VENUE CLIENT

The Venue Client, in Figure 2, is used to connect and participate in an Access Grid Virtual Venue. It displays the contents of the Virtual Venue, connections to other venues, and an interface to configure your node arrangement. The description below explains the different components that represent the Venue Client.

The **Address Bar** is used to connect to a venue. You are allowed to enter two different types of addresses in the address bar, either the default venue on a venue server (https://host:port/Venues/default) or the actual address of a specific venue (https://host:port/Venues/unique id). For instance, you can in Figure 2 see the Venue Client connected to default venue on a venue server running on host “vv2.mcs.anl.gov” using port 9000. After writing the address in the address bar, click the “Go” button to connect to the venue.

The **Title Bar** includes the name of the venue you are currently connected to.

The **Contents Panel** displays participants of the venue, present data, applications, and services available to share. Users can join the venue either as

Figure 2 Venue Client
a single participant or as a node. A node is a group of people taking part in the
venue together in which all of the participants are sharing the same collaborative
capabilities, for example, watching the venue projected on a white screen with
cameras placed strategically around the room.

The **Exits Panel** shows other venues linked to this venue, connected through
exits, enabling users to travel through the venue space. Next to the door icon
you can see the name of the connected venue. The venue description is
displayed as a tool tip that shows up if the mouse is held over the exit.

All venue participants and nodes will receive the text available in the **Text Field**.
You can write a short message in the **Message Field** and display the text by
clicking on the “Display” button.

2.0 Actions
This section describes how to use the Venue Client. The discussion begins with
basics such as setting up certificates and gradually covers such complex issues
as managing a node.

2.1 Start Venue Client

**Set up Certificate**
To connect to a venue you have to have a valid grid identity certificate (for more
information about certificates, see Section 3.1). **You have to request and
configure your certificate only once**; the same certificate can then be used for
all future Access Grid interactions. Also, you are allowed to user the same
certificate on several machines; so if you already have a certificate, you can
simply export your certificate files over to the other machines.

1. **Start Venue Client**. The Venue Client provides a mechanism for
requesting certificates to use with the Access Grid. When starting the
Venue Client, the Certificate Request Wizard will open automatically if you
do not have certificates already installed.

2. Click **Next >** in the first page of the wizard, see Figure 3.
3. **Enter your Information.** The second wizard page, in Figure 4, will appear prompting you for necessary information to create your certificate and the distinguished name you will be associated with (for more information about distinguished names read Section 3.3). Take care to remember the password you select because you will be using this in the future. Also, certificate requests with incorrect first and last names will not be approved.
4. **Review.** Finally, review the information that will be included in your certificate and click **Finish** to submit the request, see Figure 5. The certificate will be approved manually. This may take some time depending on how many requests are being processed at the moment; please be patient. When your request has been approved, you will receive an email containing instructions on how to install your certificate. For further questions regarding certificates, send an email to agdev-ca@mcs.anl.gov.

5. **Install Certificate.** To install the certificate, open the Venue Client and go to **Preferences – Manage Certificates – Certificate Manager**.... In the **Certificate Requests** tab, you will see a list of requested certificates and their current status. Click the **Check status** button to get current status of your requests. If status is **Ready to Install**, select the certificate from the list and click the **Install Certificate** button. The certificate is now installed and you are ready to use it with your Venue Client.

**Create Your Profile**

If this is the first time you are using the Venue Client, a profile dialog will appear, and you should enter your information, which will be used to represent you in venues (see Figure 6). You are required at least to fill in your name, but it is helpful if you enter as much information as possible. Keep in mind that you can change the profile at any time (see “Changing your Profile,” Section 2.4). When
you are present in a venue, your profile information will be made available for every participant in that venue (read “View Profile,” Section 2.3)

![Figure 6 Profile Dialog](image)

**Note:**

*Location:* Your physical location, for instance, Argonne National Laboratory.

*Support Information:* Information on how to contact the responsible person for this node. For example, [support@mcs.anl.gov](mailto:support@mcs.anl.gov).

*Home Venue:* This address will show up in the Address Bar when you start the Venue Client.

*Profile Type:* A user is a single participant maybe connected via laptop. A node represents a group of people using the same collaborative environment

### 2.2 Connecting to a Venue

**Specify Venue Address**

Enter the venue address in the **Address Bar**, and then click **Go** to enter the venue. Apart from venue addresses (https://<host>:<port>/<unique id>) you can enter the address of the default venue on a venue server (https://<host>:<port>/Venues/default), as shown in Figure 7.

![Figure 7 Using the Address Bar to connect to a venue](image)

**Create Grid Proxy Certificate**

In order to successfully connect to the venue server, you have to have a valid grid proxy certificate (for more information, read Section 3.1). If such a certificate
is missing, the dialog in Figure 8 will enable you to create a proxy. Fill in the password you chose when you initially requested your certificate in the Pass phrase field. You can set details of this grid proxy by clicking the Proxy Details… button. The “Proxy lifetime (hours)” field indicates how long this proxy certificate will be valid; the default value is 8 hours, but you may change this number. When the proxy lifetime expires, you will be prompted for your password again. After specifying the validity of the proxy, click “Ok.”

![Figure 8 Creating a grid proxy](image)

### 2.3 Viewing a Profile

Right click on the participant or node you want to see profile information about, and select View Profile…, as shown in Figure 9.

![Figure 9 View Profile](image)

### 2.4 Changing Your Profile

From the menu, choose Preferences - Edit Profile… as shown in Figure 10. When the Profile Dialog appears, edit the appropriate fields, and then click Ok.
2.5 Writing Text Message
Enter text in the Message Field, and click Display. The text will show up in the Text Field for all participants in the venue; see Figure 11.

2.6 Saving Text Messages
To save text that has been posted in the Text Field go to the Venue menu and select Save Text. In the dialog, enter the file location where you want to save the text and click OK.

2.7 My Venues
The My Venues menu option helps you to save and get easy access to Venues you are visiting often. You can set and go to your home venue and you can also add a list of venue names that, when clicked on, connects to associated venue. This functionality is available to avoid you having to remember and type long addresses for venues you are visiting frequently, much like the “bookmark” feature in most Web browsers.

2.7.1 Setting Home Venue
The address to your home venue will always appear in the Address Bar when you first start the Venue Client. You can change this setting by selecting Set as Home Venue from the My Venues menu, the venue you are currently connected to will then be your home venue. You can also change your home venue from your profile; see Changing your Profile in section 2.4.
2.7.2 Go to Home Venue
To connect to your home venue, select Go to Home Venue from the My Venues menu.

2.7.3 Adding Venue
First, go to the menu and click on My Venues - Add Current Venue. The dialog in Figure 12 opens with the current venue’s name filled in automatically. You can change the name to whatever you want and then click Ok. The name will be added to the list found under the My Venues menu option. When you select a name in the list the Venue Client will try to connect to the associated venue.

Figure 12 Associate a venue address with a name

2.7.4 Removing Venue
Go to My Venues - Edit in the menu bar, and right click the venue you want to delete. Select Remove Venue and then Ok.

2.7.5 Rename Venue
Go to My Venues - Edit in the menu bar, and right click the venue you want to rename. Select Rename, fill in the new name, and then press Ok.

2.8 Navigating
To the left side of the Venue Client is the Exits Panel, containing a list of names of other venues. If you place the mouse over one of the exits, the description of the venue shows up as a tool tip. You can see the description of the Test Room in Figure 13. If you click the left mouse button on one of the exits, you will leave the venue you are currently connected to and enter the other venue.
2.9 Sharing Data

The Venue Client allows you to share data among users of the venue. Files can either belong to the venue or be user specific. The user may carry around personal data when walking between venues. Files belonging to a participant or node will therefore stay in the venue for as long as its owner is present. Venue data, however, always stays in the venue until deleted. Personal user data is placed under the participant or node that owns the file, while venue data is found under the “Data” heading in the Contents Panel. VenueClient.py, in Figure 14, is one example of a personal file belonging to Ivan’s Office, and hallo.txt is owned by the venue.
2.9.1 Adding Venue Data
Right click on the **Data** heading, and choose **Add**.... Or, from the menu, go to **Venue-Add Data**.... A file browse dialog will show up from which you can pick the file you wish to add to the venue. Then press the **Ok** button.

2.9.2 Adding Personal Data
Right click on your profile under the **Participant** heading, and choose the option **Add Personal Data**. A file browse dialog will show up from which you can pick the file you wish to add to your personal files. Click the **Ok** button. Observe that personal data will be shown under your profile and not under the **Data** heading, illustrated in Figure 14.

2.9.3 Deleting Data
Right click on the data item, personal or venue specific, and choose **Delete**. A dialog will ask whether you really want to remove the selected data. Click **Ok** to confirm.

2.9.4 Opening Data
Right click on the data item and choose **Open**.... If the file type is associated with an application, the data will be opened directly using that program. Otherwise you will be prompted for a program to associate with and handle the file.

2.9.5 Viewing Data Properties
Right click on the data item, and choose **Properties**.... A dialog will be opened showing the file name, the distinguished name of its owner, and file size.

2.10 Sharing Applications
A very useful feature in the Access Grid is the possibility to share applications among several participants. The software includes several applications that get installed along with the toolkit, such as the Shared Browser for viewing the Web together and the Shared Presentation for power point presentations. However, the Access Grid is not limited to pre-installed applications. Developers may create and plug in custom applications that can be made available for venue participants.

2.10.1 Starting Session
Installed applications for your Venue Client are listed under **Start Application Session** in the **Venue** menu, see Figure 15. To start a session, select an application from the list. Give the session a name and a short description before adding it to the Venue. The newly created session is listed under the **Application Sessions** heading in the Venue Client.
2.10.2 Joining Session
To join an application session, right click the correct name under the Application Sessions heading and select Open, as shown in Figure 16. The appropriate application will then launch and display current session status.

2.10.3 Stopping Session
To stop an application session, right click the correct name under the Application Sessions heading, and select Delete, as shown in Figure 16. A dialog will appear to check that you really want to delete the session. Click Ok to confirm.

2.10.4 Authorization
Right click on the session you wish to authorize and select Manage Roles... A frame will display current authorization setting for this application session. The session has a set of Roles that identifies different authorization privileges for groups of participants. The authorization privileges are identified as Actions.
When selecting a role from the left panel, you can see which actions are enabled for that role in the right action panel. When expanding a role, participants that are included in this role are shown. A participant may be added to several roles and are allowed to perform all actions for that set of roles. You may add/remove roles, add/remove participants to different roles, and add/remove actions to roles.

2.10.5 Opening Monitor
If you want to view who are currently participating in an application session, you may right click the application session and select **Open Application Monitor**.

In addition to participants, the monitor displays events occurring in the session and data being exchanged among participants as shown in Figure 17.

![Application Monitor](image)

**Figure 17 Application Monitor**

2.10.6 Viewing Properties
To view session properties, right click on the application session and choose **Properties**. A dialog will be opened showing the name, URL address, MIME type, and the description associate with the selected session.

2.11 Sharing Services
2.11.1 Adding Service
Before adding a service to the venue, you need to know the address where the service is located and what MIME type to associate with the service. The MIME type helps the Venue Client to identify what type of service is being added and
how to handle it. When you have gathered this information, right click on the Service heading and click Add…, or from the main menu choose Venue-Add Service…. In the dialog, enter name, URL address, MIME type, and the description you want to associate with the service. Then click Ok. Figure 18 shows you an example of how to add a service that points to a Web Site.

2.11.2 Opening Service
To open a service, right click on the service you wish to use, and select Open.

2.11.3 Deleting Service
To delete a service, right click on the service you wish to remove, and select Delete. A dialog will appear to check that you really want to delete the service. Click “Ok” to confirm.

2.11.4 Viewing Service Properties
To view service properties, right click on the service item and choose Properties…. A dialog will be opened showing the name, URL address, MIME type, and the description associate with the selected service.

2.12 Managing Certificates
Every user and service connected to the Access Grid is required to have a valid certificate issued by a trusted certificate authority. Certificates are a form of electronic identification that is superior to the well-known and widely used password strategy. This form of authentication aims to reduce the many problems seen with passwords, such as poorly chosen, forgotten, or insecurely stored passwords, in order to enable a reliable environment for collaboration. The certificate authority is responsible for giving you a certificate; thus make sure you really are who you say you are.
The most common certificate is the *Identity Certificate*. It is used to verify that a person is who they say they are when connected to the Access Grid. However, if you are going to run a venue server, or any kind of service, you should use a *Service Certificate*. The service certificate does not require a pass phrase and allows the server to stay up and running for longer periods of time.

2.12.1 Viewing Certificates

If you want to know which certificates you have installed, select **Preferences - Manage Certificates – Certificate Manager**... from the main menu. The **Certificates** tab in Figure 19 shows all your certificates. If you want to see more details about a certificate, for instance validity, select it from the list and click the **View certificate** button to the right.

![Figure 19 Certificate Manager - Certificates](image)

2.12.2 Importing Certificate

If you have a certificate you want to use with the Venue Client, you can import it from **Preferences – Manage Certificates – Certificate Manager**... menu. In the **Certificates** tab in Figure 19, click the **Import** button to the right. The file browse dialog that opens will let you specify location of the certificate file (usercert.pem) and the certificate key file (userkey.pem).

2.12.3 Exporting Certificate

If you need to use your certificate on a different machine you can chose to export it to a file. In the main menu select **Preferences – Manage Certificates – Certificate Manager**.... Choose a certificate from the **Certificates** tab in Figure 19 and then click the **Export** button. Enter the name of the file you want your certificate to be saved to and click **Export Certificate**.

2.12.4 Deleting Certificate

From the main menu, select **Preferences – Manage Certificates – Certificate Manager**.... Choose a certificate from the **Certificates** tab in Figure 19 and then
click the **Delete** button. A dialog will confirm that you really want to remove selected certificate, click **Ok**.

### 2.12.5 Set Default Certificate

Your default certificate will automatically be used when you run the Venue Client and the pass phrase entered when creating a proxy have to be associated with that certificate. If you want to change default certificate, from the main menu, select **Preferences – Manage Certificates – Certificate Manager...**. Choose a certificate from the **Certificates** tab in Figure 19 and then click the **Set as default** button. You can determine which certificate is default by looking at the **Validity** field in the header of the certificate list; it should be marked with a **Y**. The identity certificate in Figure X is the default certificate for the client.

### 2.12.6 Viewing Proxies

You are not actually using your certificate for authentication. Rather you have to create a grid proxy certificate, which is used for authentication without requiring you to enter your pass phrase. Once you have initiated the proxy with your pass phrase you will not have to enter it again until the proxy is invalid. However, longer validity means less security.

To view proxies currently running, select **Preferences – Manage Certificates – Certificate Manager...** from the main menu. The **Globus proxies** tab in Figure 20 shows a list of proxies and their information, including certificate authority that issued the certificate and how long the proxy is valid. If you want more details, select a proxy from the list and click the **View proxy** button.

### Figure 20 Certificate Manager - Proxies

#### 2.12.7 Destroying Proxy

Select **Preferences – Manage Certificates – Certificate Manager...** from the main menu. Choose a proxy from the list in the **Globus proxies** tab in Figure 20
and click the **Destroy** button. A dialog will confirm that you really want to remove selected proxy, click **Ok**.

### 2.12.8 Viewing Trusted CA Certificates
The certificates used by all participants in the venue are issued from a trusted certificate authority. To find out which certificates are accepted by your Venue Client, select from the main menu, **Preferences - Manage Certificates - Certificate Manager...** The **Trusted CA Certificates** tab lists acknowledged certificate authorities and their validity. To view more details about a certificate authority, select it from the list and click the **View certificate** button.

### 2.13 Managing Your Node
A node consists of a node service, one or more service managers, and one or more services. One example of a node configuration, pictured in Figure 21, uses three machines; one for video creation, one for video display and one responsible for audio. The services, in this case, are used to produce and receive audio and video. Each machine runs a service manager communicating with services on that specific machine. The service managers are controlled by the node service, which can run on any machine. Default services used by the Venue Client are VIC for video and RAT for audio.

![Figure 21 Example of an Access Grid node layout](image)

#### 2.13.1 Start Service Manager
If you want to start a service manager, run AGServiceManager.py.

#### 2.13.2 Start Node Service
If you want to start a node service, run AGNodeService.py.

#### 2.13.3 Open Node Management
The Venue Client allows you to set up and configure the resources available in your node layout. Go to the main menu and click on My **Node-Manage...**; and
the Node Management Window will open. To the left side of the window you can see a list of Service Managers. A Service Manager is responsible for managing different services present in your specific node. In Figure 22, the Service Manager is running on zuz-10.mcs.anl.gov using port 12000. To the right side of the Node Management window, you can see a list of services corresponding to the selected item in the Service Manager list. The selected Service Manager is controlling one audio service responsible for sending and receiving voice communication.

![Figure 22 Node Management](image)

### 2.13.4 Adding a Service Manager

If you want to add a new Service Manager, go to the main menu and select `ServiceManager - Add...`, or right click on the Service Manager and select `Add...`. Enter the computer in which the service manager is running and the port it is using. When you are finished, click `Ok`. If the service manager is located on your local computer, it is sufficient to enter `localhost` as `Hostname`; see Figure 23.

![Figure 23 Add Service Manager](image)

### 2.13.5 Removing a Service Manager

Select the Service Manager to remove, then click `ServiceManager - Remove` in the main menu, or right click the Service Manager and select `Remove`. The Service Manager should disappear from the list.

### 2.13.6 Adding a Service

Select the Service Manager you wish to add a service to, select from the menu `Service-Add...` or right click on a Service Manager and click `Add...`. A window
containing a list of all available services will be displayed. Select the service to add; then click Ok. In Figure 24 you can see three existing services to use for voice and video communication available for Service Manageruzzi-10.mcs.anl.gov:12000.

![Figure 24 Add Service](image)

2.13.7 Enabling or Disabling a Service
Select the service you wish to start or stop from the list of services. Go to the main menu and select Services – Enable or Services-Disable, or right click on the service and select Enable or Disable. You should now see the status field for the service you selected change accordingly in the list.

2.13.8 Removing a Service
Select the service you wish to delete from the list of services, and choose from the main menu Service - Remove or right click the service and select Remove.

2.13.9 Changing Service Configuration
Select the service you want to change, and choose from the main menu Service - Configure....

2.13.10 Attach to Node
You can connect to a node service running on any machine by selecting from the main menu File-Attach to Node. Give the host and port information where the node service is running.

2.13.11 Loading a Configuration
An existing Service Manager configuration can be loaded with all services added automatically. From the main menu select File-Load Configuration..., and select the desired configuration from the list of names. Then click Ok.

2.13.12 Saving a Configuration
If you know you will use your Service Manager configuration several times, it is a good idea to store the configuration. You can then simply load the configuration when you want to use it, instead of adding the same services all over again. In the main menu, go to File-Save Configuration..., specify the name you want the configuration to be associated with, and then click Ok.
2.13.13 Using Unicast
If you are having problems with multicast on your network, you have the opportunity to use unicast until the problem is fixed. This will allow you to run the media tools even though you are not multicast enabled. From the Preferences Menu, in the Venue Client, select Use Unicast. Please note that not all venues are connected to a bridge server and will therefore not be able to provide the unicast option.

2.13.14 Enable Video
The Venue Client provides a way to quickly turn your video on and off. Go to the Preferences menu and select Enable/Disable Video. If video is turned off, you will not send or receive any video.

2.13.15 Enable Audio
The Venue Client provides a way to quickly turn your audio on and off. Go to the Preferences menu and select Enable/Disable Audio. If audio is turned off, you will not send or receive any audio.