



Workspace Docking

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Definition



- Integration of local data and services with other AG participants
 - Shared Files and documents
 - Messaging
 - Video
 - Audio
 - VNC-like desktop control
 - Applications
- Answer to the question:
 - “What do you call it when I want to show someone something from my computer?”



Examples



- A user at an AG node wants to show everyone present a PDF document
 - VNC export desktop
 - Shared WEB browser
 - Shared XPDF viewer
- A user at an AG node wants to send a private message to another user
 - Chat invitation
 - Mud whisper
 - Web send POST-IT
 - Private audio channel



Examples



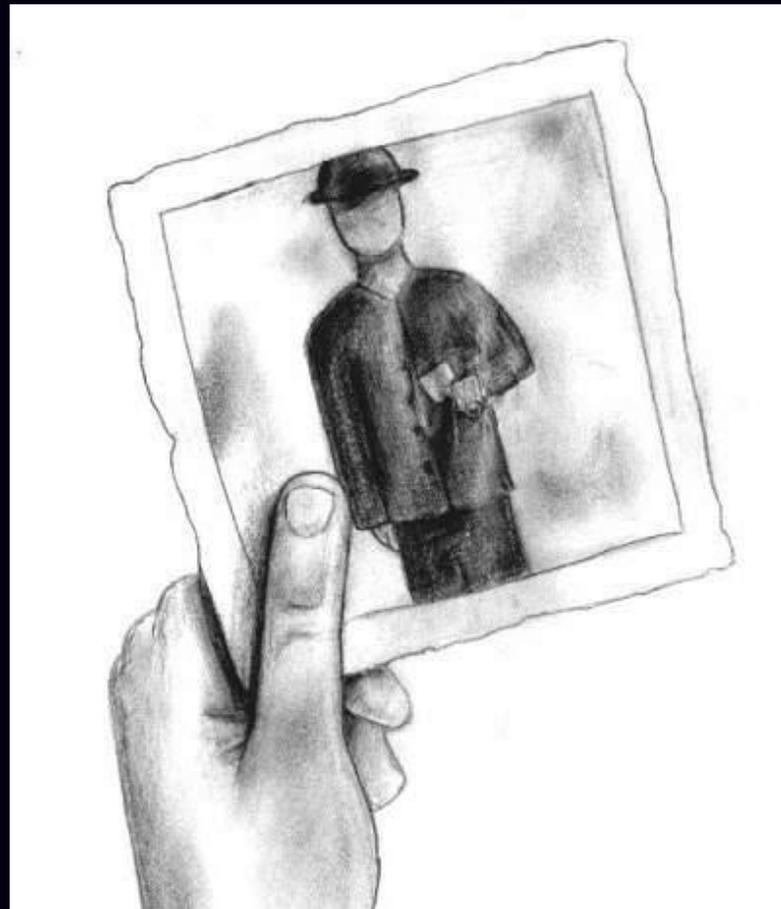
- The next presenter at a session wants to privately review slides with a user at another site.
 - Email them, or post Slides to a shared document site
 - Remotely start and control PPT on other's machine
 - Review over private chat or audio channel
- A scientist wants to allow other users to control a scientific instrument interface on a workstation
 - XMOVE
 - XMX
 - VNC



Problem Description:



“Let Me Show You This”



Let Me Show You This



- Let
 - You must provide permission and capability
- Me
 - Establish a trusted Identity
- Show
 - The mechanism to make it happen
- You
 - Discover, form groups of individuals or groups
- This
 - Describe the thing



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 - Discover, form groups of individuals or groups
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 - Describe the thing in a standard way



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 - You must provide permission and capability
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- **You**
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- **This**
 - Describe the thing



Requirements



- (Me) Establish a Trusted Identity
 - AG VV Login
- (You) Scoping
 - Create an audience
 - Discovery
 - Find who is present
 - Find who has what capability
 - Find what machines are available
 - Find what services are available
- (Let)Security
 - Find who has permission to do X
 - Give someone permission
- (This) Describe the thing
 - XML Schemas
 - Services
 - Capabilities
- (Show) Initiation
 - Platform Independent Messaging Environment
 - Cause launch of apps on remote machines



Desirable Features



- **Ease of use**
 - No learning curve, obvious use
- **Extensible**
 - User can add services, capabilities outside of AG developers
- **Lightweight**
 - Quick to load, small, non-intrusive presence



Assumptions – AG Services



- **Registration Service**
 - Users authenticate to a Venue directly or via an AG node
 - Methods of storing, delegating credentials
- **Security**
 - Authentication Service
 - Authorization API
 - ACL manipulations, where I have permission
 - Secure Communications API
- **Discovery**
 - Identity Discovery API
 - Capability/Service API
 - AG scoping mechanism
- **Persistence Service for Documents/files/etc**
 - API for accessing, storing



Assumptions



- **AG Client APP**
 - Login interface
 - Capability Description Interface/Editor
 - Configures docking stub
 - Automatic service startup
 - Service Advertising
- **Separate Docking Application for each dockable class of thing**
- **Need to create a docking svc app and API**
 - Scope construction
 - App Launching
 - Port listener
 - Command and control communications
- **Applications communicate out of band from docking framework**





Applications communicate out of band from docking framework

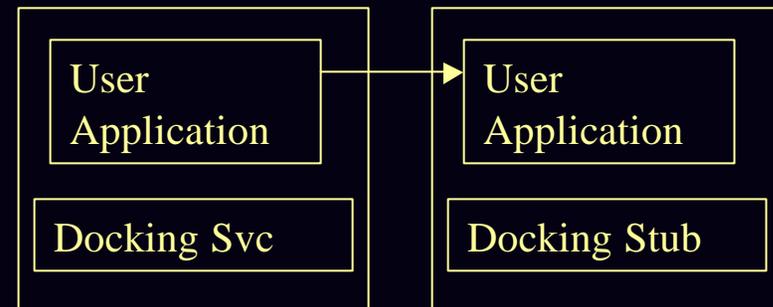
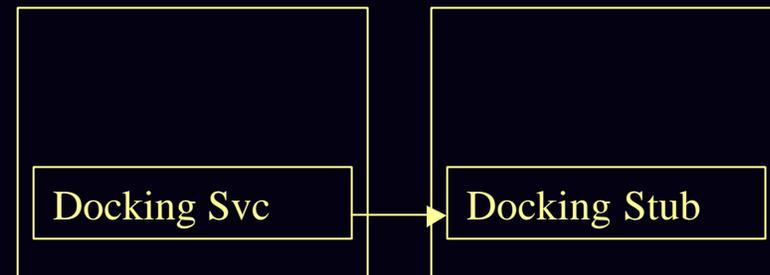
- Future AG Opportunities to provide services for collaborative apps
- Common Services we know about
 - AG Scoping
 - Address Generation
 - Stream Management
 - Process communications framework
 - Secure Communications
- More Services require analysis – AG Applications Workshop
 - Floor Control
 - Reliable Multicast (Group Communications)
 - Data Management
 - Work flow management



Strategy



- Services Model
 - Service description
 - Service Discovery
 - XML descriptions
 - XMLRPC
 - HTTP
- Initiators and Receivers
 - Peer to peer



Docking Project Deliverables



Establish an Identity

Describe a Service/Capability

Create a Scope

Messaging Framework

Secure Communications



Docking Project Deliverables



- Service Description Schemas
- Capability Description Schemas
 - Information about the service, parameters, capability requirements for matching
 - XML Schemas

Establish an Identity

Describe a Service/Capability

Create a Scope

Messaging Framework

Secure Communications



Docking Project Deliverables



- **Create-A-Scope API**
 - Scope is the target set of individuals/groups
 - Create Matching Criteria API
 - Identities, Locations, Capabilities, Node Affinity, Permissions, etc)
 - Scope = CreateScope(Scope, Matching Criteria)
 - Discover/select individuals/groups with identities with capabilities with permissions
 - Reduce Existing Scope

Establish an Identity

Describe a Service/Capability

Create a Scope

Messaging Framework

Secure Communications



Docking Project Deliverables



- Messaging Framework
 - Docking App Framework
 - Scope Construction
 - App Specific Functions
 - Msg Launching
 - Feedback
 - Docking Stub
 - Listener
 - App Launching
 - Uses XMLRPC

Establish an Identity

Describe a Service/Capability

Create a Scope

Messaging Framework

Secure Communications



Implementation Strategy



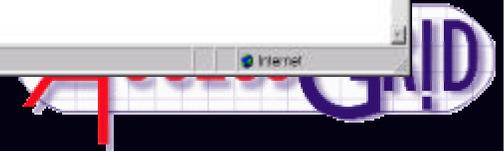
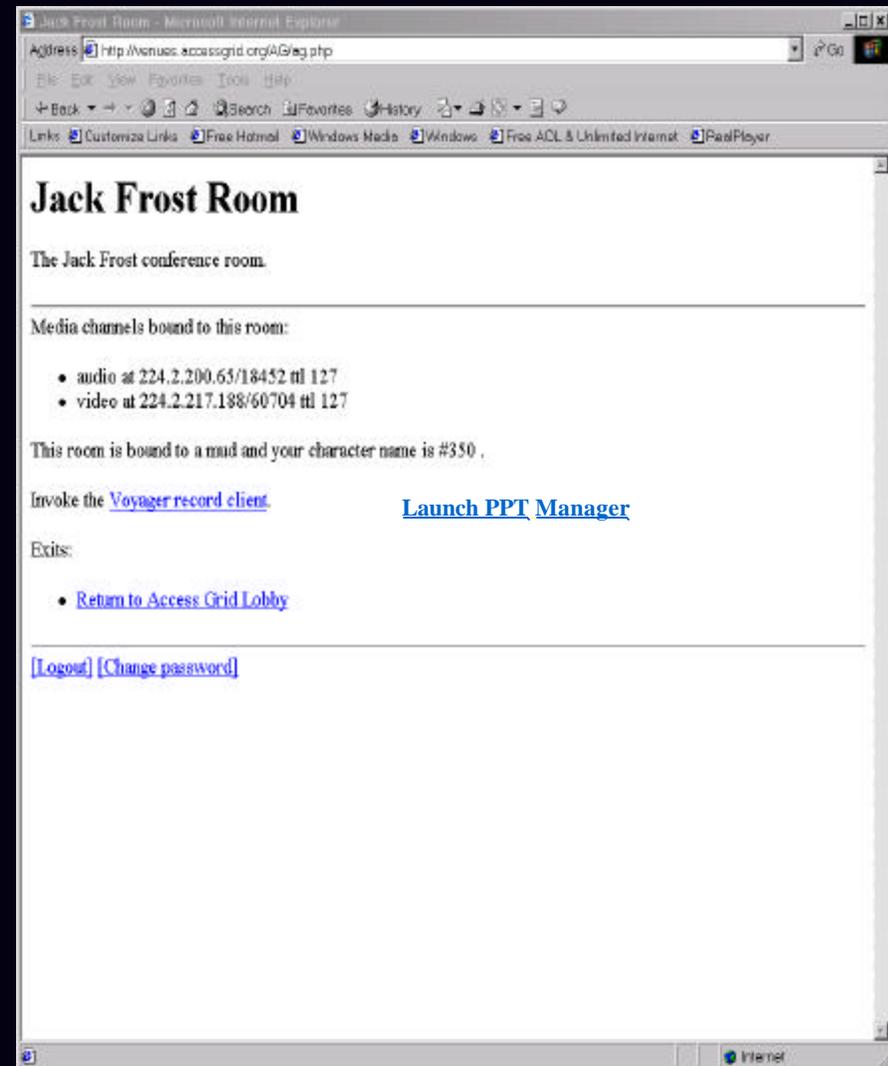
- Create ability to operate outside of AG 2.0 assumptions
 - Identity, Scope
 - Secure Communications
- Deliver Standalone capabilities as soon as possible
 - Service/Capability Description
 - Messaging Framework
- Develop Wrapper for current DPPT as Demonstration



Implementation Strategy



- Modify venue to allow people to subscribe to ppt
- Modify DPPT client to use command line args, not config file



Implementation Strategy

- PPT Receivers:
 - Click on PPT subscriber link in Venue
 - Helper app starts the listener, which calls the registry svc with its URL to identify itself

This isn't a real application

PowerPoint Manager - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Print Refresh

Address http://venues.accessgrid.org/pptmg Go Links

PowerPoint Manager

Presenter

Register as presenter

Unregister presenter

Slide location: <http://slideserver.org/mypres.ppt>

Launch presentation

Subscribers

Subscribe to presentation

User	Location	On Line	Client Running
Rick	SDSC	⊙	⊙
Lisa	ANL	⊙	○
Russ	BU	⊙	⊙
Jeff	UNM	⊙	○

Done My Computer

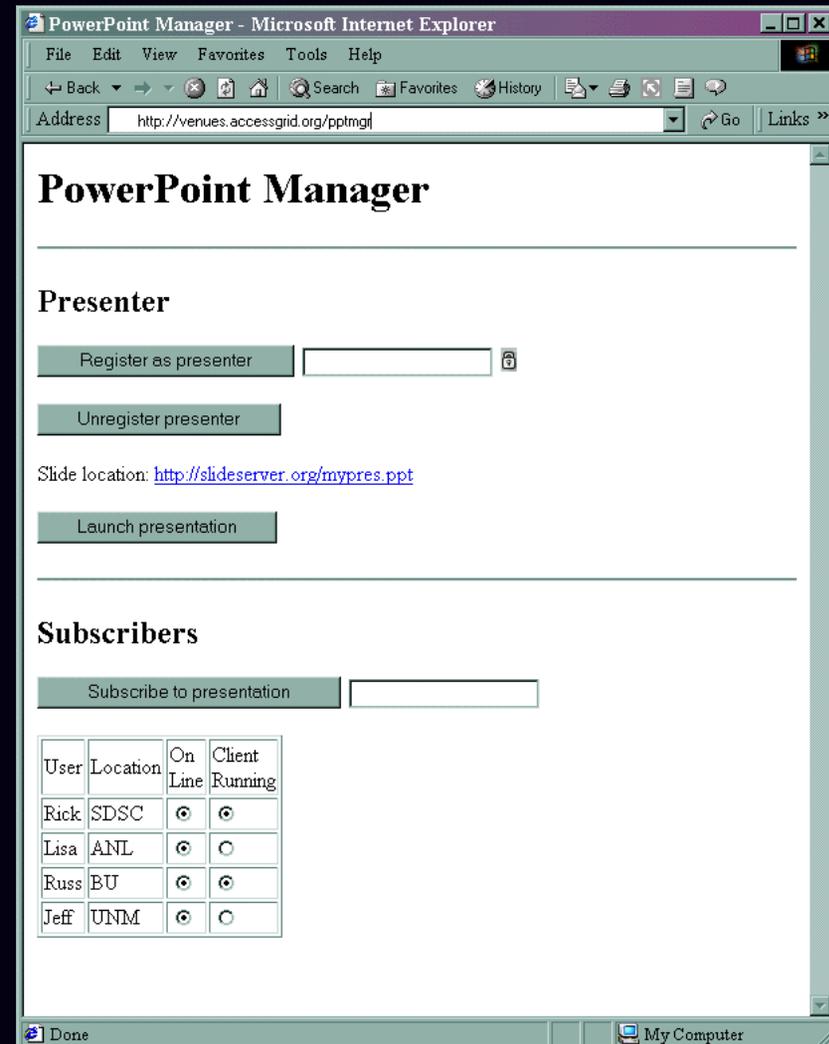


Implementation Strategy

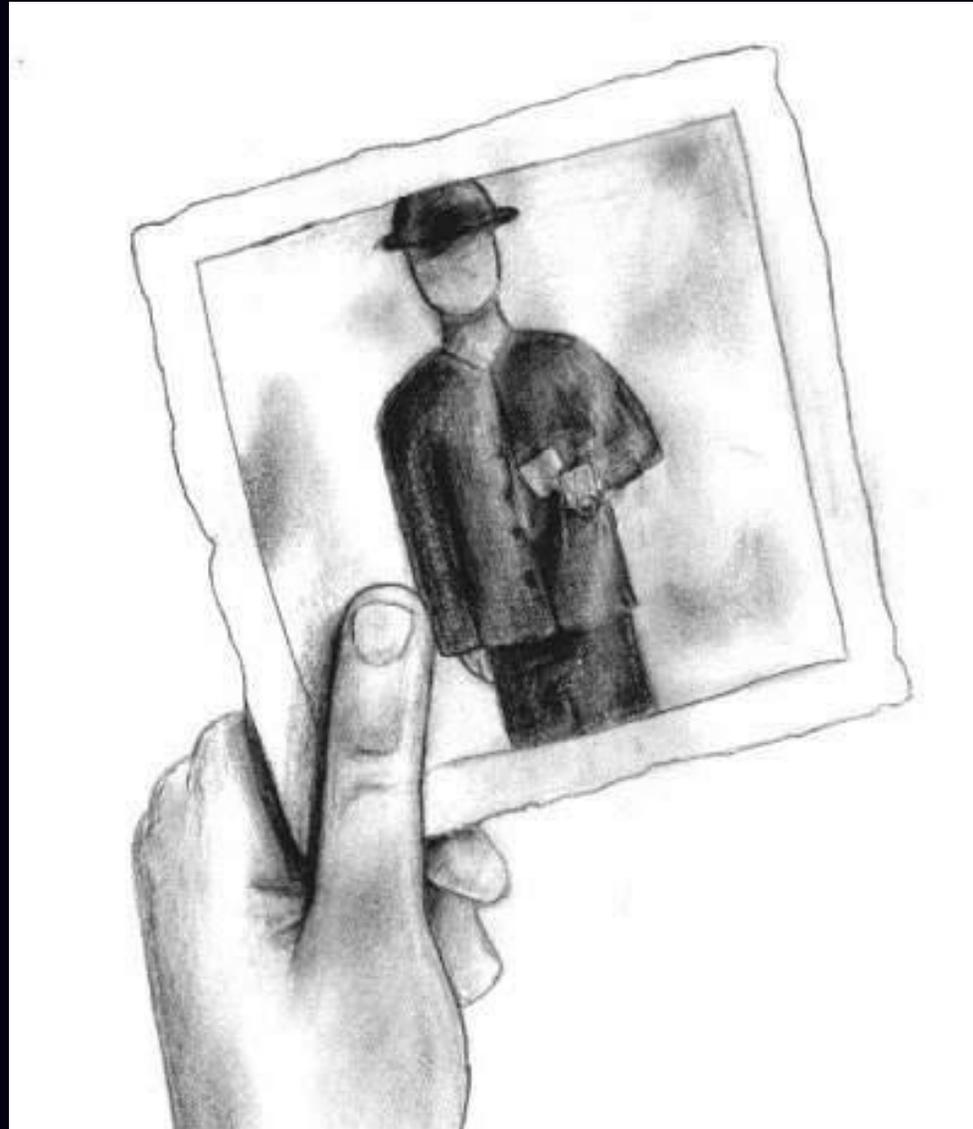
But it could be



- PPT Presenter
 - clicks on PPT presenter on Venue page
 - Starts registry, server and GUI
 - Presenter puts slides on public place
 - Presses the Launch button
 - Starts Master
 - Starts Clients
 - Wait for Feedback



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ACCESS GRID

Tasks



- Create XML Schemas
 - Capability/Service Description
- Develop Messaging API
- Develop Docking API
 - Matching Criteria
 - Scope Creation
 - Service Launching, advertising
- Create Docking Stub Generation
- Create Docking App Framework



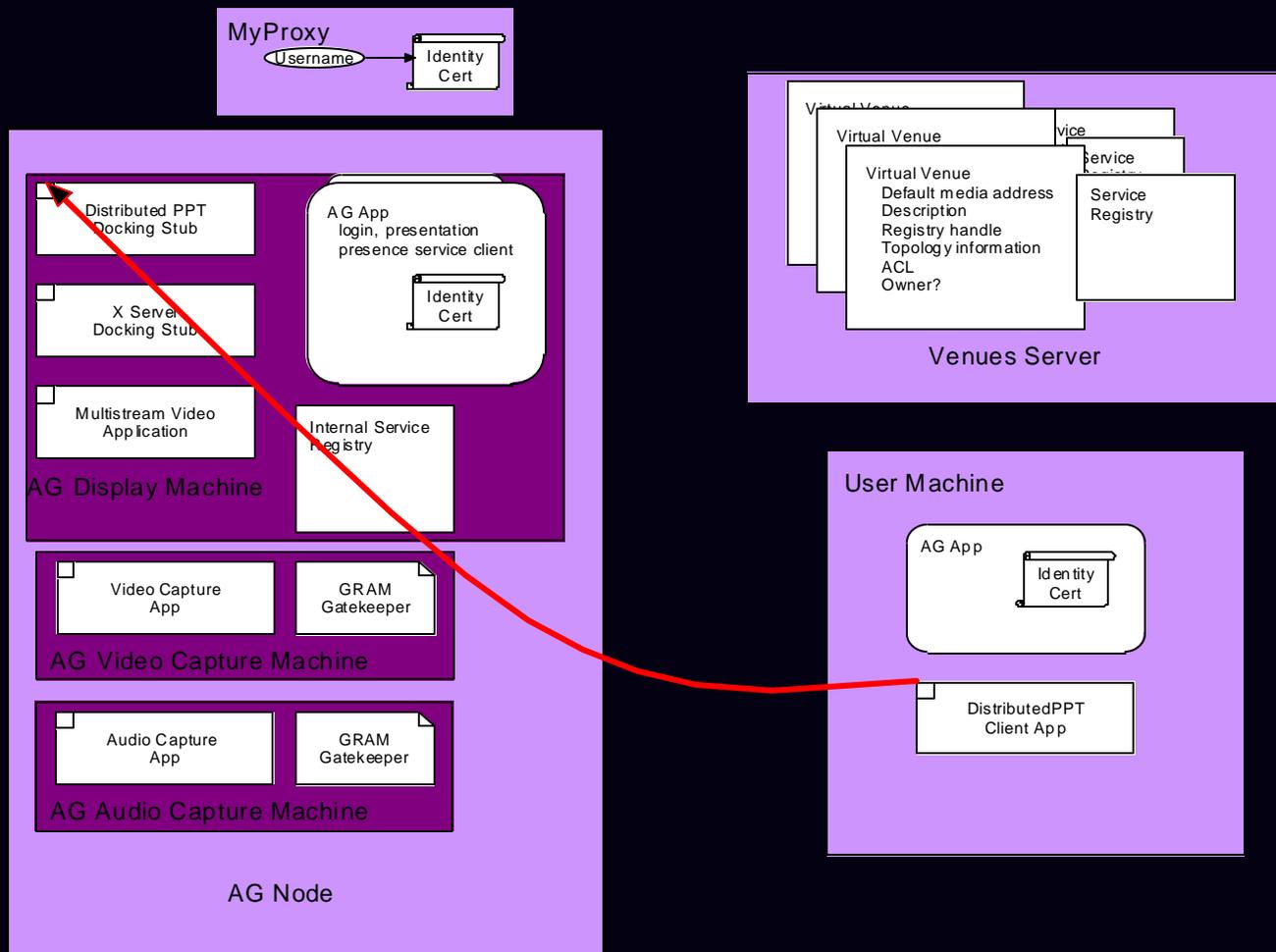
DPPT Example



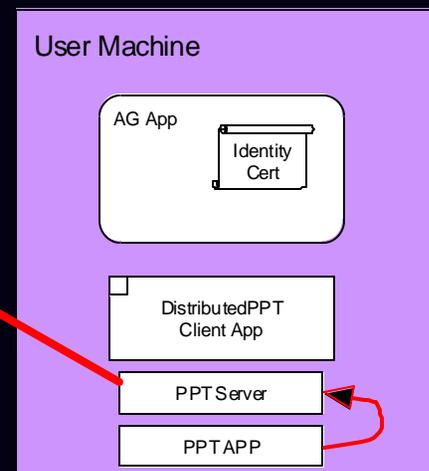
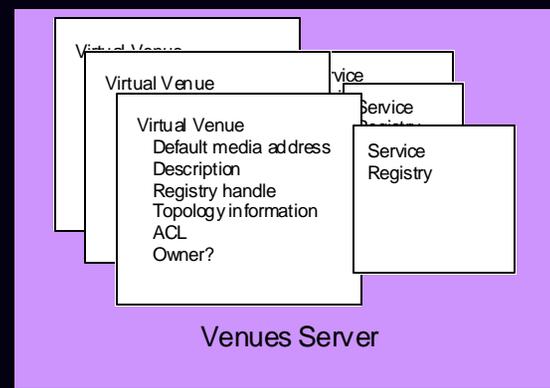
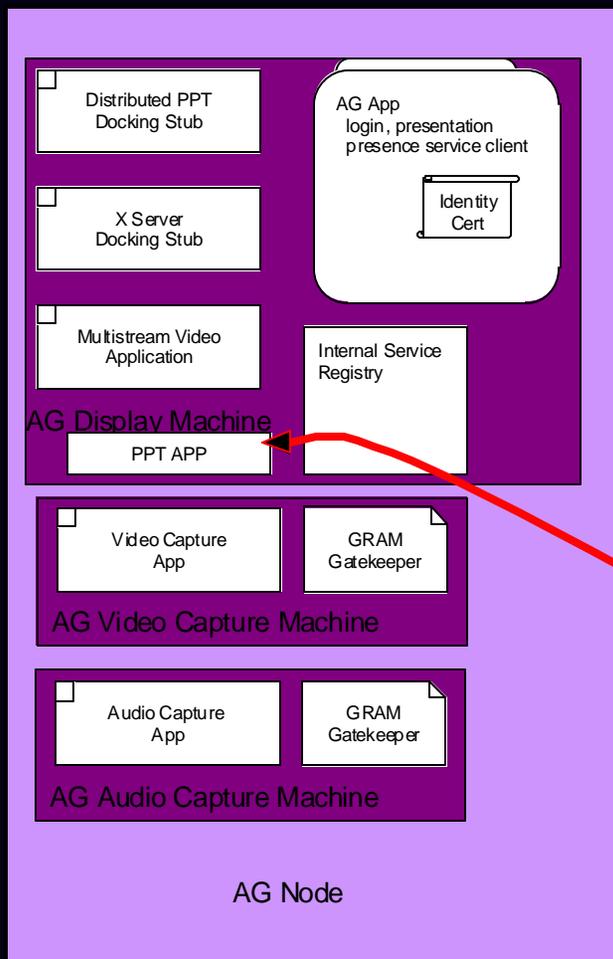
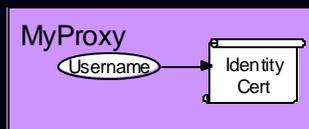
- 1. Construct scope (Use docking API)
- 2. Make slides available
 - Local URL, Venue URL, GASS to recipients
- 3. Locate or start registry, server
- 4. Start a master
- 5. For each Docking Stub in the scope, send msg to launch client
 - Slide location, ppt control port
 - Candidate for Group Communications
- 6 Receive feedback on client status, go-nogo or repair



DPPT Example



DPPT Example



AG Node

User Machine





PowerPoint Manager - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites History Print Refresh Stop

Address Go Links >>

PowerPoint Manager

Presenter

Slide location: <http://slideserver.org/mypres.ppt>

Subscribers

User	Location	On Line	Client Running
Rick	SDSC	⊙	⊙
Lisa	ANL	⊙	○
Russ	BU	⊙	⊙
Jeff	UNM	⊙	○

Done My Computer

