



Virtual Terminal Application Link and Launch (VTALL) 1.1

User's Guide

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1. Introducing VTALL

Virtual Terminal Application Link and Launch, hereinafter called VTALL or Virtual Terminal, provides a secure multimedia platform with traditional and enhanced voice features via a multicast enabled network. VTALL resembles a traditional multi-line business telephone in both appearance and operation. However, as an H.323 terminal operating via Windows on a personal computer, users are provided with many features not found in today's telephone market. What features distinguish VTALL from the competition?

- Multi-line capability
- Standards based H.323 compliant
- Call Detail Recording
- Call Logging
- Standard Directory Support
- Internal & External Conferencing
- Graphical User Interface, GUI
- Call Notebook

- Web Browser
- IP Hoot

Who can benefit from VTALL? By addressing the communication needs of financial service providers, remote work groups, telecommuters and the mobile workforce VTALL resolves the challenging needs and demands created by the next generation workplace. As an integrated workstation, VTALL enables users to communicate in several different ways through one application. For example, with remote network access, traders in the financial industry can use VTALL as a virtual office, using the same directories and presets that they have at their desks; users can create and modify conferences of up to 6 people using simple drag-and-drop functionality; a user can also listen to multiple hoot broadcasts delivered via IP. These are just a few examples how an enterprise can use VTALL to leverage the power of its IP network.

2. Quick Start

Your first step in using VTALL is to run the built in Configuration Wizard, which allows you to set the minimal operational settings to make and answer calls. The Configuration Wizard appears the first time VTALL is started and walks you through the setup process. If the Wizard isn't run to completion, one of the following two choices needs to be done prior to utilizing VTALL:

- Rerun the Configuration Wizard.
- Manually configure the minimal operational settings.

2.1 Configuration Wizard

The Configuration Wizard prompts you for information about yourself, your network connection and audio devices. The information required helps others identify you as the caller, and personalizes VTALL for your use. The first six panels invoke these settings.

The final panel allows you to fine-tune the audio quality. Due to limitations in the characteristics of the selected audio devices, there may be instances when the audio quality is less than ideal. To compensate for this behavior, VTALL allows you to increase this size of the processing buffer. You can set the present settings by checking the box to change the options, and then select the scenario that best fits the audio characteristics.

The Configuration Wizard appears the first time VTALL is opened and will run to completion as long as the required information is entered and the necessary prompts are followed.

If for some reason the Configuration Wizard is cancelled or otherwise interrupted prior to completion it can be rerun by:

1. Going to Tools / Configuration Wizard

2.2 Manually Configuring the Minimal Operational Settings

VTALL can also be manually configured to allow you to make and receive phone calls.

To configure the minimal operational settings manually, follow the steps below:

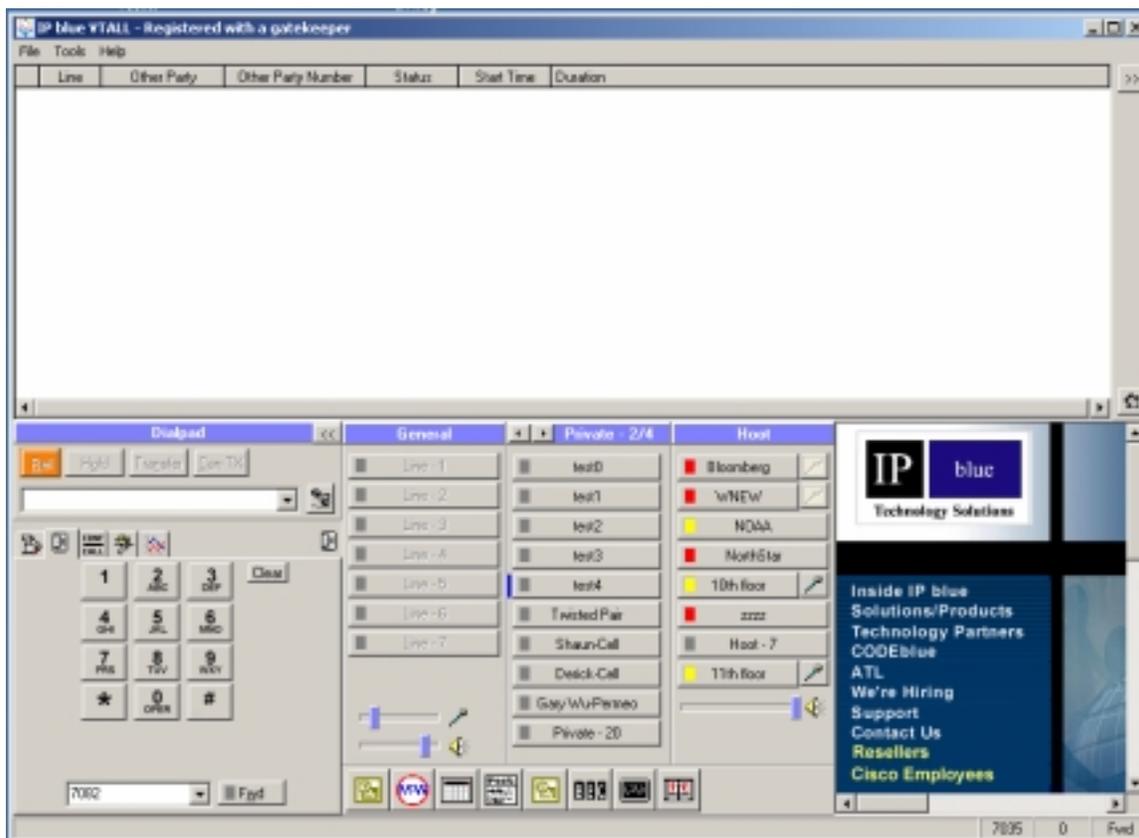
1. Going to Tools / Options from the pull-down menu (or Alt T-O)
2. Select the *General properties* tab and complete the following user information fields:
 - First name
 - Last name
 - Display name
 - Telephone number
 - Email address
3. Select the *Audio properties* tab and select the audio device to be used for the following:
 - Microphone
 - Call audio
 - Notifications
4. Select the *Codec properties* tab and select the following bandwidth/compression settings:
 - Internet Connection type

- Whether you want to choose your codec automatically or manually
5. Select the *Calling Options properties* tab and specify an IP address for the Gatekeeper.
 6. Click OK to save and close the Options window or Apply to save your changes and keep the window open.

In the remainder of the documents, we will assume that the user is going to invoke Tools/Options when we speak of the Options Menu.

3. VTALL Main Window

The Virtual Terminal main window contains many features designed to facilitate and enhance the calling process while using this application.



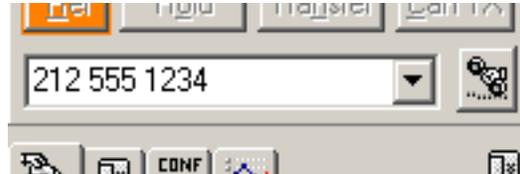
3.1 Active Call Statistics Tab

You can view the following statistics about currently active calls if you elect to enable this feature from the Phone tab in the Options menu:

- **Inbound** – Displays the codec in use, transmission rate, and number of bytes received for the active calls inbound audio path.
- **Outbound** – Displays the codec in use, transmission rate, percentage of outbound audio compressed as silence, and the number of bytes saved due to silence compression.

3.2 Call Address Field

The Call Address Field is where you can type in a specific call destination for making, transferring and conferencing calls. The Call Address Field contains the following:



- **Call Address Field** – To enter a call destination in this field, you can type the number by keyboard, click the individual digits on the dial pad or select the destination using the down arrow key to scroll through a list of destinations previously called. The call destination can be a telephone number, IP address, email address, or other unique identifier to which or from which a call is placed.
- **Dial Button** – Click to make a call to the call destination in the Call Address Field. The illustration of the receiver end of a phone identifies the Dial Button.

3.3 Call Status Display Area -

Line	Other Party	Other Party Number	Status	Start Time	Duration
Prv 24	Jaime Romero	TA:192.168.30.20:1720.TEL:1235.1235	Active	16:58:57	00:00:26

The Call Status Display area provides information about line appearances; call duration and the codecs used to make the call in progress.

To show line appearances the Call Status Display area uses the following:

- **LEDs** – Shows the status of the corresponding call using colored indicator lights. Gray = Inactive, Green = Active call, Yellow = Call setup in progress, Red = Call is on hold.
- **Line** – Displays the General or Private line number in use for the call.
- **Other Party** – Displays the other party's name if it's available from a private button or one of the configured services directories.
- **Other Party Number** – Displays the call destination of the other party.

- **Status** – Displays the current status of the call such as: dialing, on hold, recording and conference.

To show call duration the Call Status Display area provides you with the following information:

- **Start Time** – Displays the start time of the inbound or outbound call.
- **Duration** – Displays the elapsed time for the inbound or outbound call, from the call setup to call release.

3.4 Conferencing Tab -

The Conferencing tab contains the list of conference call participants. Members of the conference are also denoted in the Call Status Display Area with a lamp showing the Conference Tab icon.

3.5 Dial pad Tab -

The Dial pad tab operates like many multi-line telephones and includes the following buttons:

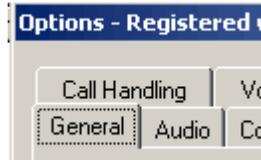
- **Dial Button** – Click to make a call to the call destination in the Call Address Field. The illustration of the receiver end of a phone identifies the Dial Button.
- **Number pad** – Click to enter individual numbers in the Call Address Field either to enter a new call destination or to respond to IVR system menu prompts.
- **Clear** – Click to erase the contents in the Call Address Field.
- **Release** – Click to hang up the currently selected call.
- **Hold / Retrieve** – The Hold button toggles between Hold and Retrieve depending upon whether the currently selected call is active or held. Click this button to place the currently selected call on hold or to retrieve a held call.
- **Transfer / Comp Tx** – The Transfer button toggles between Transfer and Comp Tx depending upon whether the currently selected call has had a supervised transfer initiated. Click this button to initiate a supervised transfer for the currently selected call. Once the transfer is initiated, the button label changes to Comp Tx and it can be clicked again to complete the transfer to the call destination in the Call Address Field.
- **Cancel Tx** – Click to cancel a transfer in progress and place the call on hold.
- **Fwd Button** – Click to forward all inbound calls to the call destination in the forwarding destination field that follows.
- **Forwarding Destination** – Type the call destination to which all calls will be forwarded.

3.6 Directory Tab -

The Directory tab shows the list of contacts for the default directory service. The Directory tab provides the following fields and buttons to facilitate making calls to contacts in the displayed directory:

- **Name** – Displays the name of the contact as taken from the Default Directory Service.
- **Company** – Displays the contact's company name as taken from the Default Directory Service.
- **Contact Edit Button** – Click to edit the contact information in use within the directory's own windows.
- **Contact Search Button** – Click to open the Advance Directory Search window to find a specific contact.
- **Refresh Button** – Click to update the displayed contact list after editing a contact or switching the default directory service.

3.7 General Tab -



Virtual Terminal's General tab contains seven General line buttons that receive inbound calls and place outbound calls that cannot be identified as Private line calls.

The General line buttons are labeled Line 1 thru 7, unless caller line ID or calling party name displayed are available. If both the caller line ID and calling party name displayed are available, then the calling party name is displayed on the general line and the caller line ID is displayed as a tool tip for the button.

The General tab also provides two slide controls for changing the volume of the microphone and speakers configured for use with the Virtual Terminal. These controls have no affect on the microphone and speaker volume for applications other than Virtual Terminal.

3.8 Private Tab -



Virtual Terminal's Private tab contains up to 252 Private line buttons that receive inbound calls and place outbound calls from or to preconfigured call destinations.

Private line buttons are arranged in one or more panels of 10 buttons as set up in the Options window Phone tab. You can "page" through these panels one at a time using the page forward and page back button at the top of the panel.

Each configured Private line button contains properties that correspond to the contact information provided by most personal information managers. These properties can be set up by right clicking on a Private line button and selecting Properties, or if the Private line button is vacant, just by clicking on the button.

Making a call to a contact represented by a Private line button is as simple as clicking on that button. Alternatively, you can right click on a configured private line button and select Call followed by the call destination to use.

If Virtual Terminal can match an incoming call's properties to that of an already configured Private line button, then that call appears on the corresponding Private line button.

3.8.1 Setting Up Private Buttons

To set up a Private Line Button follow the steps below:

1. Display the Private Button Configuration window one of two ways:
 - **Dragging an Active Call from a General line button or from the call status area to a vacant Private Line button.**
 - **Clicking on a vacant Private Line button.**
2. Complete the following Private Button Configuration — Name properties:
 - **First** – Type the contacts first name.
 - **Middle** – Type the contact middle name or initial.
 - **Last** – Type the contact last name.
 - **Display as** – Type the name you want to display when contacting others. The default value is the First/Last name combination.
 - **Default number to dial for this contact** – Displays the default call destination to be used to call this contact. The default is specified in the contact information tab.
 - **Optional identify caller by** – Allows the user to select an alternative field with which to identify the caller.
 - **Use the Number dialed to identify the contact** – Identifies the caller not by the numbers on the Contact Information page, but with this number. Emulates an incoming private line. If you select this option, input the number in the text field below.
 - **Use this sound to notify when this contact is calling** – Click the browse button to display the File Open Dialog then select a * Wav file to play in order to identify an inbound call from this contact.
 - **Loop Sound** – Enables looping of the wave file that is played when a call is received on this private line. (For example, if a brief tone has been selected as the preset “ring” for this caller, the user may wish to

loop the sound, whereas if a file of a song has been set, the looping would be unnecessary.)

- **Automatically record any conversation with this contact** – Select this checkbox if you want to record all calls involving this Private line contact. You can manually override this setting while on a call.
- **Automatically answer inbound call when there are no active calls** – Select this option to automatically answer inbound calls from this contact on the first ring if there are no other active calls.

The screenshot shows a dialog box titled "Private Button Configuration" with a close button (X) in the top right corner. It has two tabs: "Name" and "Contact information", with "Contact information" selected. The dialog contains the following fields and options:

- A mouse cursor icon pointing to the "Contact information" tab.
- Text: "Enter the name and general information about the contact"
- Text input fields for "First:", "Middle:", and "Last:".
- A "Display as:" dropdown menu.
- Text: "Optionally identify caller by (this will be checked before all other contact address fields for identifying the caller):"
- A text input field for the caller identification.
- Checkbox: "Use the number dialed to identify this contact" (unchecked). Below it is a "Dialed number:" text input field.
- Checkbox: "Use this sound to notify me when an inbound call has been match to this contact:" (unchecked). Below it is a text input field for the sound file, a "..." button, and a "Loop sound" checkbox (unchecked).
- Checkbox: "Automatically record any conversation with this contact" (unchecked).
- Checkbox: "Automatically answer inbound call when there are no active calls" (unchecked).
- "OK" and "Cancel" buttons at the bottom right.

3. Select the Contact information tab.
4. Complete the following Private Button Configuration — Contact information properties:
 - **Company** – Type the name of the contact’s company.
 - **Job title** – Type the contact’s job title.
 - **Department** – Type the department in which the contact works.
 - **Street address** – Type the contact’s street or mailing address.
 - **City** – Type the city in which the contact’s street address is located.
 - **State / Province** – Type the state or province name in which the contact’s city is located.

- **Zip code** – Type the 5 or 9 digit zip code corresponding to the contact’s street address.
- **Country / Region** – Type the country or region in which the contact resides.
- **Work Phone** – Type the contact’s primary work telephone number.
- **Work Phone 2** – Type the contact’s secondary work telephone number.
- **Mobile** – Type the contact’s mobile work telephone number.
- **Fax** – Type the contact’s fax number.
- **Pager** –Type the contact’s pager number.
- **IP phone** – Type the TCP / IP address of the contact’s IP telephone, whether it’s a phone or a computer.
- **Email** – Type the contact’s email address.
- **Home Phone** – Type the contact’s primary home telephone number.
- **Home Phone 2** – Type the contact’s secondary home telephone number.

Private Button Configuration

Name | Contact information

Enter business related information about contact here

Company: Work phone:

Job title: Work phone 2:

Department: Mobile:

Street address: Fax:

City: Pager:

State/Province: IP phone:

Zip code: Email:

Country/Region: Home phone:

Home phone 2:

Default number to dial for this contact:

OK Cancel

5. Click OK to save and close the window.

To copy one private line button to another:

1. Right click on the private line button you want to copy and select Copy private line information.
2. Click on the private line button to copy the information to.

The Private Button Configuration window is displayed containing the information from the copied private line button.

3. Change the fields as required.
4. Click OK to save and close the window.

To clear a private line button:

1. Right click on the private line button you want to clear and select clear private line information.
2. Click OK to confirm.

3.9 Hoot and Holler Tab



The Hoot and Holler function allows the user to listen in on broadcasts traditionally delivered over a bridged hoot-and-holler network. This enables enterprises to significantly lower costs by replacing expensive carrier-provided circuit networks with less expensive IP connectivity.

The user can “tune in” to up to eight simultaneous hoots, each of which can be configured on the Hoot buttons or through the configuration server. Hoot volume and mute master controls are available below the hoot buttons to reset the volume or mute all active multicast media streams.

The user can also send audio onto the hoot by “enabling” the hoot, and depressing the microphone on the right side of the hoot button. The audio source is the microphone source for VTALL.

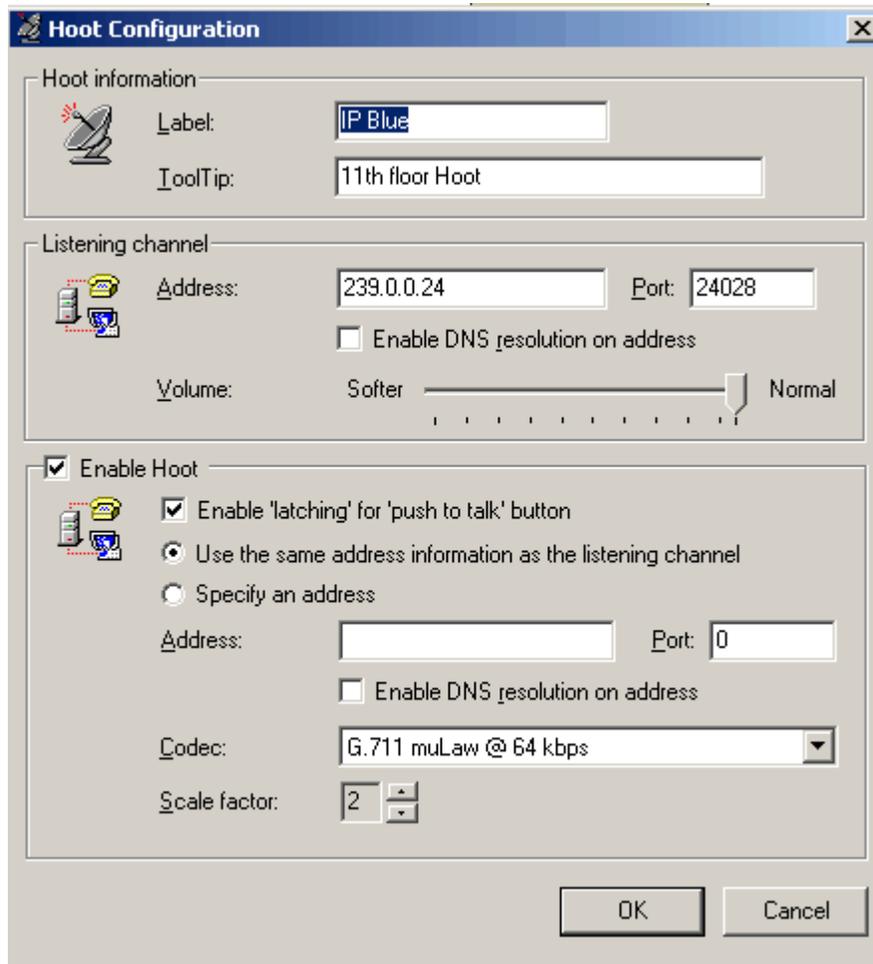
As with the traditional hoots, the hoots are best utilized rendered on a secondary sound platform. VTALL can utilize multiple audio output sources, and the hoot source is selected in the Audio Tab as the notification source. Using Hoot and Holler on a single audio source system severely limits the product, and the user should be aware of that.

3.9.1 Setting Up Hoot and Holler Buttons

To set up a Hoot and Holler Button, follow the steps below:

1. Display the Private Button Configuration window one of two ways:

- Right click on the Hoot button and select “Properties”.
- Left click on a vacant Hoot button.



2. Fill in the following information in the appropriate fields:

- **Label**– Type the name of the hoot.
- **Tool tip (optional)** – Type a tool tip to be displayed when the cursor hovers over the Hoot button. If the hoot is active, this tool tip will show an “Active” status, and the codec information of the hoot (These are also displayed if the tool tip is left blank). If the hoot is not in use, the tool tip will simply read “(idle)”.
- **Multicast Address**– Type the IP address or DNS name of the hoot broadcast (this can be obtained from your IT administrator).
- **Port** – The port used by that IP address (also from the IT administrator)
- **Enable DNS resolution on address** –Allows you to enter a DNS name in the IP address field.
- **Volume** – Based on the existing setting on the selected notification device. Can only decrease that volume.

- **Enable Hoot** – If checked, allows you to Transmit audio onto this hoot
- **Enable ‘latching’ for ‘push to talk’ button** – If checked, clicking the button will keep the mic on until it is unclicked. Otherwise, must hold down with mouse to use the microphone.
- **Use the same address information as the listening channel** – Checked for a normal multicast channel
- **Specify an address** – Checked for a unicast channel. IF so, then the desired **Address** and **Port** are filled in the boxes below.
- **Enable DNS resolution on address** –Allows you to enter a DNS name in the specified address field.
- **Codec** – The Codec for the transmitted audio
- **Scale Factor** – For combining multiple RTP streams in a single transmitted RTP packet.

3.9.2 Setting Up the Hoot and Holler audio source

To set up a Hoot and Holler audio source, follow the steps below:

1. Under the **Audio Tab (4.3.4.1, page 31)**:
 - Left click on the “Notifications” pull-down.
 - Select you audio source.



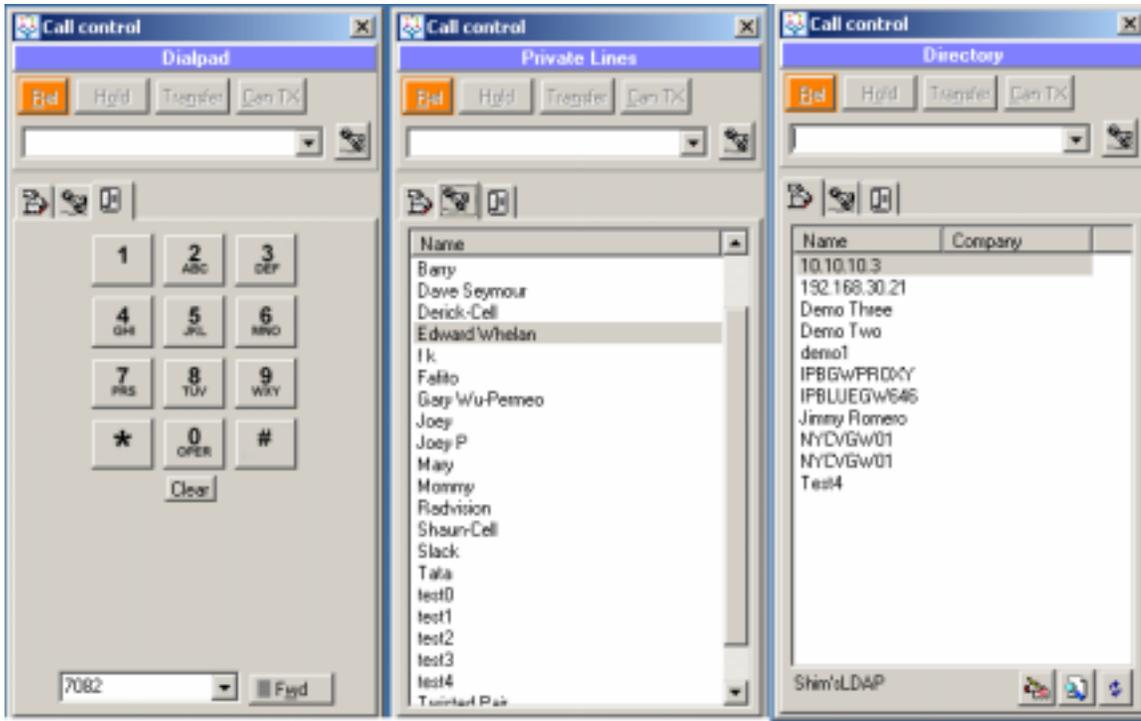
3.10 Web Tab -

The Web tab lets you embed an Internet Explorer-based browser window within the Virtual Terminal interface. By design, this browser window is configured to provide access to media services for playing unicast and multicast media streams. As a consequence, these browser windows do not provide the full browser interface and toolbars.

3.11 Docked Mode

When placed in docked mode, Virtual Terminal provides access to the following so that you can make and answer calls:

- Call Control window containing:



Dial pad tab

Directory tab

Private Lines tab

- Directory Search window
- General and Private line buttons, as inbound calls are received.

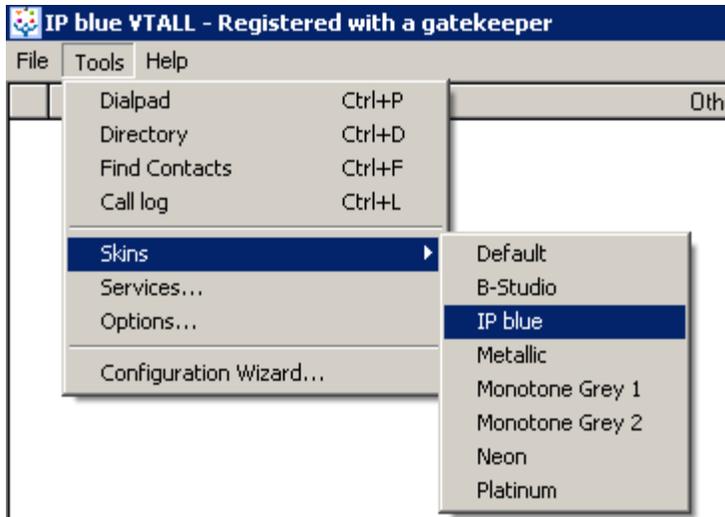
In addition, the docked mode window provides two LEDs that indicate when your calls are being forwarded and when you have new voice mail messages.



4. Configuring VTALL

Once you have established the minimal operational settings required to make and receive calls, you should configure VTALL 's additional options and services in order to utilize the application to its maximum potential.

4.1 Selecting a Different Skin



You can change the overall Virtual Terminal look by selecting a different "skin" in much the same way you would change Windows by selecting a different scheme. Regardless of the skin you choose, all the Virtual Terminal features and window contents remain the same. The Virtual Terminal appearance changes as soon as you select the new skin.

Depending on how VTALL is configured for your company will determine the amount of skin options you will have to choose from. To select a new skin follow the step below:

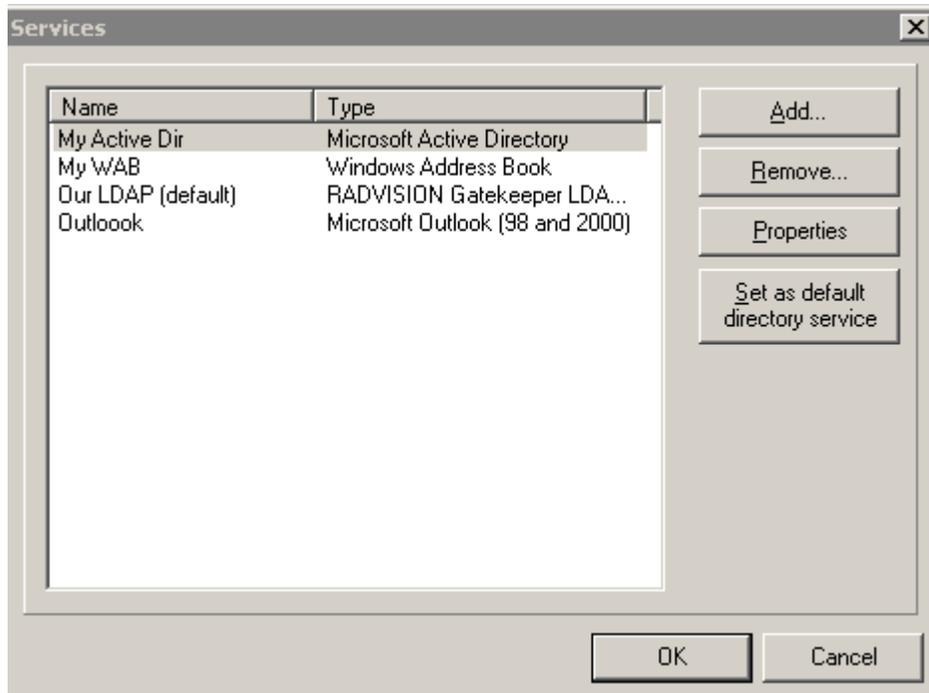
1. Select Tools / Skins and then select the desired skin to apply.

4.2 Setting Up Directory Services

The Services window is where you configure previous contact directories from other applications to appear in VTALL. The Services window can be accessed in one of the following ways:

1. Select Tools / Services
2. If no default directory setting established, the Service dialog window can be opened by clicking on the hyperlink [*Click here to open the Service dialog windows now.*](#)

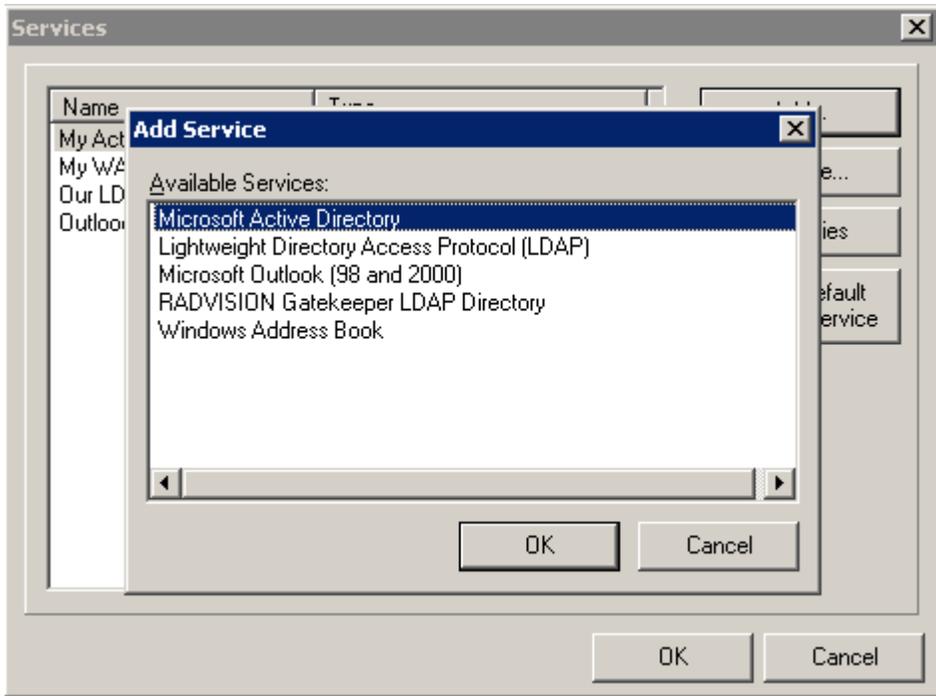
When you select services, the following window will appear:



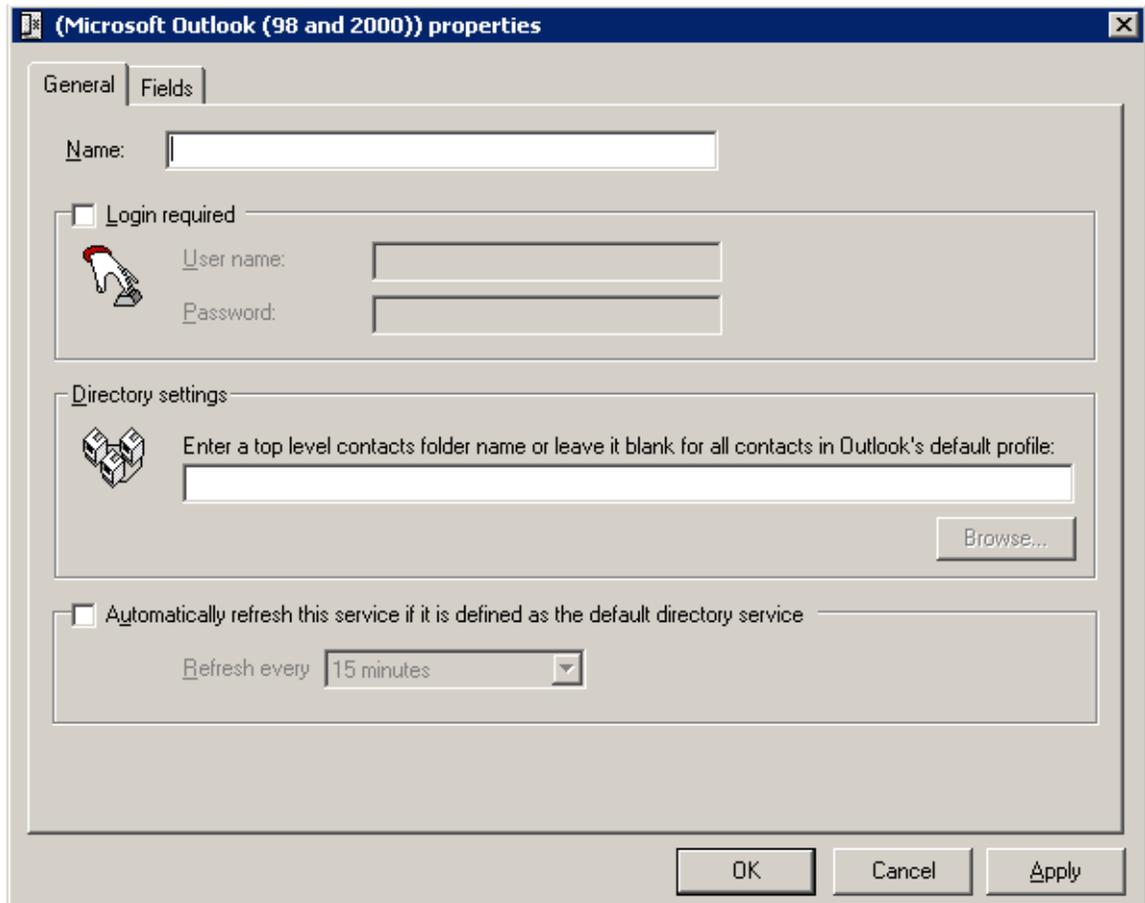
4.2.1 Adding a Service

VTALL is configured to work with five available directory services. To add a service from the list provided follow the steps below:

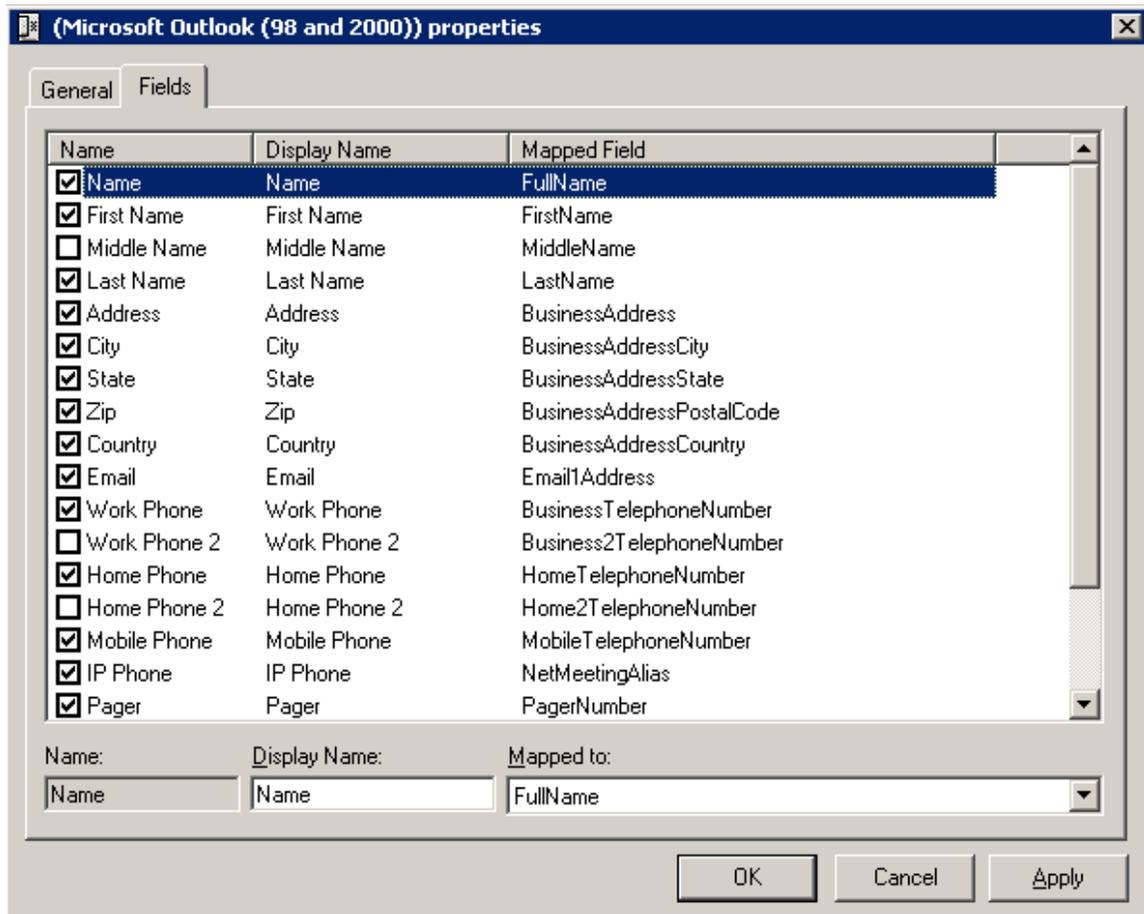
1. Go to Tools / Services
2. Click *Add* to display the Add Service window.
3. Select the directory service to be added, and then click *OK* to display the Properties window for the service being added.



4. Complete the fields in the *General* tab for the directory being added.



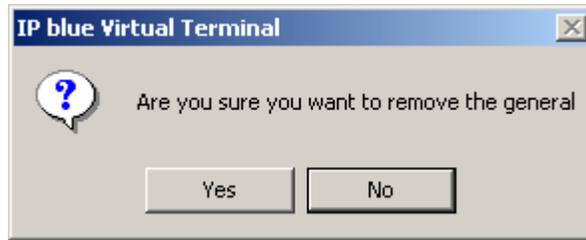
5. Select the Fields tab to map the fields to be accessed by Virtual Terminal.
6. Click *Apply* to save the changes.



4.2.2 Removing a Service

You can remove services you no longer desire from VTALL by following the steps below:

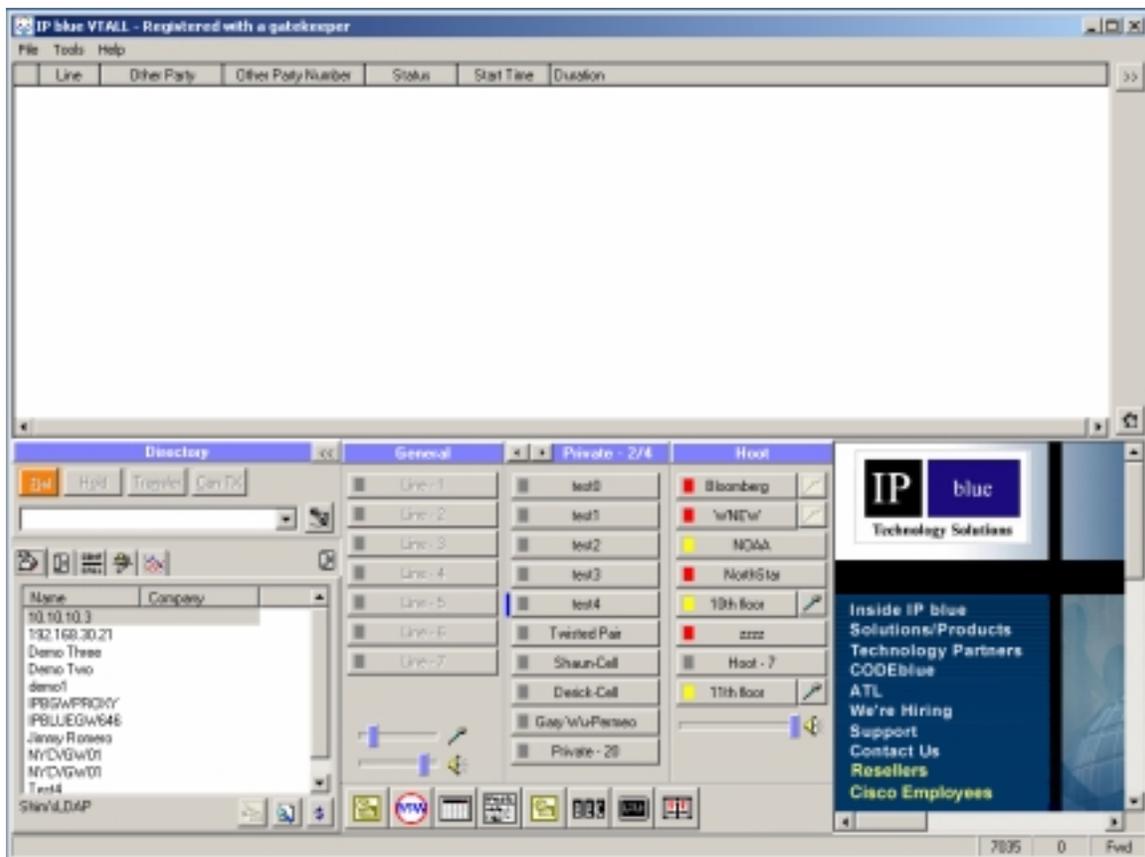
1. Go to Tools / Services
2. Select the service to be removed from the list and click on Remove
3. Select Yes to confirm removal or No to cancel the request



4.2.3 Viewing Directories

You can view the contents of a directory you've added to VTALL in the directory tab by following the steps below:

1. Go to Tools / Services
2. Highlight the directory you want to view and depress *Set as default directory service*. You should then see the contents of the directory appear in the directory tab in VTALL.



4.2.4 Modifying Directories

You can modify contact information in your directories by following the steps below:

1. Go to Tools / Services
2. Highlight the directory you would like to modify and click Properties.
3. Make the necessary changes to the General and Field Tabs and then click *apply* and OK to save them.

4.3 Options

In order for you to take full advantage of the capabilities of VTALL, you must configure eleven option tabs inputting personal preferences, information and network capabilities. To open the Options window follow the step below:

1. Go to Tools / Options

4.3.1 General

The General Properties tab is where you enter your own identifying information and select the Virtual Terminal interface options. This tab automatically opens when you go to Tools / Options.

4.3.1.1 Identification Setup

Prior to you ever making or receiving a call your identifying information has to be completed. The Configuration Wizard already walked you through the step of inputting your personal information into *General properties* or you were required manually to enter the information before using VTALL. The following required fields are used by VTALL to identify you to others:

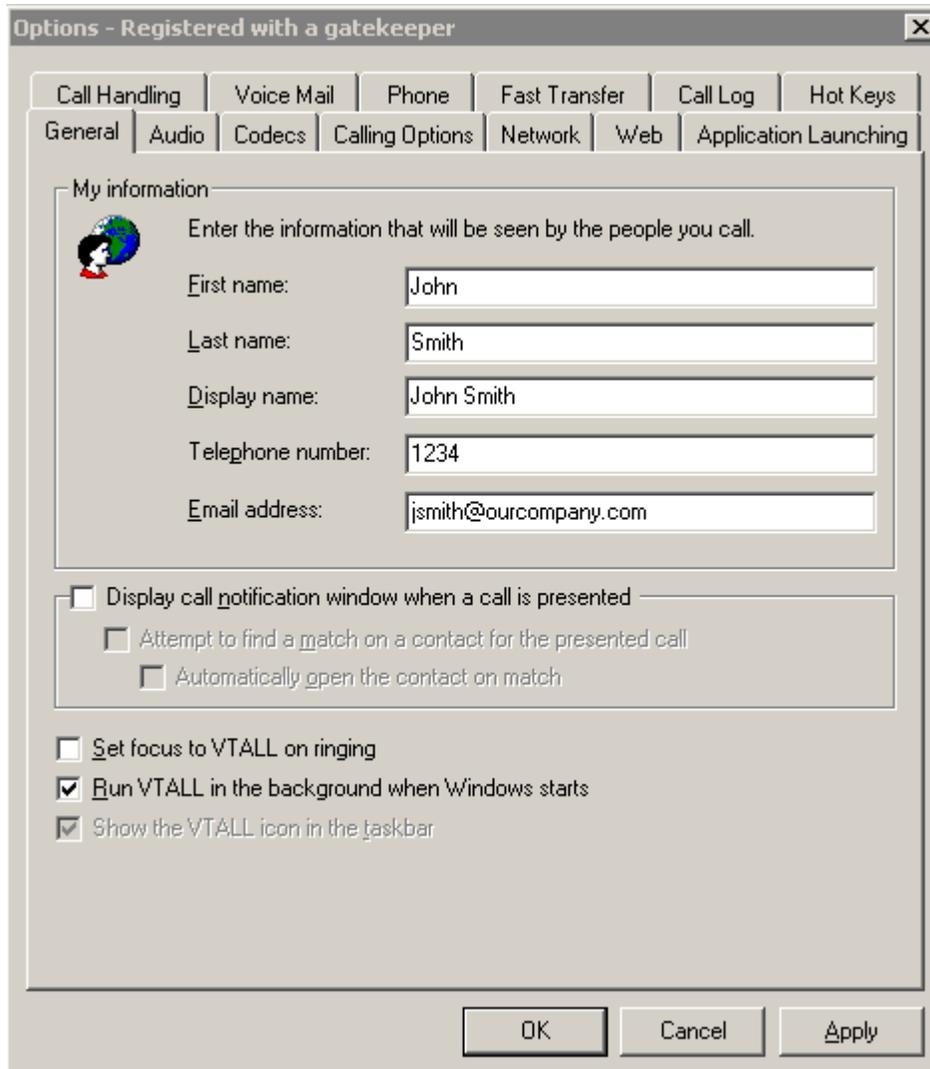
- First name
- Last name
- Display name
- Telephone number
- Email address

4.3.1.2 Virtual Terminal Preferences

Depending on what you select for your Virtual Terminal preferences will determine how VTALL reacts to an incoming call. To configure your Virtual Terminal Preferences follow the steps below:

1. Go to Tools / Options...to display the options window.
2. Select the General tab
3. Configure the following preferences:

- **Display call notification window when a call is presented** – By checking off this box a display window will appear every time an incoming call is detected. This gives you the opportunity to answer the call, hang up or forward it to voicemail. If this check box is left blank, inbound calls will only be seen in the call status area.
 - **Attempt to find a match on a contact for the presented call** – If this box is checked off, an incoming call will be matched up against your designated private line configurations. If no match it will go to 1 of 6 general lines, but if matched the private line button will flash in red illustrating this person is calling and on hold.
 - **Automatically open contact on match** – This option is only offered if you selected “**Attempt to find a match on a contact for the presented call**”. By checking off this option, every time you receive an incoming call from one of your designated private line button configurations the call will automatically be answered by VTALL.
 - **Set focus to VTALL on ringing** – If this box is selected, windows will bring the Call Notification window to the foreground when VTALL detects an inbound call.
 - **Run VTALL in the background when Windows starts** – By selecting this option, VTALL will run in the background when Windows starts. When a call comes in VTALL moves to the foreground
 - **Show the VTALL icon in the taskbar** – Choose this option to have the VTALL icon in the Windows taskbar.
4. Click OK to save and close the General Tab, or apply to save your changes and keep the window open for further processing.



4.3.2 Calling Options

Virtual Terminal requires you to configure one or more VoIP network interfaces. Depending on what you select and configure for your calling options will determine how VTALL handles incoming and outgoing calls. To open the Calling Options tab and configure your VoIP options follow the step below:

1. Go to Tools / Options / Select the Calling Options tab.

4.3.2.1 Configuring VoIP Interfaces

To configure your VoIP interfaces follow the steps below:

1. Go to Tools / Options...to display the Options window
2. Select the Calling Options tab
3. You will be asked to make the following configurations and choices:
 - **Gatekeeper** - By typing an IP address or URN in the address field for the gatekeeper you are enabling it to place calls to other H.323 terminal devices. Gatekeepers provide call control; bandwidth allocation, call routing and IP address translation to its registered endpoints.
 - **Force VTALL to use the Gatekeeper address field specified above** – By selecting this checkbox, you limit VTALL to the IP address specified previously in the Gatekeeper section
 - **Gateway** – By selecting the check box and typing in your TFTP Server address you enable your Virtual Terminal to use H.323 gateways to bridge voice over IP calls to the public telephone network. Gateways use hardware and associated software to connect two dissimilar networks.
 - **Network connection to use for communications:** Select the network connection to use for VTALL communications if more than one has been configured for your computer.
 - **Externally defined IP address when behind a firewall:**
 - **Use Dial Plan** – Select this checkbox to configure VTALL for use with your telephone system's dialing plan. (For instruction see Configuring Dial Plan).
 - **Generate in band DTMF** – Select this check box to make Virtual Terminal emulate and transmit DTMF (touch tone digit sounds) audibly over the audio path. (Not Recommended)
 - **Use DNS to resolve a call destination when not operating in gatekeeper mode** – Select this checkbox to find a call destination by its associated domain name instead of its IP address. This setting is not recommended because it can tie up Virtual Terminal operation while DNS tries to translate the domain name to its corresponding IP address.
 - **Extension number delimiters:** Type the characters used to identify the extension part of a telephone number, such as X; Ext; and Extn. VTALL still displays extension numbers but strips the delimiters and extension numbers before dialing the telephone number.
4. Click OK to save and close the Calling Options tab or Apply to save your changes and keep the window open for further processing.



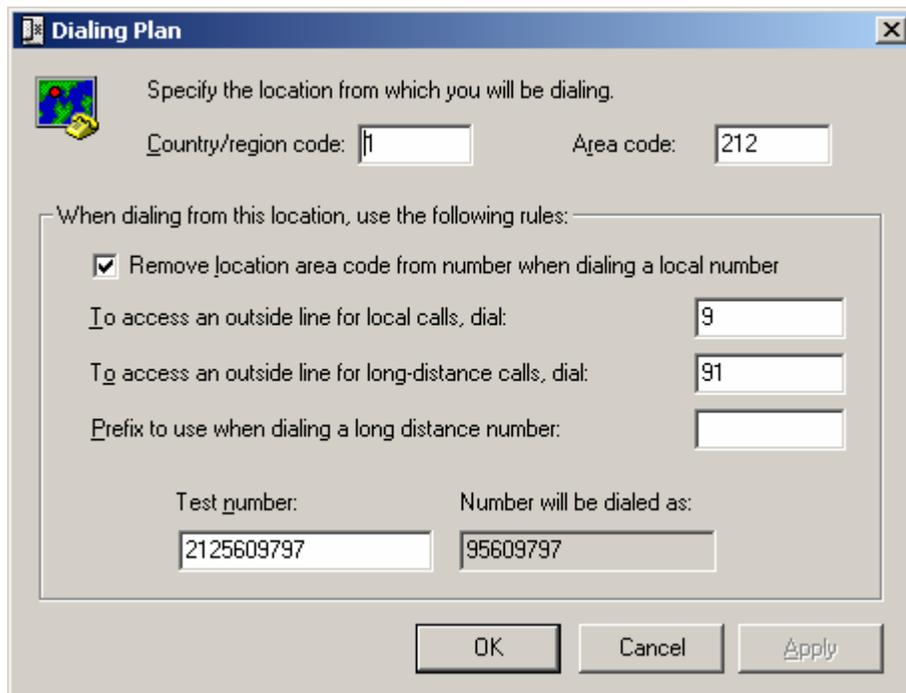
4.3.2.2 Configuring Dial Plan

If you selected to use a dial plan in the gateway section of the Calling Options tab you will need to follow the below steps in order to configure your dial plan:

1. Select Tools / Options ...to display the Options window.
2. Select the Calling Options tab
3. Click Dialing Plan to display the Dialing Plan window.
4. Complete the following fields:
 - **Country/ region code** – Type the number corresponding to your country or regions telephone service.
 - **Area code** – Type the three digit number corresponding to your telephone service area code.
 - **Remove location area code from number when dialing a local number** – Select if your telephone service does not require an area code for local calls.

- **To access an outside line for local calls, dial** – Type the number used to access an outside line for making a local telephone call.
 - **To access an outside line for long-distance calls, dial** – Type the number used to access an outside line for making a long-distance telephone call.
 - **Prefix to use when dialing a long distance number** – Type the telephone number prefix your telephone service requires when dialing a long-distance call.
5. Click OK to save and close the Dialing Plan window or Apply to save your changes and keep the window open for further processing.

After saving your dialing plan configuration, and with the Dialing Plan window open, you can see how Virtual Terminal formats telephone numbers for use by the gateway. Simply type the number in the Test number box and see the results in the Number will be dialed as box.



4.3.3 Call Handling

The Call Handling tab is used to set up the inbound call redirection criteria and on hold music for VTALL. To open the Call Handling tab follow the below step:

1. Go to Tools / Options / Select the Call Handling Tab

4.3.3.1 Redirecting All Inbound Calls

You will be asked to specify how you want inbound calls to be handled if you are unable or elect not to answer a call right away. To establish how you want inbound calls redirected follow the below steps:

1. Go to Tools / Options.
2. Select the Call Handling tab.
3. Make the following configurations and choices:
 - **Classify me as busy if I have more than n active calls** – By using the arrows, specify the maximum number of calls you will receive before VTALL should classify your status as busy.
 - **Classify me as away if I don't answer within n number of rings** – By using the arrows, specify the maximum number of rings you will allow a call before VTALL should classify your status as away.
 - **Classify me as busy if I have no more General lines available** – This will automatically be done by VTALL.
 - **Forward the call to** – Select this option to forward a new call to a specific call destination when your status is either busy or away. Type the forwarding call destination in the box provided.
 - **Forward the call to voicemail** – Select this option to automatically forward a new call to voicemail when your status is either busy or away.
 - **Reject the call** – If you select this option the call will automatically be rejected by VTALL when your status is either busy or away.
4. Click OK to save and close the Call Handling tab or Apply to save your changes and keep the window open for further processing.

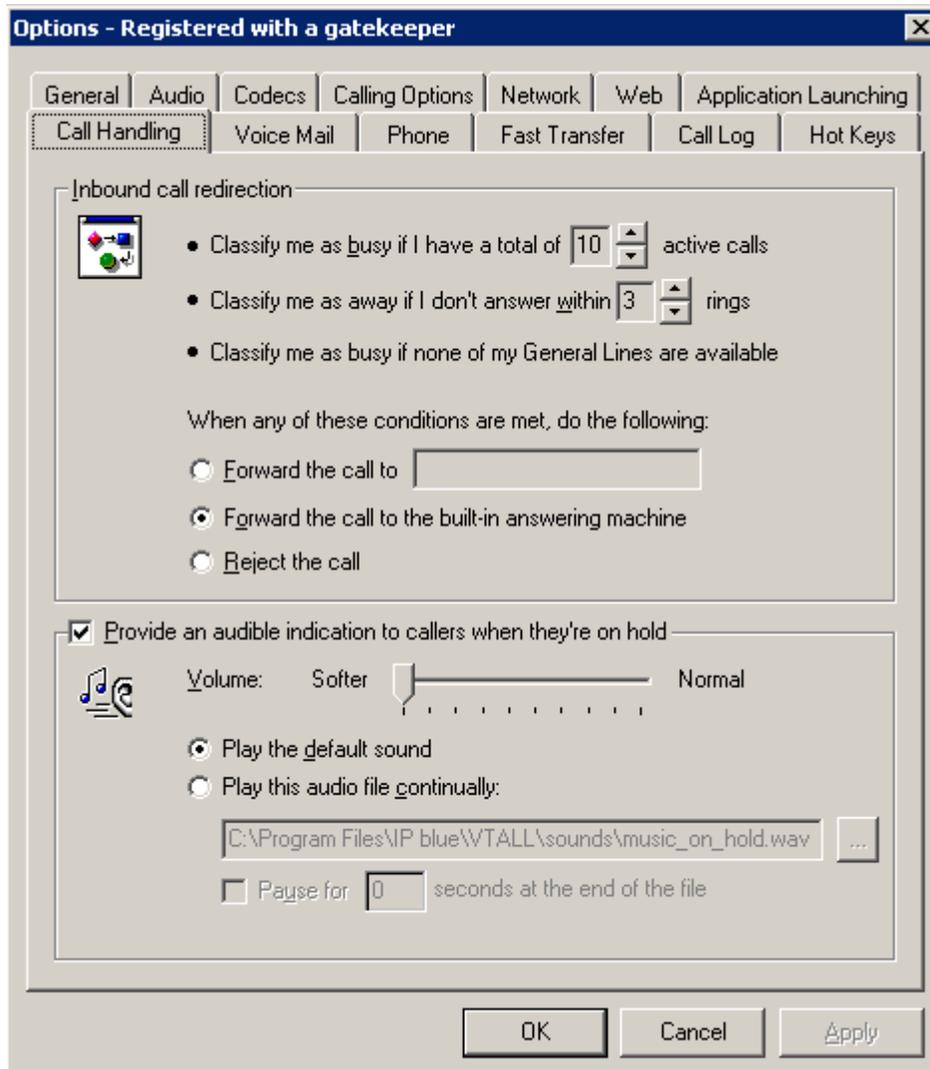
4.3.3.2 Configuring on-Hold Music

VTALL allows you to determine what caller's on hold hear. To configure your on hold options follow the below steps:

1. Go to Tools / Options
2. Select the Call Handling tab
3. Determine what you want callers to hear by reviewing your options and selecting from the following choices:
 - **Provide an audible indication to callers when they're on hold** – Select this check box to provide audible feedback to callers when they are on hold. Drag the indicator to select the volume of the tone or music to be heard by the caller.
 - **Play a short tone every ten seconds** – Select this option to play a short tone to the caller every ten seconds while the call is on hold.
 - **Play this audio file continually** – Select this option to play an audio file to the caller instead of the tone. The file loops for as long as the caller is

on hold. Specify the audio file to play in the field provided or click the button provided to browse for the file.

- **Pause** – Select this check box to pause at the end of the audio file before playing it again.
 - **Seconds at the end of the file** – Type the number of seconds to pause before replaying the audio file.
4. Click Ok to save and close the Call Handling tab or Apply to save your changes and keep the window open for further processing.



4.3.4 Audio

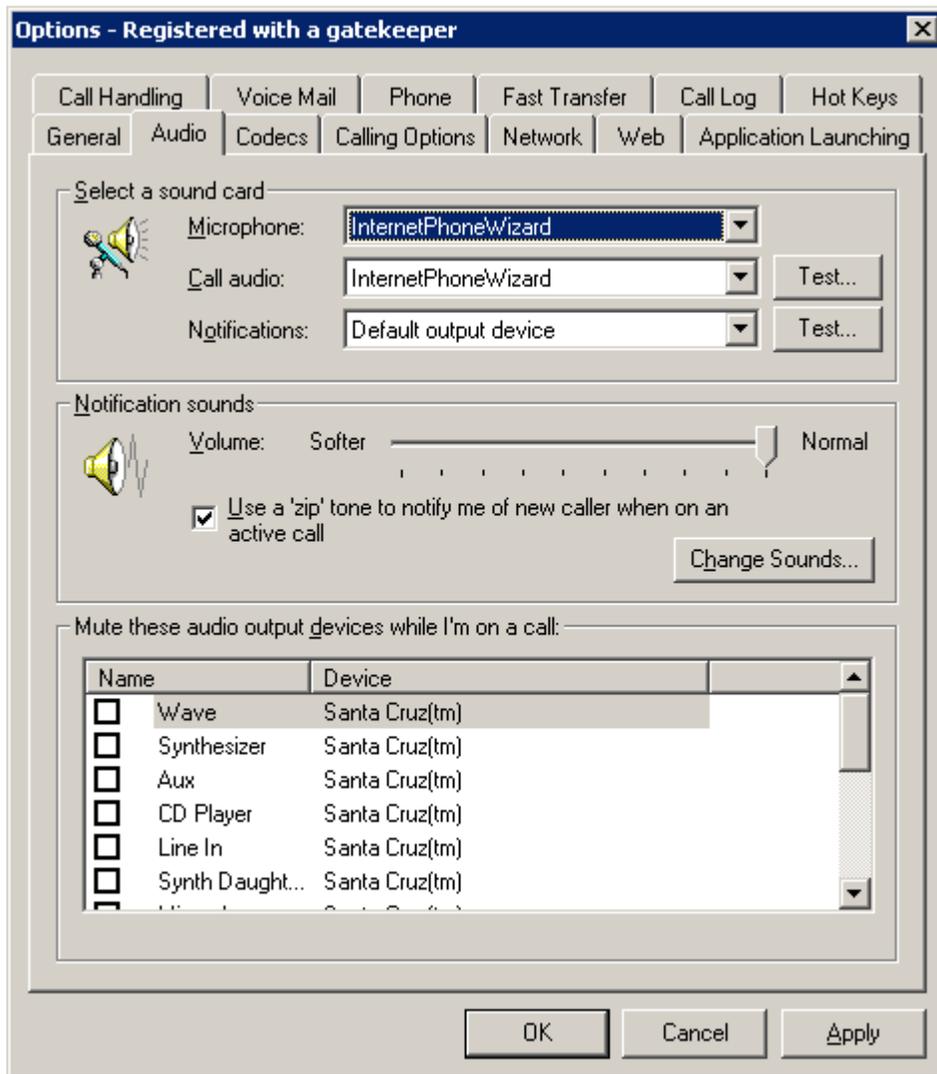
The Audio tab lets you determine the audio input devices; sound notifications and muting you would like when the Virtual Terminal receives a new call. To open the audio tab follow the step below:

1. Go to Tools / Options / Audio

4.3.4.1 Configuring Your Computer's Audio

To configure your computer's audio follow the steps below:

1. Go to Tools / Options
2. Select the Audio tab
3. Make the following selections for your sound card components:
 - **Microphone** – Decide which microphone to use with VTALL from the list of audio input devices configured for your system. Depress the arrow key to scroll down the list.
 - **Call Audio** – Select which audio device you want the other side of the conversation to go. For example, if you want to be able to talk using a USB handset, but at the same time want VTALL to ring out of the speakers when a call comes in, you can set the microphone and Call audio options to the USB device and set your Notifications option to which ever sound card you have your speakers plugged into.
 - **Notifications** – Select the sounds to be made by VTALL for inbound and outbound call notification. This also serves as the Hoot audio device.
4. Click **Test Audio** to ensure the sound card components selected are working and allow you to record and play sounds.
5. Make the following selections for your notification sounds:
 - **Volume** – Drag the indicator to the desired volume level.
 - **Use a 'zip' tone to notify of new caller when on active call** – Select this check box to associate a sound with a new inbound call when you are already on an active call.
6. Click **Change Sounds** to customize the sounds played by VTALL for telephone events such as ringing or busy. (For further instruction see Changing Virtual Terminal Sounds.)
7. Choose from the list box the audio output devices currently configured for your computer to be muted during a call. Simply check off the box to mute the device.
8. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.

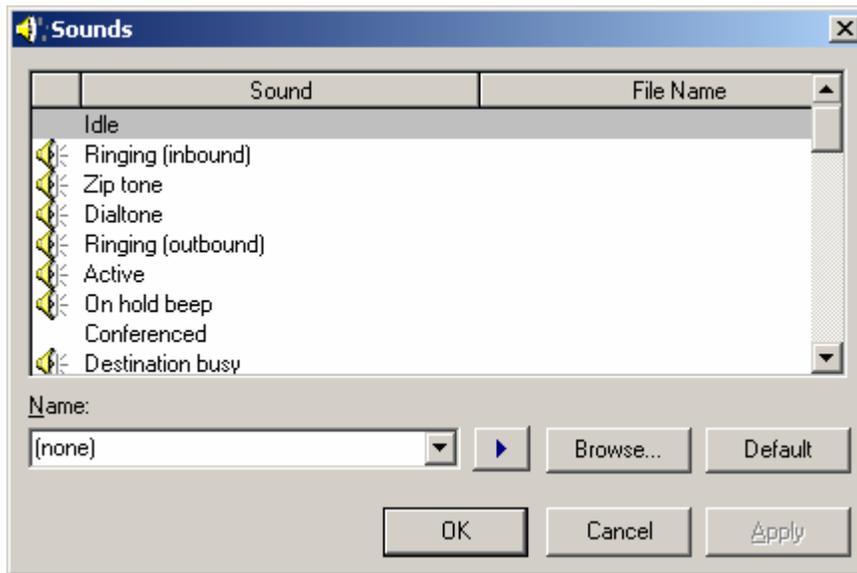


4.3.4.2 Changing Virtual Terminal Sounds

If you elected to Change Sounds in the notification sounds section of the Audio tab you will need to follow the steps below to customize VTALL sounds for telephone events:

1. Select Tools / Options
2. Select the Audio tab
3. Click Change Sounds to display the Change Sounds window
4. Use the following fields in the Change Sounds window to change the default audio files:
 - Name – Displays the sound file (*.wav) for the selected VTALL audible indicator. You can type a replacement filename in the Name field.

- Play – Click to hear the currently selected sound.
 - Browse – Click to display the file selection window.
 - Default – Click to return to the currently selected sound back to its default audio file.
5. Select the sound to be changed from the list of telephone events.
 6. Click Play to listen to the currently selected sound.
 7. Type the new audio file in the Name field or click Browse to select the new audio file.
 8. Click OK to save and close the Sounds window or Apply to save your changes and keep the window open for further processing.



4.3.5 Codec

Virtual Terminal supports multiple codec, which make voice compression, decompression, encoding and decoding of a signal possible. By compressing and decompressing data, codec enable VTALL to use smaller amounts of bandwidth. For example, many codec use silence detection to reduce bandwidth usage by identifying silence intervals and compressing for transmission. To open the Codec tab:

1. Go to Tools/ Options / Codec

4.3.5.1 Setting Up Codec Properties

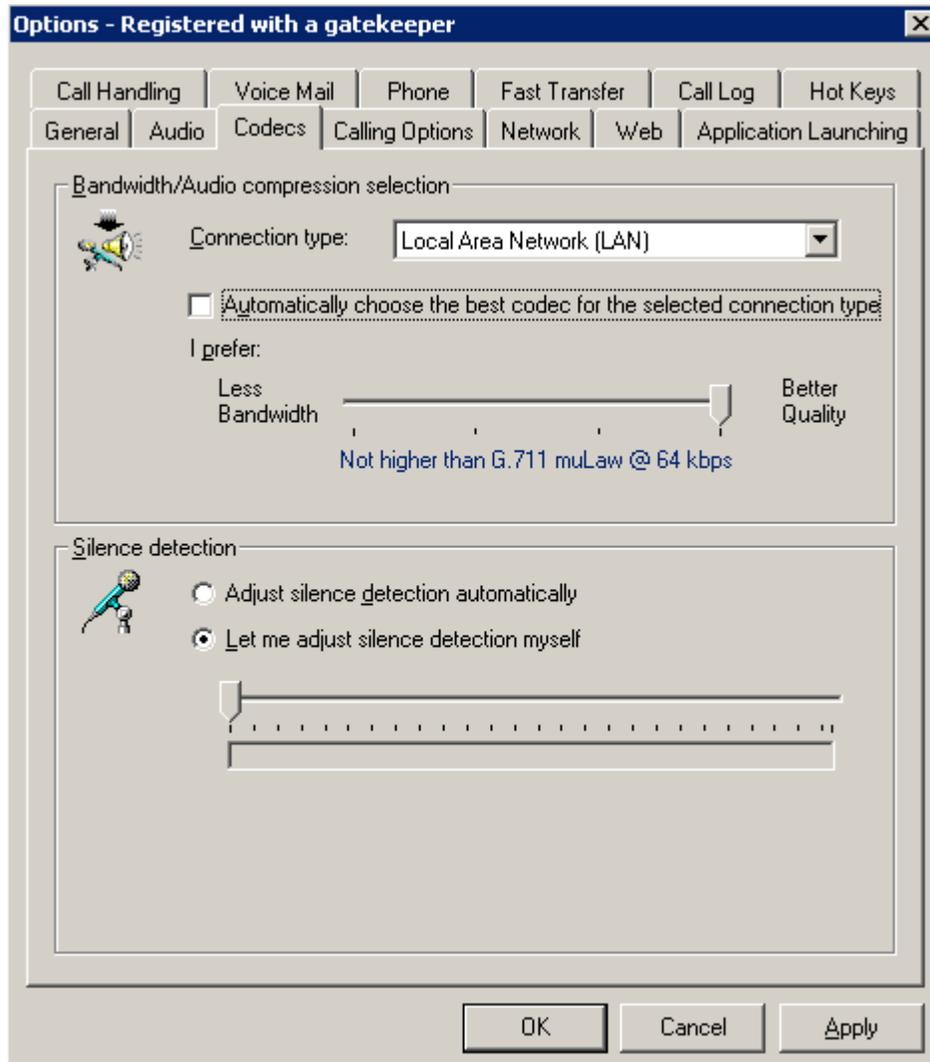
To configure your computer's Codec properties follow the steps below:

1. Go to Tools / Options
2. Select Codec
3. Complete the following bandwidth / audio compression fields:

- **Connection Type** – Select the method you use to connect to the Internet. Depress the arrow key to scroll down the list of your options.
- **Automatically choose the best codec for the selected connection type** – If you select this check box you enable VTALL to automatically assign the best codec for the speed with which you access the Internet. If you choose not to select this check box, you need to manually configure your bandwidth by moving the slider to the best balance between less bandwidth and better quality.

4. Select one of the following silence detection methods:

- **Adjust silence detection automatically** (recommended)– Select this option to have Virtual Terminal set the silence detection automatically based on the codecs in use.
- **Let me adjust silence detection myself** – If you select this option, you modify the silence detection settings manually by using the slide control.



4.3.6 Voice Mail

VTALL has a built in answering machine that allows callers the option of leaving you a message when you're not available. To open the Voice Mail tab follow the step below:

1. Select Tools / Options / Voice Mail

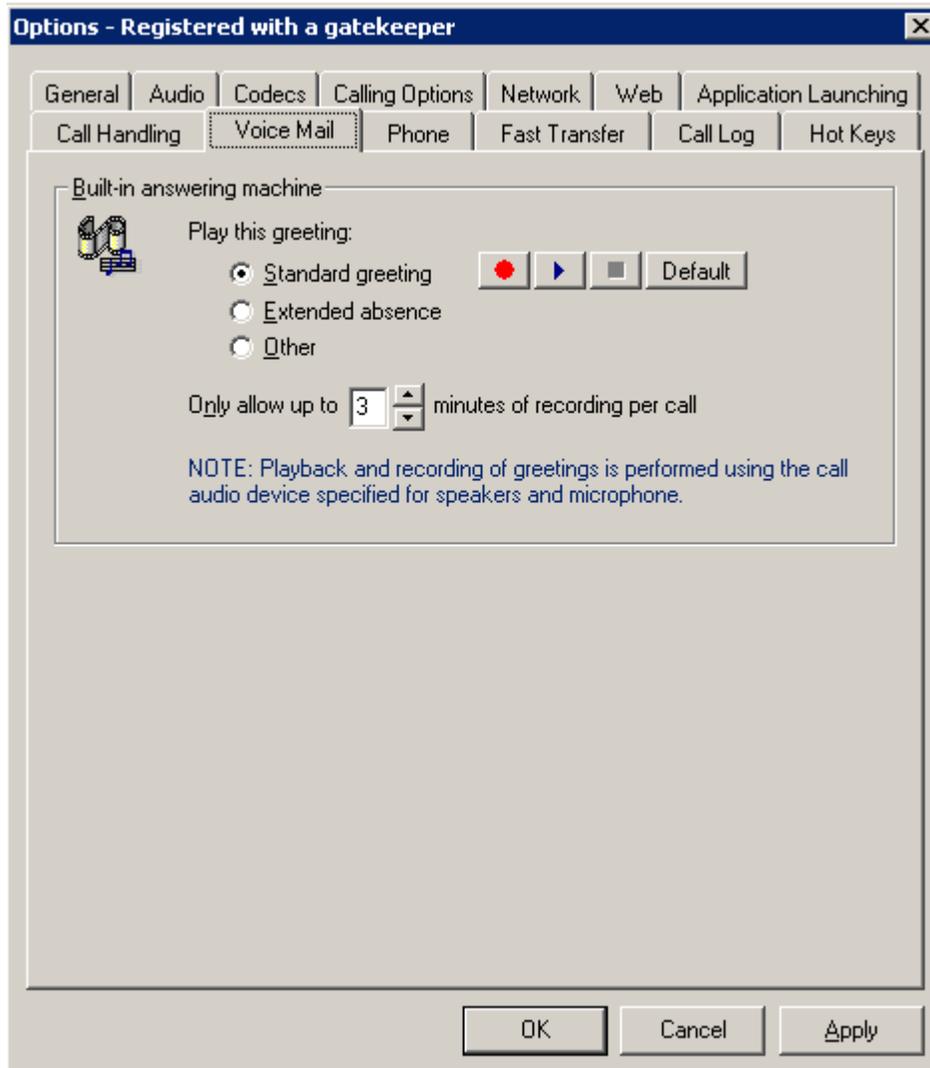
4.3.6.1 Setting Up Voice Mail

To set up the answering machine follow these steps:

1. Select Tools / Options
2. Select the Voice Mail tab
3. Select one of the following voice mail greetings to record:
 - **Standard** – Select this option to record or modify the standard voice mail greeting presented to callers. After recording, leave this option selected to play this message to callers when they enter your voice mail to leave a message.
 - **Extended Absence** – Select this option to record or modify the voice mail greeting to be presented to callers when you will be unavailable for an extended length of time (e.g., on vacation). After recording, leave this option selected to play this message to callers when they enter your voice mail to leave a message.
 - **Other** – Select this option to record or modify an alternative voice mail greeting to be presented to callers. After recording, leave this option selected to play this message to callers when they enter your voice mail to leave a message.
4. Record the greetings using the Record, Play, Stop and Default buttons provided. The Default button will erase your recorded greeting and revert back to the original VTALL default greeting.
5. Specify the amount of time each caller has to leave a new message using the following field:
 - **Only allow up to <n> minutes of recording per a call** – Use the up and down arrow keys to select the maximum message size, in minutes, available to callers.
6. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.

NOTE: Although you can record three separate voice mail greetings, VTALL only lets you use one greeting at a time. Simply select the one that you want to use before clicking OK or Apply.

For instruction on how to play back voice mail messages please see Call Log.



4.3.7 Phone

The Phone tab is used to configure your basic VTALL interface options and Private line panels. To open the Phone tab follow the step below:

1. Go to Tools / Options / Phone

4.3.7.1 Configuring Basic VTALL Interface Options

Follow the steps below:

1. Go to Tools / Options
2. Select the Phone tab
3. Complete the following fields to configure basic Virtual Terminal interface options:

- **Number of General lines** – Using the up and down arrow keys, select the number of general line buttons you want to display in the Virtual Terminal general panel. You can have a maximum of six general lines.
 - **Automatically answer inbound calls on my General Lines** – This check box answer inbound calls as soon as they arrive. Only effect the General Lines, which means lines programmed as a Private Line are not effected by this setting.
 - **Switch to ‘Dial pad’ panel after initiation of a call** – Select this check box to have Virtual Terminal switch to the Dialpad panel after a call is initiated in order to have easier access to call control buttons and features.
 - **Display call statistics tab for active call** – By selecting this check box, a tab containing call statistics – codec used, data rate - will appear in the Virtual Terminal window.
 - **Close docked call control window on successful call** – When placing a call from docked mode, a call control window appears. Selecting this option closes this window upon call connection.
 - **Display Hoot Buttons:** Select this option to display Hoot buttons in the Virtual Terminal main window for multicast transmission access. You can select to display up to 10 columns of Hoots.
4. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.

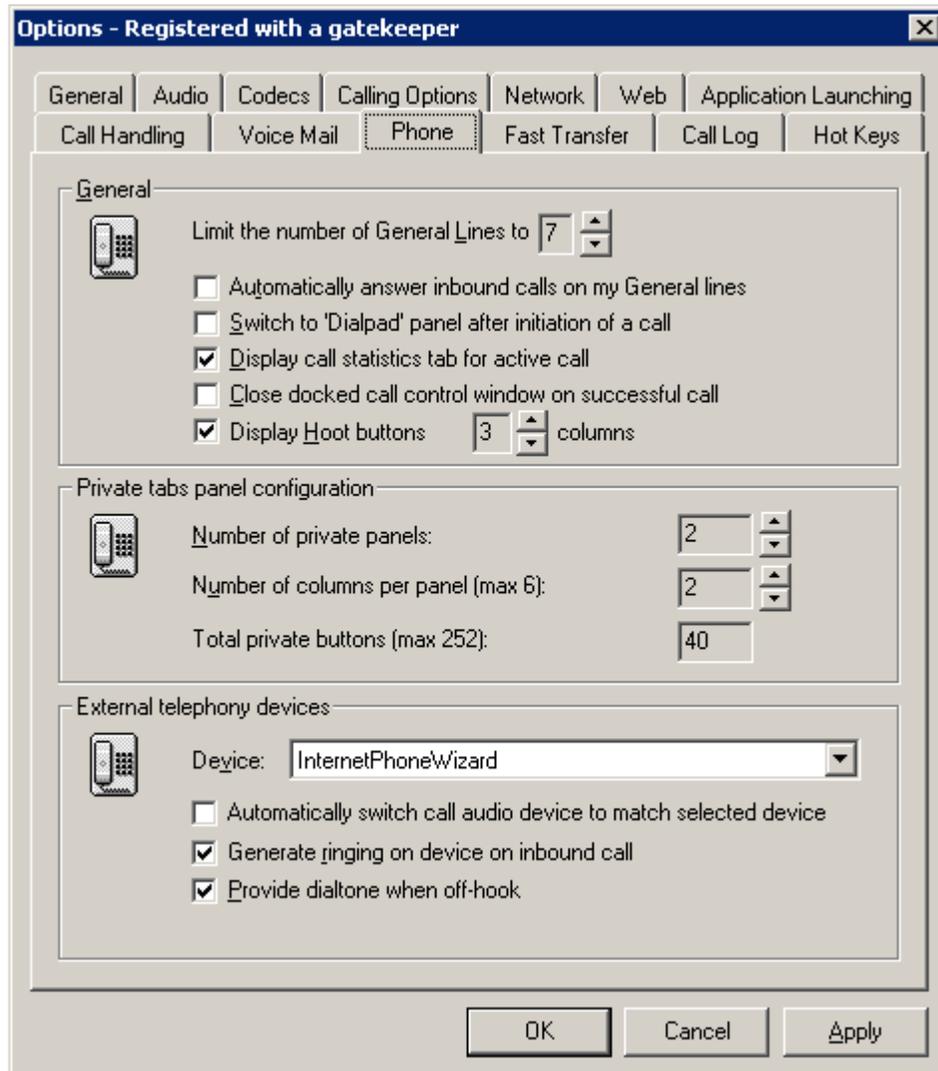
4.3.7.2 Configuring Private Line Panels

1. Complete the following fields to configure the number of private line buttons in the Virtual Terminal Private tab:
 - **Number of private panels** – Select the number of private line button panels you want displayed in Virtual Terminal.
 - **Number of columns per panel (max 6)** – Using the up and down arrow keys, select the number of columns containing Private line buttons to be displayed in each Private panel.
 - **Total private buttons (max 252)** – Automatically populates the number of private line buttons to be displayed in the Virtual Terminal by multiplying the number of private panels by the number of columns per a panel and the number of buttons per column.
2. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.

4.3.7.3 Configuring External Telephony Devices

1. Complete the following fields to configure the External Telephony device used by Virtual Terminal. This gives you traditional phone operation when using the specific phone that is selected.
 - **Device** – Select the external telephony device used by Virtual Terminal. There are 3 devices supported – Internet Phone Wizard, V-550. And the Claritel i-750. One of those can be manually selected, or you can automatically select the first available device, or chose to select
 - **Automatically switch call audio device to match selected device** – If checked, overrides the values in the Audio Tab for the Microphone and Call Audio device with the device selected above.
 - **Generate ringing on inbound call** – Rings the selected telephone.
 - **Provide dial tone when off-hook** – Provides dial tone to the telephone.

3. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.



4.3.8 Fast Transfer Numbers

Use the Fast Transfer tab to create call destinations to which you can perform unsupervised transfers on active calls. An unsupervised transfer is a call that is forwarded immediately to another destination without establishing the origin of the call. To open the Fast Transfer tab follow the step below:

1. Go to Tools / Options / Fast Transfer

4.3.8.1 Adding a Fast Transfer Call Destination

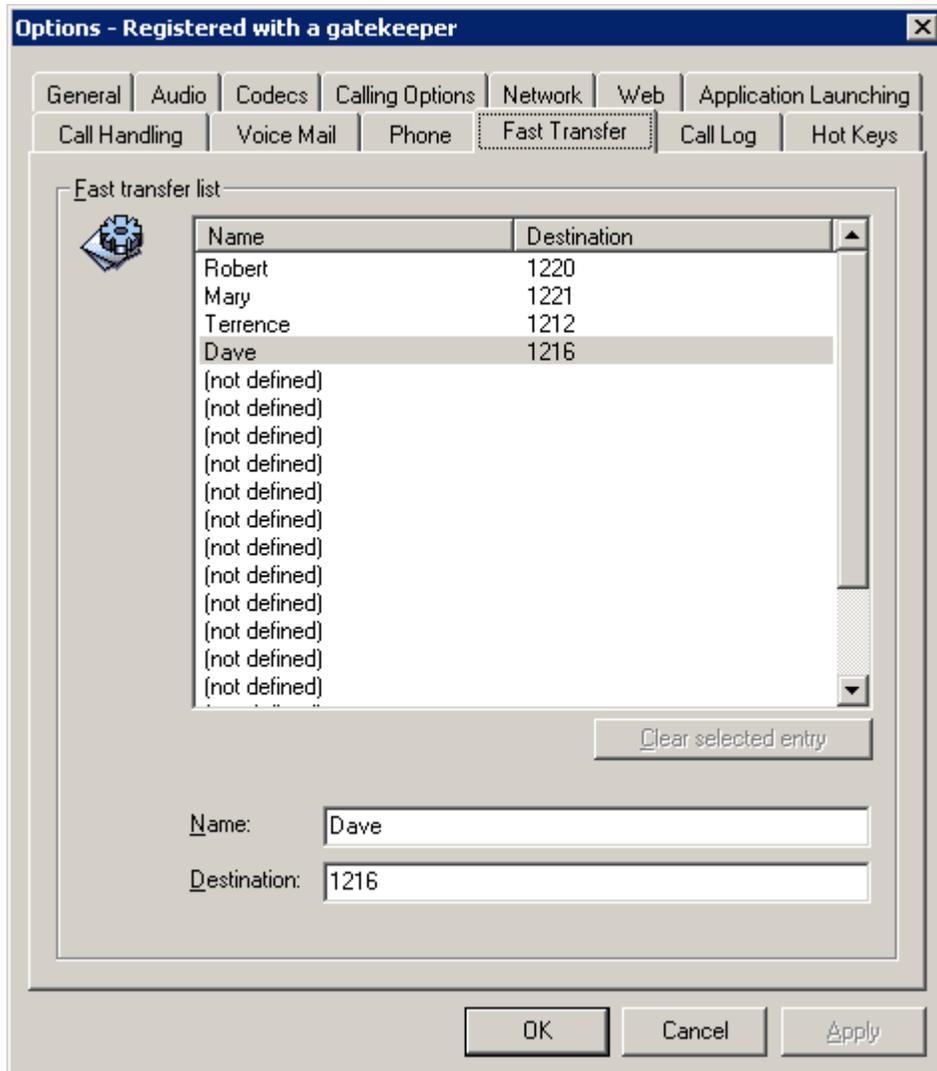
To add a fast transfer call destination follow the steps below:

1. Go to Tools / Options.
2. Select the Fast Transfer tab.
3. Select an entry from the Fast Transfer list.
4. Complete the following fields:
 - **Name** – Type the name/label to associate with the fast transfer call destination.
 - **Destination** – Type the fast transfer call destination.
5. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.

4.3.8.2 Removing a Fast Transfer Call Destination

To clear a fast transfer call destination follow the steps below:

1. Go to Tools / Options
2. Select the Fast Transfer tab
3. Select the call destination to be cleared from the Fast Transfer list.
4. Click the clear selected entry button.
5. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.



4.3.9 Integrating Web Pages

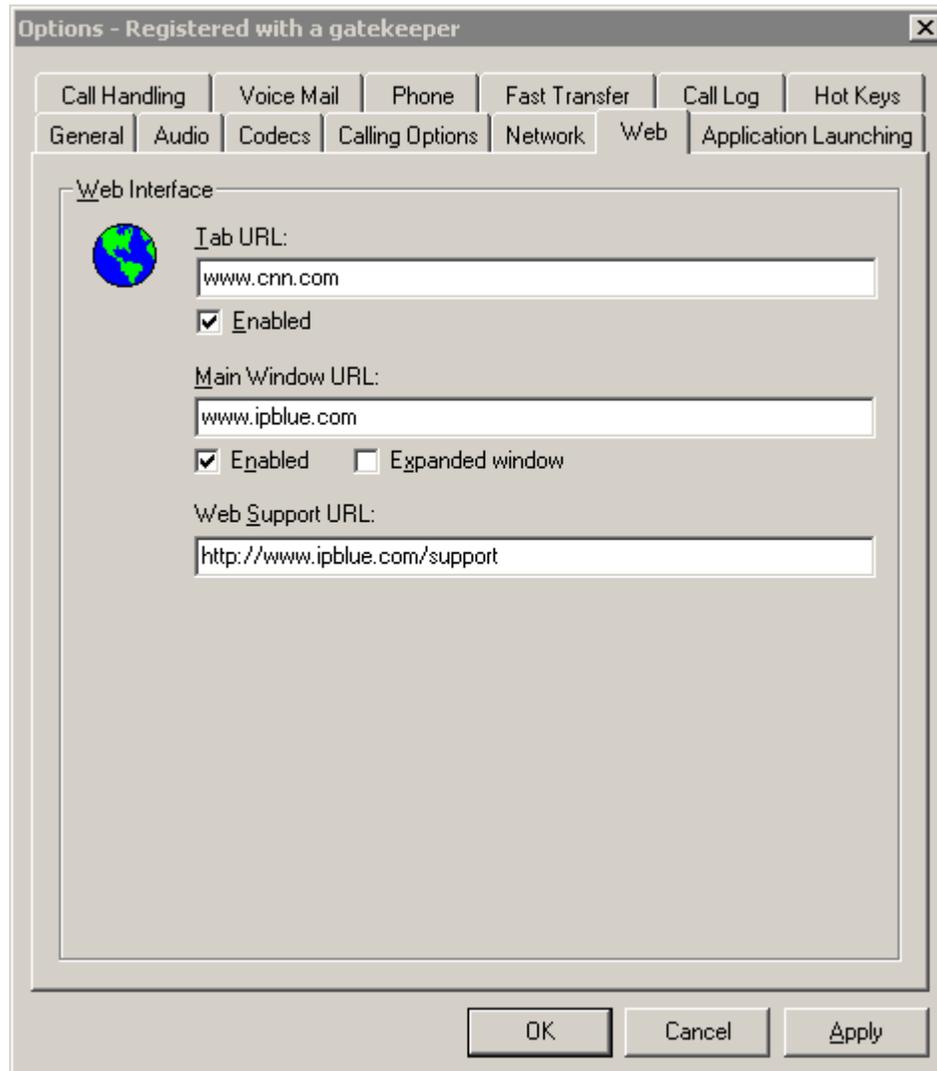
Use the Web tab to setup the web interface properties of VTALL. You can have two web pages displayed in the Virtual Terminal window at the same time. The Web tab is also where you can type the URL needed for support. To open the Web tab follow the step below:

1. Tools / Options / Web

4.3.9.1 Adding URLs

VTALL allows you to add two Web URLs to the Virtual Terminal window and has a third URL for support that can be accessed through the help menu. To add the URLs follow the steps below:

1. Go to Tools / Options
2. Select the Web tab
3. Add a web page to the Web tab by completing the following fields:
 - **Tab URL** – Type the URL for the web page you would like displayed in the web tab of the Virtual Terminal window.
 - **Enabled** – Select this check box to have the web tab appear in the Virtual Terminal window. Clearing this check box removes the web tab.



4. Add a web page to the right edge of the Virtual Terminal window by completing the following fields:
 - **Main Window URL** – Type the URL for the web page to be displayed in the Virtual Terminal window.

- **Enabled** – Select this check box to add an embedded web page at the right edge of the Virtual Terminal window. Clearing this check box removed the web page.
5. To change the web site for technical support, complete the following field:
 - **Web Support URL** – Type the URL for the technical support page to be accessed from the help menu if different from the default.
 6. Click OK to save and close the Options window or Apply to save the changes and keep the window open for further processing.

4.3.10 Application Launching

Use the Application Launching tab to define up to eight applications that can be launched by clicking a corresponding button in the Virtual Terminal window. To open the Application Launching tab follow the step below:

1. Go to Tools / Options / Application Launching

4.3.10.1 Adding Applications

To add applications to VTALL follow these steps:

1. Go to Tools / Options.
2. Select the Application Launching tab.
3. Select one of eight application placeholders from the application list.
4. Complete the following fields:
 - **Name** – Type the name of the application. To assign a graphic to the application button other than its default, click Change Icon.
 - **Command** – Type the command to launch the application, including any required command line switches. Click the browse button (...) to find the executable if necessary.
 - **Tool tip** – Type a tool tip to be displayed when the cursor hovers over the application button.
5. Select the check box corresponding to the application just defined to enable its button in Virtual Terminal.
6. To verify that you have set up the application correctly, depress the button next to **Click this button to test the command**.
7. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.

4.3.10.2 Clearing Applications

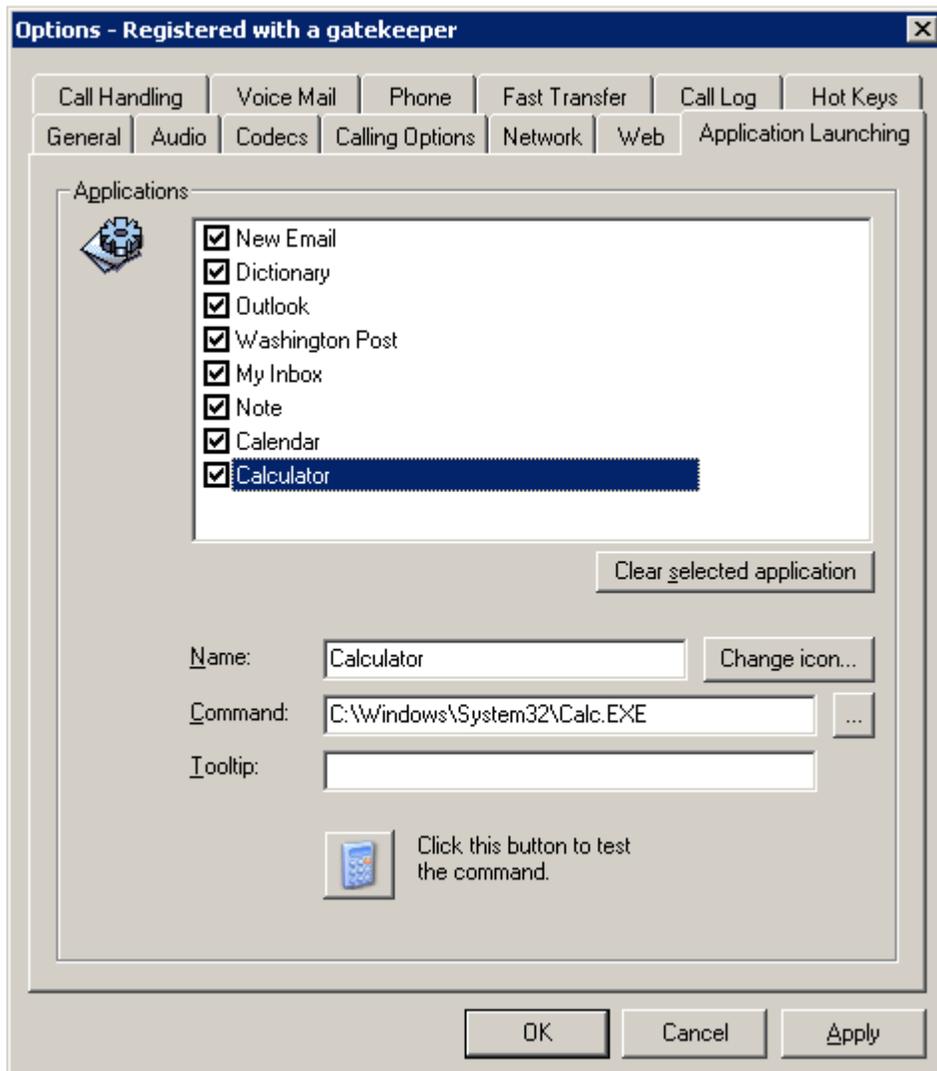
To clear assigned applications follow the steps below:

1. Go to Tools / Options.
2. Select the Application Launching tab.
3. Select the application whose button is to be reassigned.
4. Click **Clear Selected Application**.
5. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.

4.3.10.3 Disabling Applications

To disable an application button follow the steps below:

1. Go to Tools / Options.
2. Select the Application Launching tab.
3. In order to disable a particular application, clear the checkbox next to the application name.
4. Click OK to save and close the Options window or Apply to save your changes and keep the window open for further processing.



4.3.11 Call Log Tab

The Call Log tab allows you to establish how many days you want VTALL to store received calls before automatically deleting those without recordings or notes. To open the Call Log tab follow the step below:

1. Go to Tools / Options / Call Log tab

4.3.11.1 Setting Up Call Log Properties

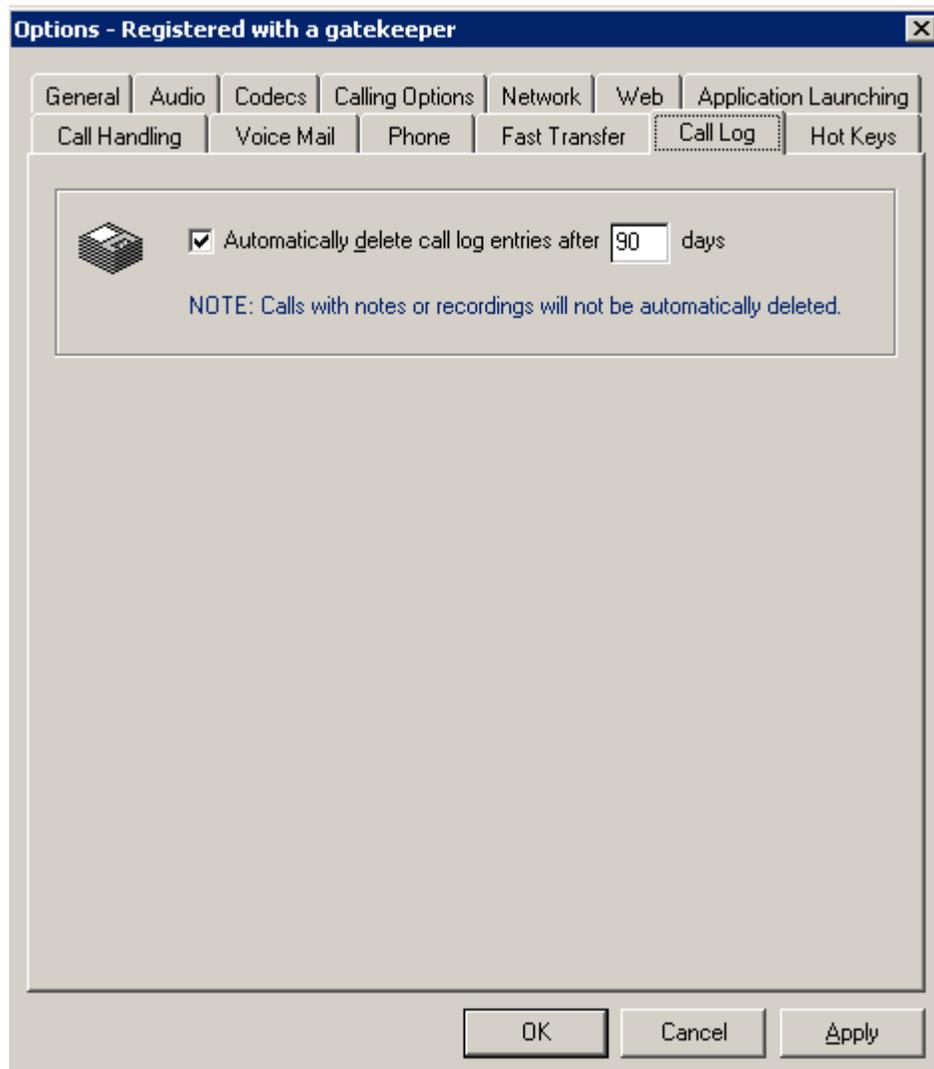
To have VTALL automatically delete calls after a specified amount of time follow the steps below:

1. Go to Tools / Options
2. Select the Call Log tab

3. Click the check box next to **Automatically delete call log entries after n days**
4. Enter the number of days you would like to keep calls stored in VTALL that have no recordings or call notes. Calls will automatically be deleted after the specified amount of time lapses.
5. Click OK to save and close the Options window or Apply to save your changes and Keep the window open for further processing.

NOTE: If you do not select the checkbox, **Automatically delete call log entries after n days**, calls will be stored indefinitely.

For instructions on playing call recordings or viewing call notes please see Call Log.



4.3.12 Hot Keys

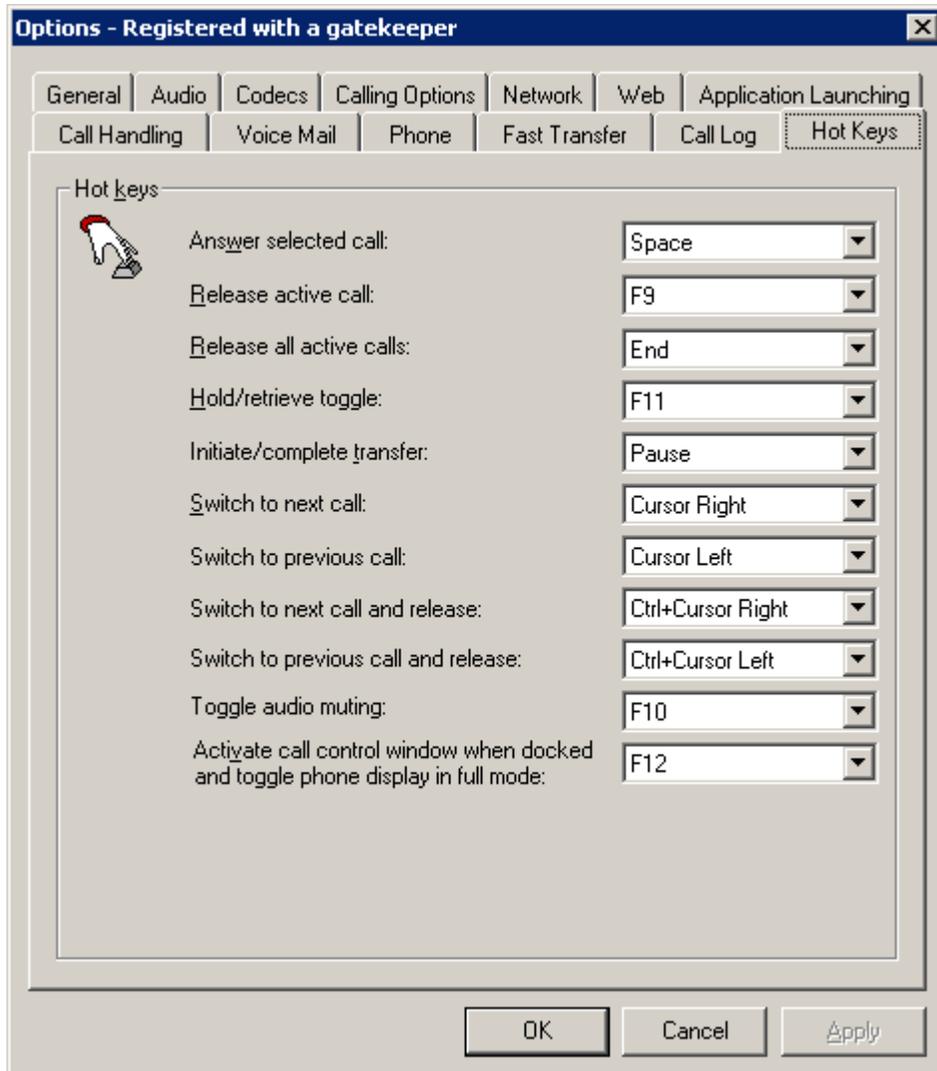
Hot Keys allow users the ability to configure their keyboards to initiate, release, hold and retrieve calls. To open the Hot Key tab follow the below steps:

1. Go to Tools / Options / Hot Keys

4.3.12.1 Configuring Hot Keys

To create your own customized hot keys, follow the steps below:

1. Select Tools / Options
2. Select the Phone tab
3. Complete the following fields to set up your custom hot keys for call control features in the Dial pad panel of VTALL:
 - **Answer selected call** – Designate a function (or F) key from your computer keyboard to answer an incoming call.
 - **Release active call** – Designate an F key from your computer keyboard to be used to release a currently active call.
 - **Hold / Retrieve toggle** – Designate an F key from your computer keyboard to be used to put a call on hold or retrieve a currently held call.
 - **Initiate / Complete transfer** – Designate an F key from your computer keyboard to be used to initiate a call or complete a transfer.
 - **Switch to next call** – This is for use when VTALL is operating as an Interpreter workstation. This key switches the talk audio to the last call (patient)
 - **Switch to previous call** – This key switches the talk audio to the first call (provider)
 - **Switch to next call and release** – Releases (hangs up) the last call.
 - **Switch to previous call and release** – Releases (hangs up) the first call.
 - **Toggle Audio muting** – In the audio tab (section 3.x.y.z), you can select to mute certain devices when you are on a call. This key toggles that mute function on or off.
 - **Activate call control window when docked** – Designate an F key from your computer keyboard to be used to activate the call control window when Virtual Terminal is docked.
4. Click OK to save and close the Options window or Apply to your changes and keep the window open for further processing.



4.3.13 Network

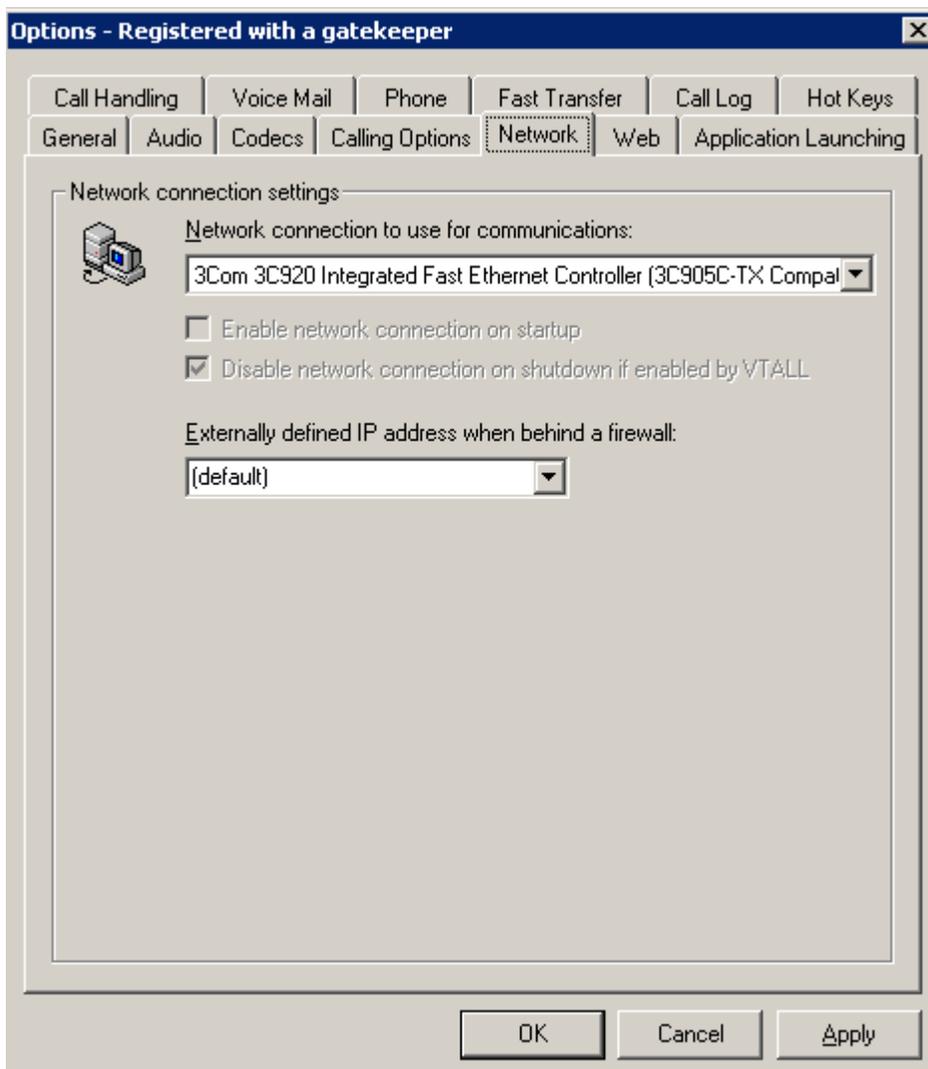
Generally, VTALL is loaded on a PC with a single Network Interface Card (NIC). However, there are times when a user may have another Network Interface, which requires setting the appropriate Network Interface.

There are two types of “other” interfaces - a second NIC card physically inserted in the PC, or a Virtual Private Network (VPN) connection used to tunnel across the Internet into the user’s Enterprise Network. In either case, do the following:

4.3.13.1 Configuring Network settings

1. Go to Tools / Options / Network tab
 - **Network connection to use for communications** – Select the connection.

- **Enable Network connection on startup** – (Only if VPN selected). To start the VPN connection when you start VTALL if it is not already active.
- **Disable Network connection on shutdown if enabled by VTALL** – (Only if VPN selected). Disconnects VPN if the box above was checked.
- **Externally defined IP address when behind a Firewall** Leave as “default” if in a standard enterprise. This is for users in a Private network who are contacting a Gatekeeper on the public Internet for call control. Here, you enter your outside IP address. The outside IP address can be determined by your System Administrator or by going to <http://www.ipblue.com/myip>. Use dotted-decimal notation.



5. Basic Call Features

The Virtual Terminal has the basic call features you use everyday to interact with others using traditional telephones. However, unlike other phones, VTALL facilitates the process of being accessible and responsive in a fast paced work environment because it has multiple ways to perform routine functions such as making and answering calls.

5.1 Making a Call

When a call is initiated, it appears in the Call Status area, General line or Private line buttons of VTALL and displays its progress with colored LED's, text and sound. Virtual Terminal lets you initiate an outbound call in any of the following ways:

- **Type the call destination in the call address field and pressing Enter.** You can type a telephone number, extension, and IP address or computer name in the call destination field.
- **Type the call destination in the call address field and clicking the Dial button.**
- **Type the call destination in the call address field and clicking a General line button.**
- **Click on a previously configured Private Line button.**
- **Right click on a previously configured Private Line button and selecting Search and select the call destination from a previously configured directory service.**
- **Right click on an entry in the Call Log window and selecting Call from the list of options.**

Note: Unless the destination being dialed matches a Private Line, VTALL will automatically select the first available General Line for an outbound call. You must have at least one General Line available in order to initiate an outbound call.

After a call is answered you can perform traditional telephone call control tasks such as: transferring, conferencing, holding and releasing a call. In addition, Virtual Terminal lets you record an active call for later playback, take notes and assign calls to Private line buttons for easier redialing.

5.2 Answering a Call

VTALL enables you to decide whether you want to answer an inbound call by giving you as much information as possible about the caller. A Call Notification window appears each time an inbound call is received, giving you the option of answering, hanging up or forwarding the call straight to voicemail based on the identity of the caller. However, since the Call Notification window isn't always capable of providing you the identity of the caller, VTALL has Private buttons that can be configured to comprise important clients whose calls you don't want to miss. If an inbound call is a configured Private button, LED lights will indicate the caller's identity. Inbound calls not configured to appear on the Private panel will be channeled to an available General line button. LED lights on the General buttons will illuminate indicating the appearance of a

new call, but not the identity of the caller. Virtual Terminal lets you answer a call in the following ways:

- **Automatically** – VTALL will answer a call when there are no active calls or if the inbound call matches a Private button and has been set to automatically answer.
- **Inbound Call Notification Window** – You can answer a call by depressing Answer.
- **Hot Key** – Select the F key you configured for answering calls.
- **Enter** – Press this key to answer a call.
- **Private Button** – Select the Private Button whose LED lights are illuminated, notifying you of the caller's identity.
- **General Button** – Select the General Button whose LED lights are illuminated, illustrating the presence of an inbound call.

Note: As soon as a call is answered, its details appear in the Call Status area.

After a call is answered you can perform traditional telephone call control tasks such as: transferring, conferencing, holding and releasing a call. In addition, Virtual Terminal lets you record an active call for later playback, take notes and assign calls to Private line buttons for easier redialing.

5.3 Releasing a Call

Virtual Terminal lets you release an active call in any of the following ways:

- **Select the call in the Call Status area and click the Release button in the Dialpad panel.**
- **Right click on the call anywhere it has an appearance and select Release from the context menu** – For example, you can release a call from the Call Status area, General or Private lines by following the above instructions.
- **Hot Key** – Select the previously configured F key for releasing calls.

Note: Calls on hold cannot be released unless they're put in an active state. After a call has been released, it disappears from the Call Status area. You can, however, review the call details in the Call Log window.

5.4 Placing a Call on Hold

When a call is placed on hold, callers will hear the audible hold indicator or the music file you previously configured in the Call Handling tab. The associated LED in the call status area and on the General or Private button turns red as a constant visual reminder that someone is waiting on that particular line. A call can be placed on hold in any of the following ways:

- **Select the call in the Call Status area and then click the Hold button in the Dialpad panel.**
- **Right click on the call wherever it has an appearance and select Hold from the context menu** – For example, you can put a call on hold from the Call Status area, General or Private lines by following the above instructions.
- **Hot Key** – Select the previously configured F key for holding calls.

Note: If the call is part of a conference and is placed on hold, all parties in the conference will be placed on hold.

5.5 Retrieving a Held Call

When a call is retrieved from hold, the call's associated LED in the Call Status area and on the General or Private line turns green, indicating the call is active. All other active calls on VTALL are placed on hold and turn red indicating their hold status. Select one of the following methods to retrieve a held call:

- **Right click on the call wherever it has an appearance and select Retrieve Held from the context menu** – For example, you can retrieve a held call from the Call Status area, General or Private lines by following the above instructions.
- **Hot Key** – Select the previously configured F key for retrieving a held call.
- **Clicking on the call's corresponding General or Private button.**

Note: If the call is part of a conference and is retrieved from hold, all parties in the conference will be retrieved from hold.

5.6 Call Forwarding

To ensure coverage while you are away, Virtual Terminal lets you forward all incoming calls to another call destination. To set VTALL to forward all incoming calls to another destination follow the below steps:

1. Go to the Dialpad panel in the Virtual Terminal window.
2. Type the forwarding call destination in the box under the Fwd button.
3. Click the Fwd button to activate call forwarding
4. Look for the red LED light on the Fwd button and flashing red Fwd indicator at the lower right corner of the Virtual Terminal window to confirm that the call forwarding has been activated.

Note: To deactivate call forwarding, click the Fwd button again. The Fwd button LED and the Fwd indicator will return to their normal color.

5.7 Transferring Calls

VTALL supports supervised and fast transfers on an active call.

5.7.1 Supervised Transfer

To perform supervised transfers follow the steps below:

1. Click the Transfer button in the Dialpad panel to initiate the transfer for an active call.
2. Type or select the transfer call destination in the Dialpad panel call address field.
3. Complete the transfer for the active call by clicking the Comp Transfer button in the Dialpad panel.

5.7.2 Fast Transfer

To perform fast transfers follow the steps below:

1. Right click on the active call wherever it has an appearance.
2. Select Fast Transfer.
3. Enter the call destination.

5.7.3 Canceling a Transfer

Once a call transfer has been initiated, the call is placed in a held state until a transfer is completed. You can cancel the transfer before its completion in the following ways:

- Click the Cancel TX button on the Dialpad panel.
- Double click on the call in the Call Status area.
- Click on the call's corresponding General or Private line button appearance.

Note: After a call transfer has been cancelled using the Cancel TX button, the call is left in the hold state and must be manually retrieved. In other instances, the call is automatically retrieved from the held state.

6. Advanced Call Features

The Virtual Terminal offers advanced call features not found on traditional telephones. These features help you coordinate, maintain and access vital information in seconds.

6.1 Conferencing

Virtual Terminal's conferencing capabilities are determined by whether or not it has access to a Multipoint Control Unit (MCU) and a gatekeeper. VTALL supports two types of conferencing:

- **Internal Conferencing** - When you cannot connect to an MCU and a gatekeeper, VTALL provides three-way conferencing (you and two other callers). This type of conferencing is similar to the conferencing capabilities of a standard, two-line telephone.
- **External Conferencing** – When you can connect to an MCU and a gatekeeper, multiple parties can be supported depending on the bandwidth resources available to VTALL. This feature can be compared to using VTALL as a conference bridge.

6.1.1 Adding Calls to a Conference

You can add calls to a conference in any of the following ways:

- **Drag the call from anywhere it has an appearance to the Conference tab**
- **Right click on the call anywhere it has an appearance and select Add to conference from the list.**

Notes: Calls participating in a conference call can be identified in the Call Status area by the silhouettes of two people. The Virtual Terminal user setting up the conference controls the audio connection between the conference members.

6.1.2 Removing a Call from the Conference

Virtual Terminal lets you remove a call from conference in any of the following ways:

- **Drag the call from the Conference tab to anywhere else in the Virtual Terminal window.**
- **Right click on the call anywhere it has an appearance and select Remove from conference.**
- **Select the call in the Call Status area and click Remove in the Dialpad tab.**
- **Simply release (hang up) the call.**

Note: After a call has been removed from conference, it's automatically placed on hold unless it's the last remaining call in the conference, in which case, it remains in the state it had when it was in the conference.

6.2 Call Recording

Virtual Terminal lets you record a call in the following ways:

- **Automatically** - If it is either an outbound call from a Private line button or an inbound call that matches contact information in a Private line button and has been configured to automatically record all calls.
- **Manually** – By right clicking on the call anywhere it has an appearance (Call Status area, General or Private line button) and then selecting **Start Recording**.

Once a call is being recorded you can stop the recording by right clicking in the call in the Call Status area or associated general or private line button and selecting **Stop Recording**.

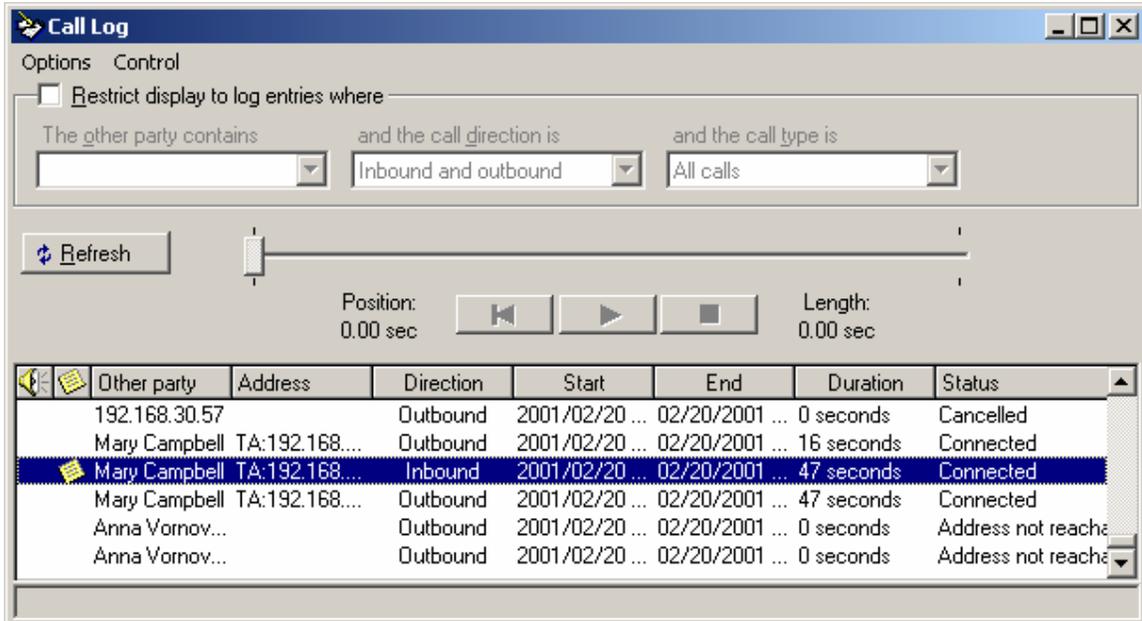
Note: Recorded calls can be played back in the Call Log window once a call is released. See Call Log and Playing Back Recorded Calls for instructions.

6.3 Call Log

The Call Log window lets you retrieve call records for review. Once call records are retrieved, you can play back recorded calls, play back voice mail messages, return a call, or add/edit call notes. To open the Call Log window follow the step below:

1. Go to Tools / Call Log

When you select Call Log the following window will appear:



6.3.1 Displaying Call Log Records

All inbound and outbound calls are logged and displayed in the Call Log window. You can display all call records or restrict the search to specific calls by following the steps below:

1. Go to Tools
2. Select Call Log
3. Use the following fields and button to control the number of call log records displayed:
 - **Restrict display to log entries where** – Select this check box to limit the display of call log entries based on filtering parameters.
 - **The other party contains** – Type a sequence of characters to restrict the display to only those entries containing that sequence in the other party field.
 - **And the call direction is** – Select whether you want to restrict the display to only inbound, outbound or both inbound and outbound calls.
 - **And the call type is** – Select whether you want to restrict the display to only calls with recordings, unopened voicemail messages, voicemail calls or all calls.
 - **Refresh** – Click this button to redisplay the call log entries that meet specified restriction parameters. If no parameters are specified, then all call log records are displayed.
4. To display all call records, do not fill in the checkbox for Restrict display to log entries. Simply click the Refresh button.
5. To display a restricted list of call records, complete one or more of the above search parameters and click the Refresh button.

Note: A microphone icon identifies calls that were either recorded or have a voice message.

After displaying the call records, you can take call notes, play back recorded messages, play back voice mail messages, or return the call.

6.3.2. Playing Back Recorded Calls

All recorded calls are stored in the Call Log and can be played back following the steps below:

1. Go to Tools.
2. Select Call Log.
3. Display the appropriate call records. (Simplify your search by restricting the call records to only those containing a recording by selecting **Restrict display to log entries where** and in **and the Call type is** populating “Calls with recordings” from the drop down menu.)

4. Select the call with the recording you want to play back. Call records with a microphone icon have an associated recorded message.
5. Click the audio playback buttons to play back the recorded call.

The audio playback buttons are identical to those found on tape recorders. From left to right the buttons are: **Rewind, Fast Forward, Play** and **Stop**.

You can also use the slide to move to a specific point in the recorded call.

6.3.3 Playing Back Voice Mail Messages

All voice mail messages are stored in the Call Log and can be played back by following the steps below:

1. Go to Tools.
2. Select the Call Log.
3. Display the call records you want to work with - Simplify your search by restricting the call records to only those containing a voice message by selecting **Restrict display to log entries where and in and the Call type is** populating “Unheard voice mail” or “All voice mail” from the drop down menu.
4. Select the call with the voice message you want to play back. Call records with a microphone icon have an associated recorded message.
5. Click the audio playback buttons to play back the recorded call.

The audio playback buttons are identical to those found on tape recorders. From left to right the buttons are: **Rewind, Fast Forward, Play** and **Stop**.

You can also use the slide to move to a specific point in the recorded call.

6.4 Taking Call Notes

Virtual Terminal lets you take notes on a call while it's still in progress or after it's completed.

6.4.1 Note Taking While Call in Progress

To take call notes for a call in progress follow the steps below:

1. Right click on any of the window elements associated with the call such as: Call Status area, General or Private line buttons and select Notes.
2. Type the call notes.
3. Click OK to save the notes

Note: Calls in the Call Log with associated notes have an icon that looks like a sheet of paper in front of them.

6.4.2 Note Taking After Call Completed

To take call notes after the call is done follow the steps below:

1. Go to Tools.
2. Select Call Log.
3. Click Refresh to display the call just completed.
4. Right click on the call and select Notes.
5. Type the call notes.
6. Click OK to save the notes.

Regardless of how much time has passed, you can add notes to any call in the Call Log by selecting the desired entry from the Call Log then right clicking on the call and selecting Notes. Type your notes and click OK to save.

Note: Calls in the Call Log with associated notes have an icon showing a sheet of paper.

6.5 Directory Searches

Use the Directory Search window to search for a contact in local and remote directories. After specifying the search parameters and directories to search, you can call a contact by selecting it and clicking Call.

6.5.1 Performing a Basic Directory Search

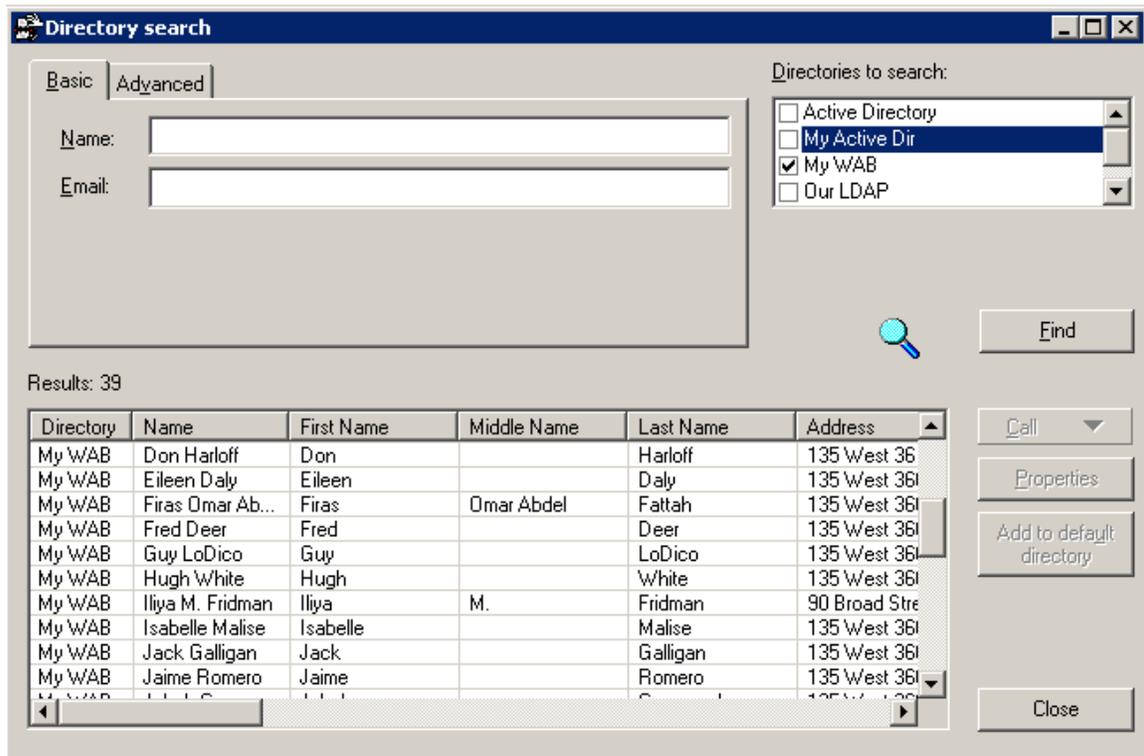
To perform a basic directory search follow the steps below:

1. Go to Tools.
2. Select Find Contacts
3. Select the Basic tab.
4. Type your selection criteria in either of the following fields:
 - **Name** – Type the name of the contact you want to find. Depending upon the directory field mapping you only need to type the first few letters of the first name or the last name to return a list of names beginning with the letters entered.
 - **Email** – Type the first characters of the email address for the contact you want to find.
5. Select the directories you want to search in the **Directories to search** list box. Your options will depend on what you have configured for VTALL.

6. Click **Find** to process your search criteria and display the search results in the **Results** list box. The Results list box will contain all the matches from your specified criteria.

To place the call after searching:

1. Click Call.
2. Select the call destination.



6.5.2 Performing an Advanced Directory Search

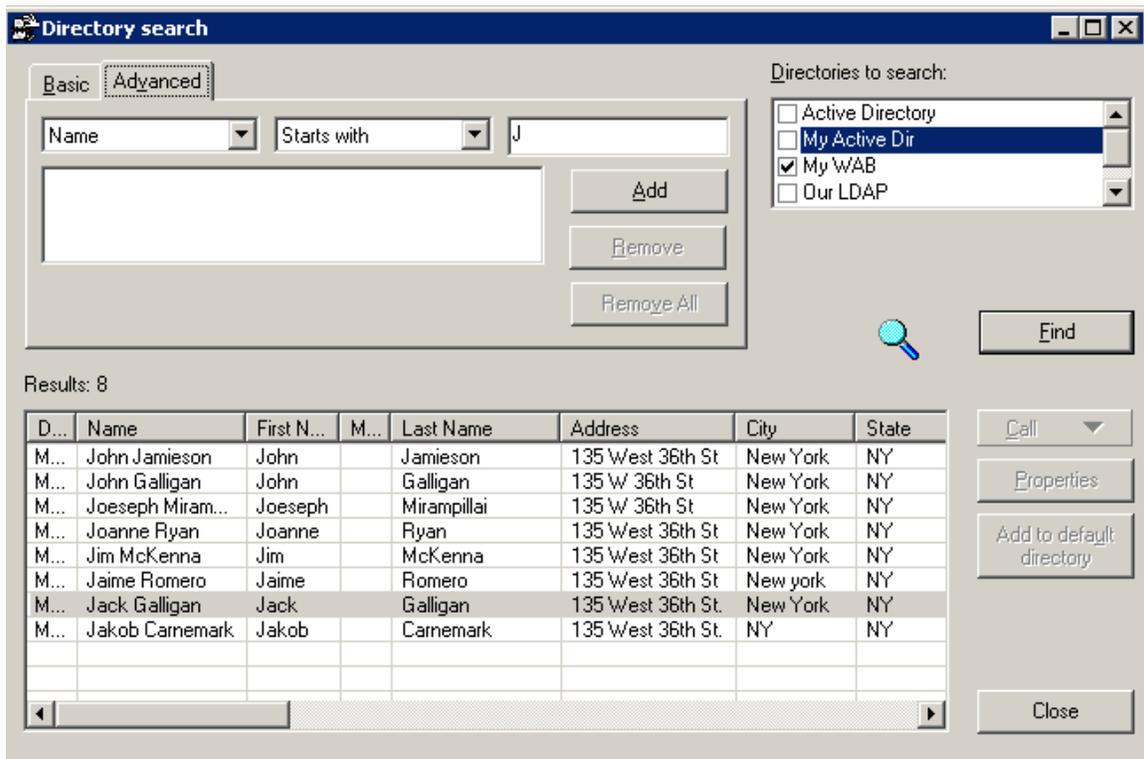
To perform the Advanced Directory Search, follow the steps below:

1. Go to Tools.
2. Select Find Contacts
3. Select the Advanced tab.
4. Type your selection criteria in either of the following fields:
 - **Field** – Select the directory field to search for the character string entered.
 - **Search Condition** -Select from the list of search criteria options.
 - **Search Value**– Type the characters to find.
5. Select the directories you want to search in the Directories to search list box.

- Click Find to process your search criteria and display the search results in the Results list box.

To place a call after searching:

- Click Call.
- Select the call destination.



7. Installing VTALL

VTALL can be installed from a CD or downloaded. The two processes are identical after uncompressing the downloaded file.

The installation parameters of VTALL vary from site, which means that each installation must be tailored for the end users by IP Blue. Because of this, the preferred method of deployment is using a download, but we can also burn CDs.

Note that although it is not needed for installation, the VTADMIN server must be operational the first time VTALL starts. The installation points VTALL to the server, which provides VTALL with its initial configuration. More information on the VTADMIN server is provided in section.9.

Here are the steps for installing the product using each method:

7.1 Installing from a CD

1. Insert the CD into the CD drive
2. Browse to the CD's VTALL directory, click on Setup, which starts the installation Wizard.
3. Follow the instructions in the Wizard for a standard installation.

7.2 Downloading and Installing

1. Click on the URL in the installation email received from IP Blue.
2. You will be asked to either open it or save it to disk. Save it to Disk in a location you can remember.
3. Once you finish downloading, go to the location on the Disk, and unzip the file (NOTE – Must have WinZip on the target PC).
4. Once it's unzipped, go to the VTALL directory, click on Setup, which starts the installation wizard.
5. Follow the instructions in the Wizard for a standard installation.

7.3 Special Notes

On 98, loading VTALL is not always a one-step process. A machine that does not have the MS Installer loaded will have to install it from the VTALL MS Installer file, which will require the user to reboot twice as the MS Installer loads onto the 98 PC. Then, after loading VTALL, they will have to boot the PC a third time. Do not be alarmed by this behavior on a 98 machine.

8. Troubleshooting

There are a number of issues that may arise during the operation of VTALL. Here are some potential problems and solutions.

8.1 USB issues

In our testing of VTALL, we have noticed issues with the USB audio sources that have been related to the device's power source – the PC. The behavior we describe below is a symptom of that problem, a problem that has been reluctantly acknowledged by PC manufacturers. Some PCs never exhibit these characteristics, and it can vary on two identically equipped PCs. The solution is to use an externally powered USB hub that connects to the PC, and you plug the USB device into it.

1) *USB audio device not showing up on Audio Tab pull-down menu*

Make sure the device is plugged into the USB port, and that the USB device software has been loaded. Exit VTALL and restart it. If the behavior persists, it is likely that your PC's USB power driver is having problems supplying sufficient power to the

USB phone (This issue is acknowledged by several manufacturers, including Dell). The solution is to use an externally powered USB hub that connects to the PC, and you plug the phone into it.

2) *Audio suddenly stops in the middle of a call, or VTALL locks up and cannot be exited*

This is another power-related issue. Please insert a powered USB hub.

8.2 Network issues

A user on a system with multiple network connections may not get proper operation of VTALL. Consult the Network Tab section, 4.3.13, for more information.

8.3. Use of Actiontec USB Internet Phone Wizard

The Actiontec USB Internet Phone Wizard (IPW) allows for the use of a standard analog telephone handset with VTALL. When using an analog handset, many of VTALL's features cannot be controlled by the handset, so you must also use the keyboard/mouse for full functionality. This will occur when you have multiple lines active. Below are a few scenarios and how to navigate through the calls.

One call active, initiate a second outgoing call – For the IPW, we assumed that the user wants to start a conference or do a transfer. So, hitting a hook-flash puts the first call on hold and gives you a dial tone for the second call. When the other side answers, hook-flash puts all three into a conference. If you just want to put the line on hold, you must do it with the mouse or the hold key (default is F11). If you hang up the phone (manually, versus using the mouse or Function Keys) any time after making the second call, it does a transfer.

One call active, receive a second ingoing call - For the IPW, here we use the hook flash to toggle between calls. So if you're on the first call, and the second one comes in, hook-flash puts that call on hold and answers the second. You can then toggle between calls using hook-flash. Hanging up kills the active call, and then you can hook-flash to get to the other one.

9. VTADMIN Server

The VTALL server (running on a Microsoft Windows 2000 Server) contains all the components necessary to deploy VTALL across an enterprise. Below is a list of the components and a brief summary of their function. For more information, refer to the VTADMIN server user's guide.

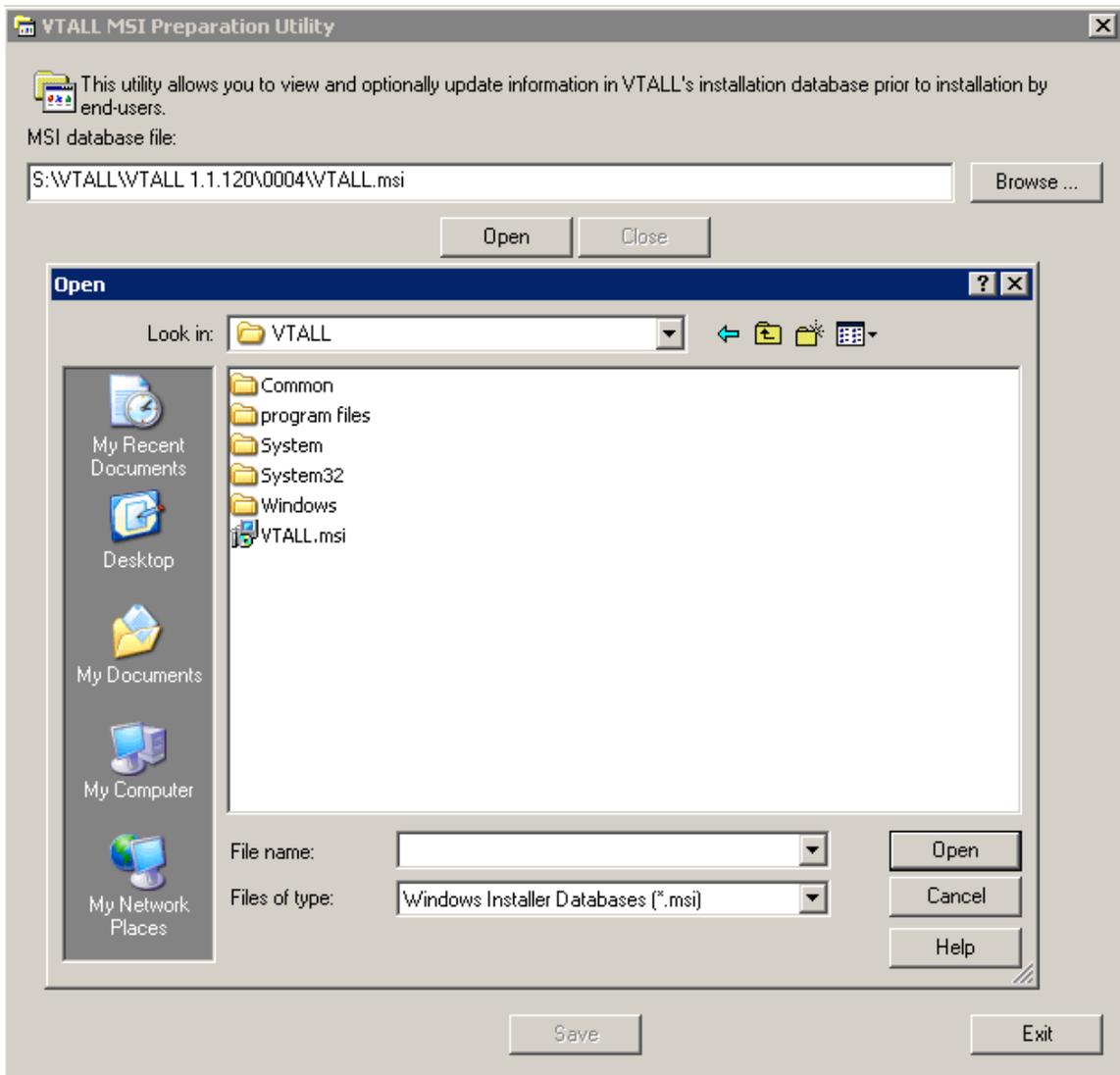
9.1 Radvision ECS Gatekeeper

This component is controlling entity for the VTALL endpoints. All the endpoints register with the Gatekeeper when they start up, and it performs the call-related functions across the Network.

Administration of the ECS is web-based, and is done by entering <http://<server IP or DNS name>> at an IE prompt, user name Admin, no password (just hit return). Detailed information on the different settings is available in the ECS User's Guide.

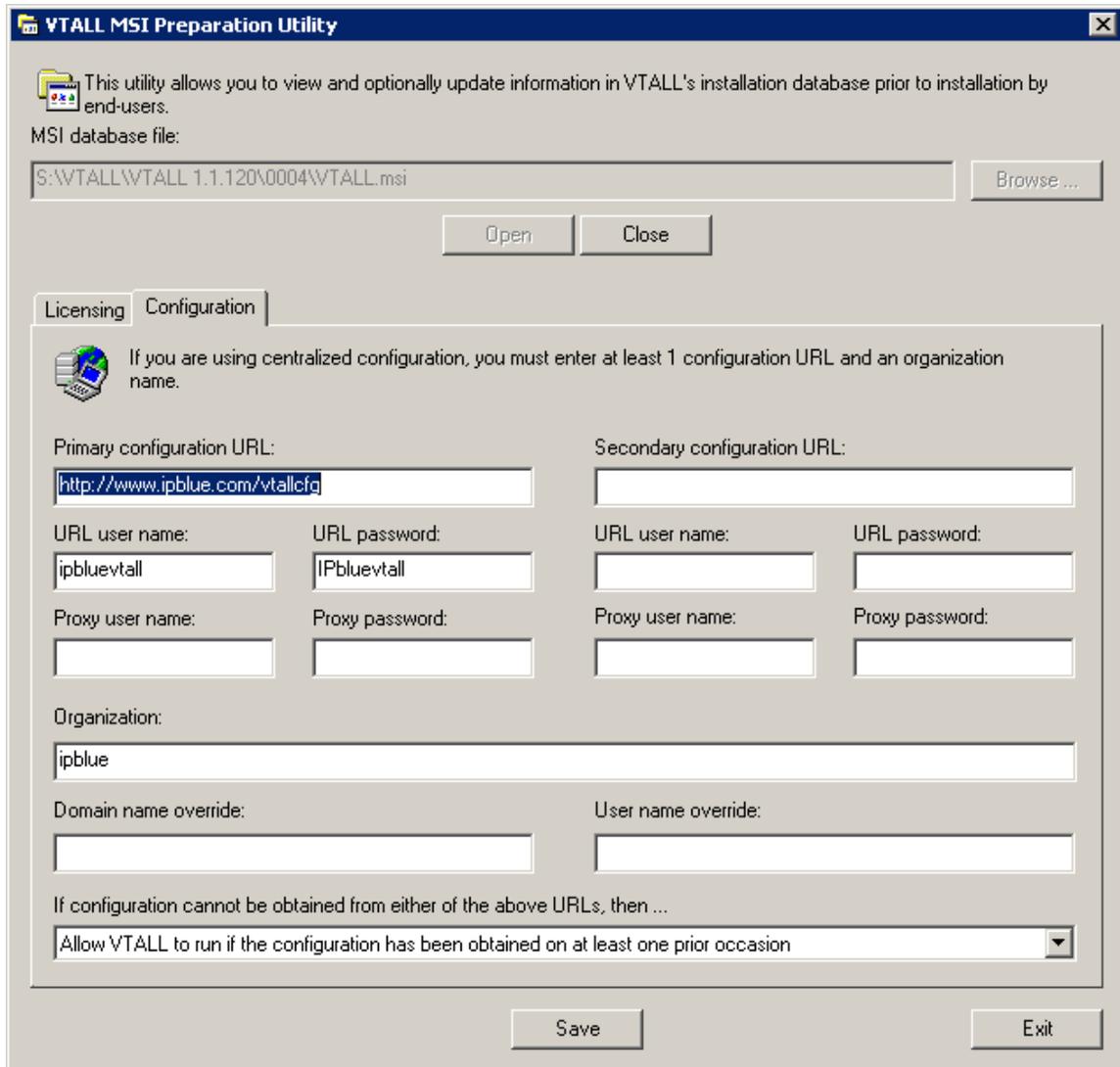
9.2 VTALL Installer

As mentioned in section 7, VTALL can be loaded from a CD or from the VTADMIN server. Here are some basic Installation considerations.



Each VTALL installation site will have a unique configuration. The following parameters must be tailored for each site, and are set inside the VTALL.MSI file using the VTALLMSIPREP.EXE utility (In the VTALL installation directory)

1. **Licensing>Serial Number** – This is the license file for the site that will allow a certain number of VTALL to operate.
2. **Licensing>Primary licensing URL** – The location where VTALL goes to verify proper licensing of the product. The default is our licensing server on the Internet. Note that the users must have web access in order to get proper licensing. If you will not have web access, contact IP Blue for special configuration instructions.
3. **Configuration>Primary configuration URL** – This is where VTALL downloads its configuration every time you start the application. If the downloaded configuration is newer than the existing configuration (stored in the registry), then this new configuration overwrites the old one and load into the registry. This is most important the first time VTALL starts, since it has no existing configuration and needs the configuration server to get started (see 9.3 for more information).
4. **URL user name & URL password** – This is for systems where you need credentials in order to access your configuration server.
5. **Organization** – To allow for more efficient use of the Configuration Server resources, individual configurations are stored in a hierarchical structure of Organization\Domain Name\User Name. The organization *must be entered*, and is generally the company name for the Enterprise (i.e.: IPblue).
6. **Domain Name override & User Name override** – In a Windows NT environment, a user that logs onto a domain has a domain name and user name associated with it. VTALL takes advantage of this to uniquely identify each user, which allows VTALL to use a single Installation build to install for all Enterprise users. In the case where all users are not in an NT Domain (say 98 or ME machines without NT logon activated), or if you want a different setting in either field for whatever reason, this can be modified before download. In that case, one can download the installation package to the PCs hard drive, modify the settings for the specific user, and install. This is the most common instance where endpoint users may have occasion to make changes using the MSI Prep utility (shown on the previous page). The next page shows the screen with the Domain Name and User Name override fields.
7. **Save** – If you have made changes you want to take, SAVE.
8. **Exit** – Click when you are finished

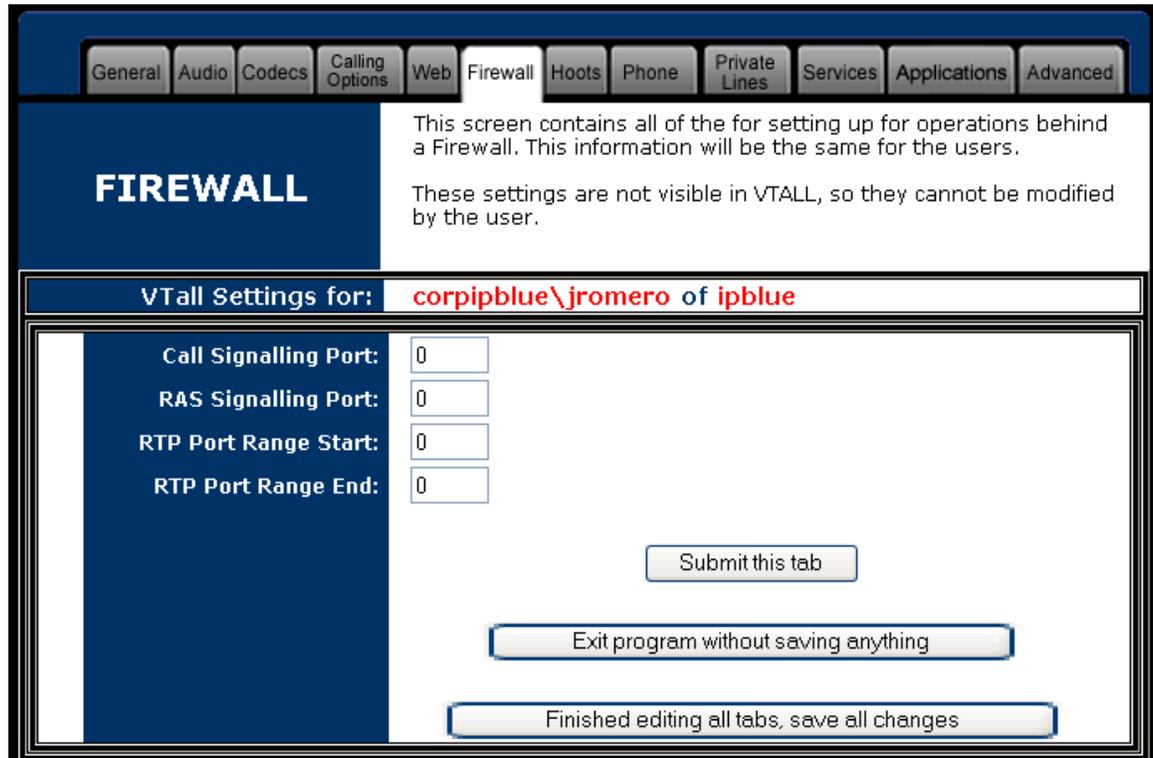


9.3 VTALL Configuration Server

Also web-based. The administration function is invoked at VTALL boot-up, and sends VTALL its configuration. This configuration is then stored in the registry, along with a “Version” number. If the version number of the sent configuration is GREATER THAN the version number stored in the Registry, the Registry version is overwritten. Otherwise, the sent configuration is ignored.

If the administrator wants to modify a user’s settings, he can do so by using the VTADMIN server. Got to the configuration server URL (for IPblue, <http://vtadmin2:8080/vtadmin>). In the menu, select an Organization (say IPblue), click submit, then a Domain (say IPblue), click submit, then you will see a pull-down list of users. Select a user, and you can now modify their settings (warning – sometimes this page loads immediately, sometimes it takes a while). The tabs available are very similar

to the tabs available in the VTALL application (Tools>Options, consult section 4 for settings definitions).



There are a number of settings that are not available inside the VTALL application for modification.

1. **Firewall Tab** –Setting allows you to control what ports are used for the signaling and audio (RTP). This gives the user flexibility in setting up their Firewall, or doing traffic precedence (QOS) based on Transport layer port numbers.
2. **Calling Options Tab** – The second check box allow the user to select his Gatekeeper (versus using auto-discovery). This can be done an environment with more that 1 Gatekeeper, or if your Gatekeeper and endpoint are not in a multicast domain (where auto-discovery will not work)
3. **Advanced Tab** – The *disable gatekeeper* check box allows you to manually disable the Gatekeeper. This can be done for more complex troubleshooting, or to register VTALL with a “Gateway” rather than a Gatekeeper. *Use Fast Connect* results in quicker connect times and a single TCP channel for both the Q.931 and H.245 Call signaling.

Go from Tab to Tab to make modifications, but once you are finished and satisfied with your changes, at the bottom of each tab, the last button - “Finished editing all tabs, save

all changes” – should be clicked to exit. You can also exit without saving, and the submit button submits entries as you go from tab to tab.

When you click the last button, the next time VTALL boots, it will incorporate the changes you made.

As noted above, most of the items controlled by the Admin server can also be controlled in VTALL using Tools>Options. But in this version, the changes made in the Tools>Options of VTALL are not sent back to the VTADMIN server. The original intent of the VTADMIN server was as a tool to allow new Enterprises to be set up by the administrator.

9.4 Call Log Facility

This component is used as a remote storage location for the call activity information (Called Party, Calling Party, start time, end time, duration, etc). This information can also be stored locally in an Access Database under *\Program Files\IP blue\VTALL\ Database\VTALL.mdb*, or remotely on a SQL Server (we use SQL 2000). The decision of where to store it is decided on VTALL boot-up by a value in the Config.dat file in the *\Program Files\IP blue\VTALL* that is subsequently stored in the Registry.

The mode of storage can be tailored to the desires of the end user. You only need to modify one line of the code to decide where to store it. You can edit config.dat using a text editor (Notepad or WordPad), and look for the following line, which is around the middle of the file (Note: All appear as a single line in the file, but is word-wrapped here).

```
[HKEY_CURRENT_USER\Software\VB and VBA Program Settings\IPblue\ VirtualTerminal\DBInterface\CallLog]
```

For local storage, replace what is on the line below with:

```
"DefaultConnectionString"="DRIVER={Microsoft Access Driver (*.mdb)}; DBQ=@App.Path@\\database\\VTALL.mdb;DSN=;"
```

For remote storage on the SQL Server, replace what is on the line below with:

```
"DefaultConnectionString"="driver={SQL server};server=ServerName;uid=vtallman; pwd=xxxxxx;database=VTALL;"
```

Where “Server Name” is the name of the VTADMIN server. On the remote storage, consult VTALL for the password value.

The Call Log can be accessed for individual users using the facility available in VTALL. Go to Section 6.4 for more details. For more information, have your System Administrator consult your IP Blue technical representative.

9.5 Call Recording Facility

This is the storage of the audio component of any recorded phone calls - voice messages or call recordings. In addition to voice messages, you can record during the call (see Section 6.2 for more details).

The decision of where to store it is decided (as with the Call Log storage) on VTALL boot-up by a value in the Config.dat file that is subsequently stored in the Registry.

If the very last 5 line of the file say:

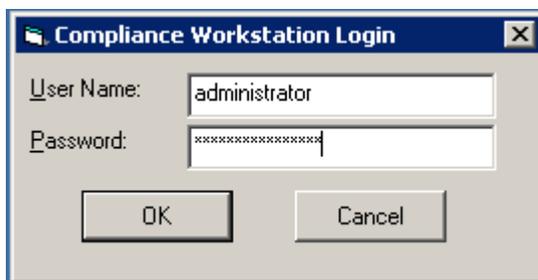
```
HKEY_CURRENT_USER\Software\VB and VBA Program Settings\IPblue\VirtualTerminal\Options\CallLogging  
"UseCustomCallLog"="False"  
"CustomCallLogSettings"=""  
"DaysToKeep"="90"  
"RecordingPath"="\\ServerName\ServerDirectory"
```

then the call recording is done remotely on “ServerName” in the “ServerDirectory” directory. If this line is not there, it can be added to enable remote recording. Note that if you want to change it from remote to local, you also have to remove the Recording path registry entry. The path is exactly as it is written in the first of the five lines above, and you simply go to the Recording Path and clear it out.

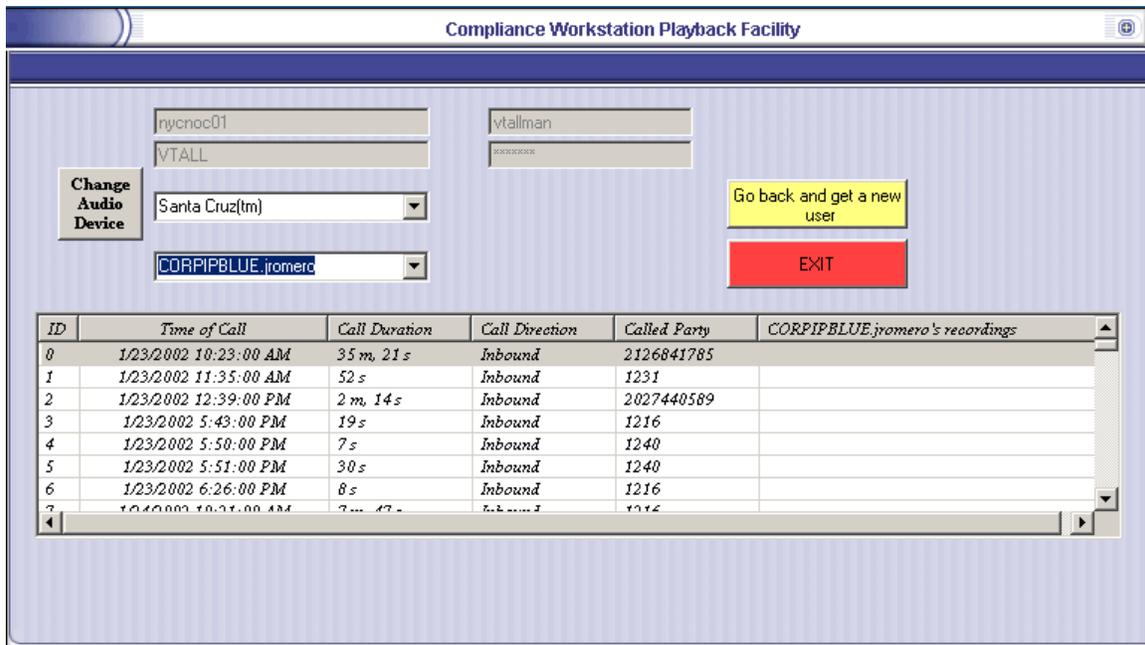
The Call Recordings can be heard by an individual going to the Tools>Call Log button inside their VTALL (Go to Section 6.2 and 6.3 for more details). They can also be accessed by the system Administrator using the VTALL Compliance Workstation tool, described below.

9.6 VTALL Compliance Workstation

This allows the certified administrator to listen to all call recordings. To use it, click on the “Compliance Workstation” shortcut on the administrator’s desktop, and enter a logon sequence. Consult an IP Blue technical representative for the correct logon sequence.



Next, the administrator enters the appropriate SQL Server Name, Database Name, User Login, and Password for the call storage information. Then you can get a list of all the users who have information stored on that database, a list of their recordings, and then listen to the recordings. They will be played on the default audio device. When exiting, click on the dark-grey Exit button for proper closing of the application.



The Compliance Workstation will only work with VTALL endpoints that use some form of Authentication. This means that 98 clients that do not use an NT logon will not be available. In addition, both the Call Logs and Recordings must be stored remotely to use the application.

9.7 LDAP Directory Server

This component is loaded as part of the Radvision ECS Gatekeeper. The ECS populates the LDAP directory with any registered user (VTALL running), and removes the user when they exit VTALL. VTALL uses this information for presence, so that users can see if any of the endpoints they have in their Private lines are on-line. This is enabled using the Services tab and adding a “Radvision Gatekeeper LDAP directory” Service. See section 4.2 for more details.

Additional documentation on the LDAP directory server is available in the ECS users guide.

10. Getting Help

Virtual Terminal has a built in help menu that will provide you with many of the resources necessary to resolve user questions, known problems and access online support. All information contained herein can also be found in the help files.

For online support, go to <http://www.ipblue.com/support>. For more detailed help, dial 1-866-4IP BLUE (866-447-2583)

11. Glossary of Terms

Call Destination: The telephone number, IP address, email address or other unique identifier to which or from which a call is placed.

Codec: Software that converts media to a format more easily communicated between computers, and back again.

Gatekeeper: Provides call control, bandwidth allocation, call routing, and IP address translation to its registered endpoints. Typically, H.323 Terminals are registered with a gatekeeper that serves as an intermediary to other gatekeepers and their associated H.323 terminals.

Gateway: Hardware and associated software that connect two dissimilar networks. VTALL uses H.323 gateways to connect your Voice over Internet Protocol calls to the public telephone network.

H.323: A standard that specifies the components, protocols and procedures that provide multimedia communication services-real-time audio, video, and data communications over packet networks, including Internet protocol based networks. H.323 is part of a family of ITU-T recommendations called H.32x that provides multimedia communication services over a variety of networks.

Hoot: VTALL implementation of listening to Internet protocol multicast transmissions.

LDAP (Lightweight Directory Access Protocol): A software protocol for enabling anyone to locate organizations, individuals, and other resources such as files and devices in a network. Microsoft includes it as part of Active Directory.

Multicast: Transmission of packet data to multiple network destinations concurrently without replication.

Multipoint Control Unit (MCU): Provides conferencing capabilities between three or more H.323 terminals.

Protocol: The special set of rules that end points in a telecommunication connection use when they communicate.

Q.931: An H.323 protocol that manages call setup and registration. The Q.931 channel is used to carry messages between endpoints in a Direct/No Gatekeeper architecture, and between endpoints and Gatekeeper in the Routed Gatekeeper architecture.

RAS: An H.323 protocol that manages Registration, Admission, and Status. The RAS channel is used to carry messages used in the gatekeeper discovery and endpoint registration processes which associate an endpoint's alias address (phone number) with its call signalling channel transport address (IP address and port).

Silence detection: Identification of distinct 'silence' intervals during which there's no sound other than ambient background noise. Many CODECs use silence detection to reduce bandwidth usage by identifying silence intervals and compressing them for transmission.

Unicast: Broadcast of packet data to individual network destinations using multiple point-to-point transmissions and replication.

USB (Universal Serial Bus): A plug-and-play interface between a computer and add-on devices, which in this case is a phone.

VPN (Virtual Private Network): A method of employing the Internet as a means to connect remote offices or individual users with secure access to their organization's Corporate network. This method offers a significant cost savings over leased lines that directly connect remote sites to the Corporate network.