization Policy
 - Users
 - Node Services

Architecture II

- Operations
 - Login
 - Modify Authorization Policy
 - Add/Remove Node Services
 - Query Node Services
 - Query Node Service Configuration



Architecture III

- Operations (continued)
 - Configure Node Service
 - Start/Stop Node Service
 - Discover Capabilities

Technology Strategy

- Employ Web Services to enable communication between Server and Node components distributed across multiple machines

Technology Choices

- Node Components will implement a SOAP interface
- Node Services will be described in WSDL
- Identification and authentication will employ Globus

Design I

Node Components

- Resource
- Service
- Daemon
- Server
- Client

Design II

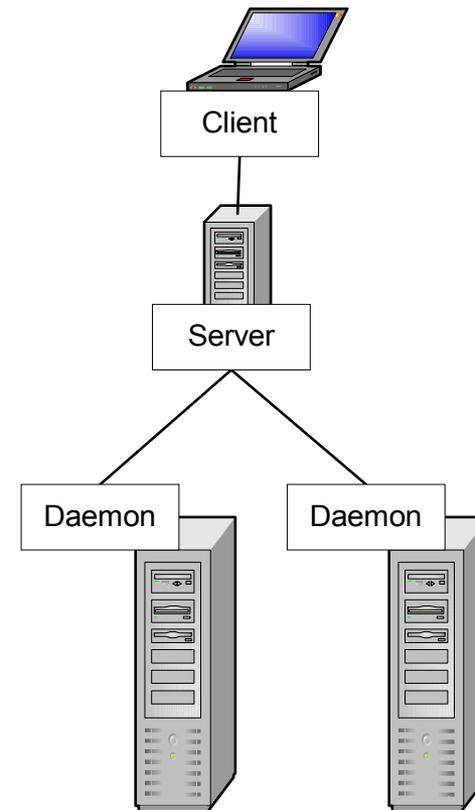
- **Resources** are the sources of collaborative data, such as video capture cards or microscopes
- **Services** are software components that make Resources available to a Node for use in a Venue
- **Daemons** provide details of Resources and Services on machines, and permit management of the Services in a Node
- The **Server** maintains the configuration of the Node and communicates changes to Daemons and Services
- **Clients** can connect to the Server to view and modify Node Configuration



Design III

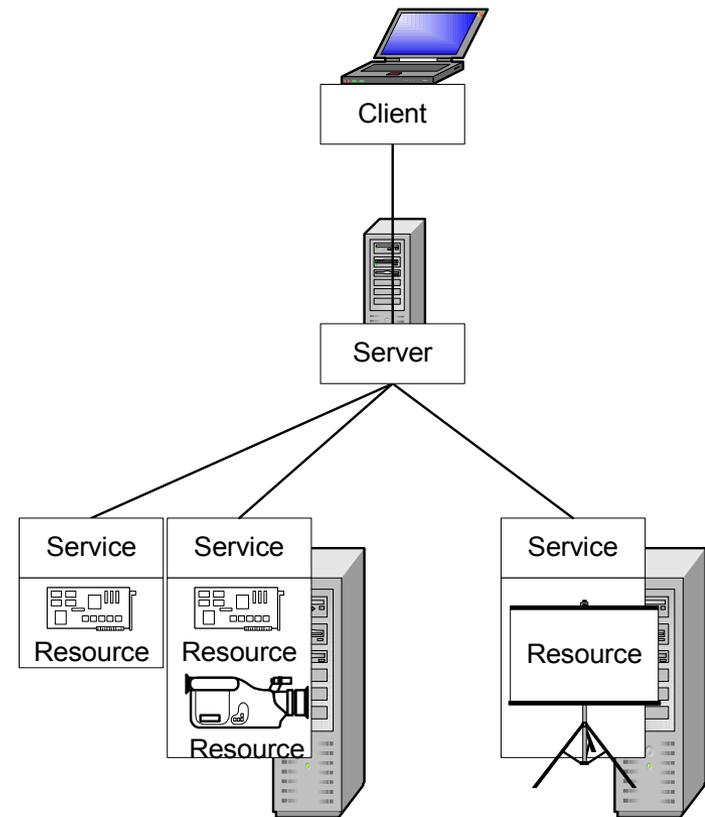
The Server will communicate with the Node Daemons to:

- Discover resources available on node machines
- Configure Services on those machines



Design IV

- The Server will communicate directly with Services to:
- Configure hardware and software parameters
 - Start and stop a Service



Open Issues

- Need to define Resources (e.g., video capture cards, microscopes) in a flexible enough manner to accommodate different resource types and platforms

Conclusion

- Node Management will make it easier to add and configure Services
- Node Management will provide the capability for remote node management

Questions?

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