AG Toolkit 3.0 Overview and Usage

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Access Grid

- To enable groups of people to interact with Grid resources and to use the Grid technology to support group-to-group collaboration at a distance
  - Group-to-group interaction
  - Real-time video
  - High-quality audio
  - Shared data & applications
Access Grid Toolkit

Goals

- Scalability
  - Many users, many servers
- Supportability
- Richness
  - Media, interaction
- Security
  - Confidentiality
  - Authorization
- Collaboration framework
  - Support collaborative tools development
- Integration with Grid infrastructure
  - Access to compute, data resources
- Open license
Access Grid Toolkit (cont’)

- VenueClient
  - Integrated data sharing
  - Integrated text messaging
  - Integrated event messaging
  - Shared Applications
- Encrypted audio/video
- Extensible media framework
- Certificate Management
  - CA certificate import
- Authorization
- Integrated Multicast Bridging
- Complete documentation
Results

- Downloads
  - 6000+ (outside Argonne)

- Certificates
  - 8000+ certificate requests
  - 53 countries

- Venue Servers
  - 10+ external to Argonne
  - Run by large organizations, small collaborations

- Platforms
  - Windows, OSX, Linux (Gentoo, Slackware, FedoraCore, FreeBSD, RedHat, SuSE)
Worldwide AG Nodes
(the subset registered with portal)
Development Toolkit

- SOAP-based components throughout
  - VenueServer, Venue, VenueClient, etc.
- Published API
  - Query Venue multicast addresses for building gateway
- Shared Applications Support
- Node Services Support
Access Grid 3

- Standards-based
  - Proven tools and protocols
  - Improved performance
  - Improved stability
  - Interoperability
- Platform independence
- Ease developer integration
- Open license
  - Certificates optional for clients
  - Lower cost of entry
AG3: Standards-based

- Reliance on standard Internet technologies (SSL, SOAP/XSD, FTP, Jabber)
  - GSI replaced by SSL throughout
  - New SOAP implementation, with WSDL support
    - Interoperability
    - Facilitates client development
  - XML Event distribution
    - Interoperability
    - Performance
  - Integrated FTPS data storage
    - Stability of established standard
  - Jabber-based text chat
    - Established standard
    - Interoperability with large Jabber client base
AG3: Improved Venue Client

- Multicast Indicator
- Media tool controls
- Improved venue navigation
  - tree-based
  - view options
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AG3: Integrated Jabber chat client

- Solves the AG chat multiplicity problem
- Interoperable with wide range of Jabber clients (e.g., PSI, iChat)
- Facilitates handheld integration
AG3: Integrated RSS-based scheduling

- Communities can publish meeting schedules to which their members can subscribe.
- View meeting webpage or join meeting directly.
- Schedule format conforms to RSS 2 spec.
AG3: New venue-independent bridging

- Establishes network of bridges (QuickBridge, currently)
- Clients request bridges for particular multicast addresses
AG3: Venue-independent bridging

- “Closest” bridge is used by default
- Bridge information, including bridge host and ports, presented in VenueClient
AG3: Network monitoring

- Integrated per-Venue multicast beacon client
- Multicast connectivity viewer
  - Similar to RAT reception quality matrix
- Show multicast loss between participants independent of audio and video
AG3: Service advertisement and discovery (via Bonjour)

- VenueClient, NodeService, and ServiceManager are advertised locally
- Simplifies multi-machine node configuration (select from among discovered service managers)
- Simplifies node control
- Improved mechanism for finding VenueClient to control
How to use AGTk 3.0

- Hardware Checkup
- Software Setup
AGTk 3.0: Hardware Checkup

Prerequisites
- Laptop PC, Web camera, Headset (headphone & mic).
- Network Connection (100Mbps Ethernet)

Preparations
- System OS: Window XP/2k.
- Connect Web camera & setup (install device driver).
- Connect headset including headphone and microphone & check its operation.
AGTk 3.0: Software Setup

- Download the followings:
  - Python 2.3
  - Python win32 Extensions
  - wxPython 2.6
  - Bonjour
  - Access Grid Toolkit 3.0.2
More Information

Access Grid Reference Sites

- Access Grid (http://www.accessgrid.org/)
- Access Grid Korea (http://www.accessgrid.or.kr)
- ACE Team, GIST (http://ace.nm.gist.ac.kr)
- AG Central (http://portal.accessgrid.org/)

Reference