# VistaLINK® PRO

## Instruction Manual



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# REVISION HISTORY

| REVISION | DESCRIPTION | DATE |
|---|---|---|
| 10.4 | Updated to reflect Version 10.4 build 512 | Dec 2007 |
| 10.5 | Updated component check list | Apr 2008 |
| 10.6 | Updated “Component Check-List” section | Dec 2012 |
| 11.0 | Updated software screenshots and document text | June 2013 |

# 1. OVERVIEW

VistaLINK® is Evertz's true Simple Network Management Protocol (SNMP) configuration and monitoring platform. Evertz's VistaLINK® PRO application software unites Evertz 7700 Series Fiber, Conversion, NCP, VIP™, MVP®, 500 Series DA and AVM product lines as well as selected third party equipment through a customized, detailed, java-based monitoring and configuration tool that is ready-to-use for signal monitoring and "real-time" equipment configuration. VistaLINK® provides a complete, uncomplicated and cost-effective network monitoring & configuration solution. It is also an effective local and remote monitoring tool for both incoming and departing signals at strategic locations throughout your video network enterprise.

Through VistaLINK® and SNMP, Evertz offers a simple, reliable, secure and efficient method of monitoring and configuring your facility equipment. Real-time, reliable configuration and control is possible through SNMP implementation, utilizing simple protocol commands that travel over your secure network. VistaLINK® enables thousands of network nodes in mission critical applications to be monitored and configured world-wide via SNMP.

**Features:**

- Full alarm monitoring and logging to a storage database
- Individual or batch card configuration with setting change confirmations and audit trails
- Create system wide presets that span multiple products and frames
- Alarm severity configuration and acknowledgement levels
- Alarm and event logging, human-readable file exporting for record-keeping and trend analysis
- Visual video confidence monitoring
- Automated hardware configuration driven by fault alarming
- User customizable graphical interface

## 1.1. VISTALINK® PRO'S MAIN FEATURES

### 1.1.1. VistaLINK® PRO Alarm Management

VistaLINK® PRO is equipped with comprehensive alarm event monitoring capabilities, including configurable alarm severity settings, descriptions and user notes for each VistaLINK® - enabled Evertz products. Alarm event acknowledgement, per alarm type or per service and alarm logging, with date, time and type descriptions offer the end-user a complete database of alarm events for subsequent analysis and trend tracking.

### 1.1.2. VistaLINK® PRO Configuration Management

Card configuration through VistaLINK® PRO can be performed on an individual or multi-card basis using simple copy/paste routines reducing the time to configure each module separately. Configuration changes can be performed immediately, making it possible to quickly change individual card parameters "on the fly", or delayed in order to methodically configure and review changes before full deployment. Configuration settings can be imported and exported in human-readable format, and configuration messages inform the user of parameter setting changes. All changes are recorded in VistaLINK® PRO's audit trail tool in the full version. A configuration-only VistaLINK® PRO tool (VLPRO-C) is provided free with 7700FC VistaLINK® Frame Controllers for convenient card configuration.

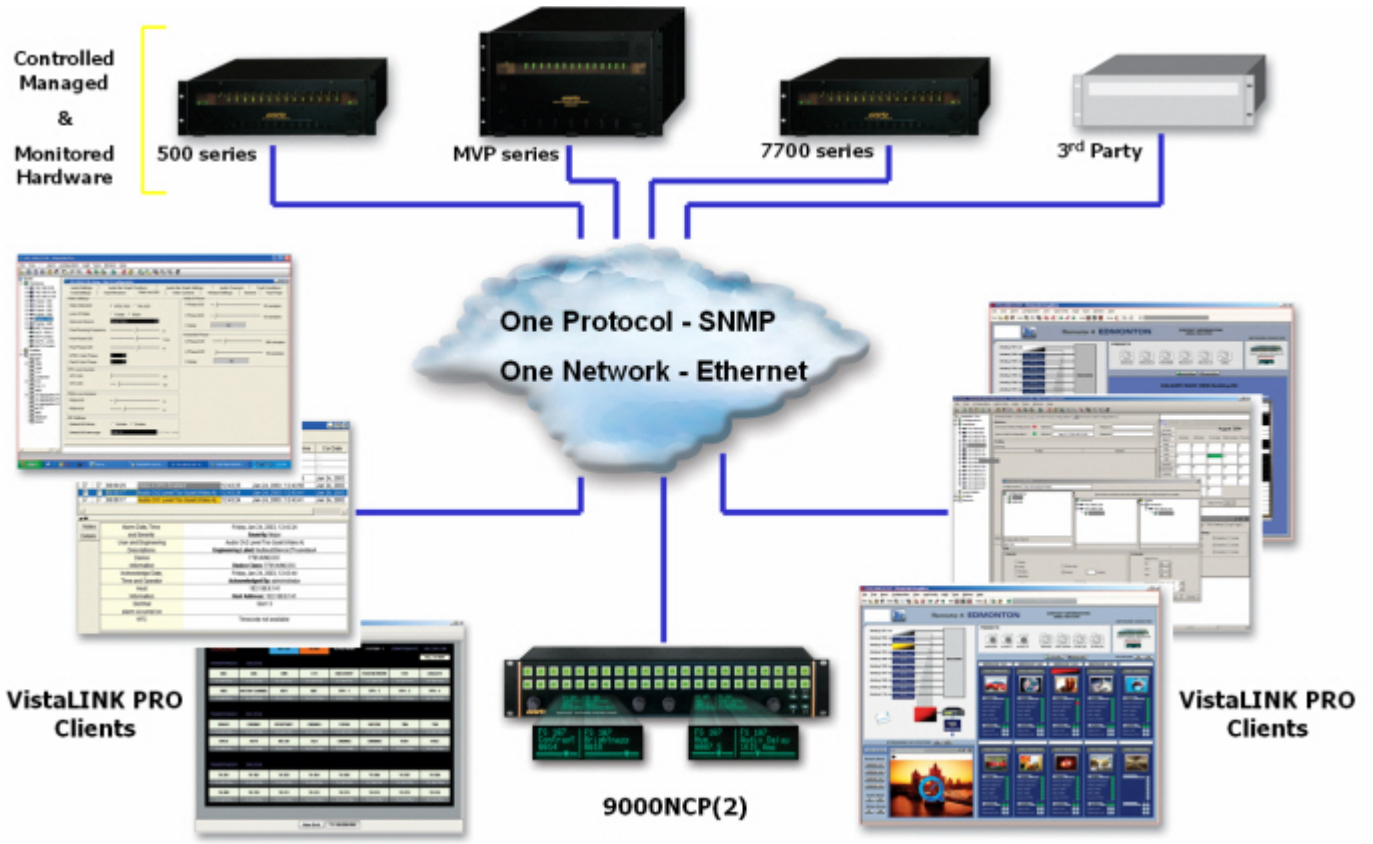



**Figure 1-1: VistaLINK® Architecture**

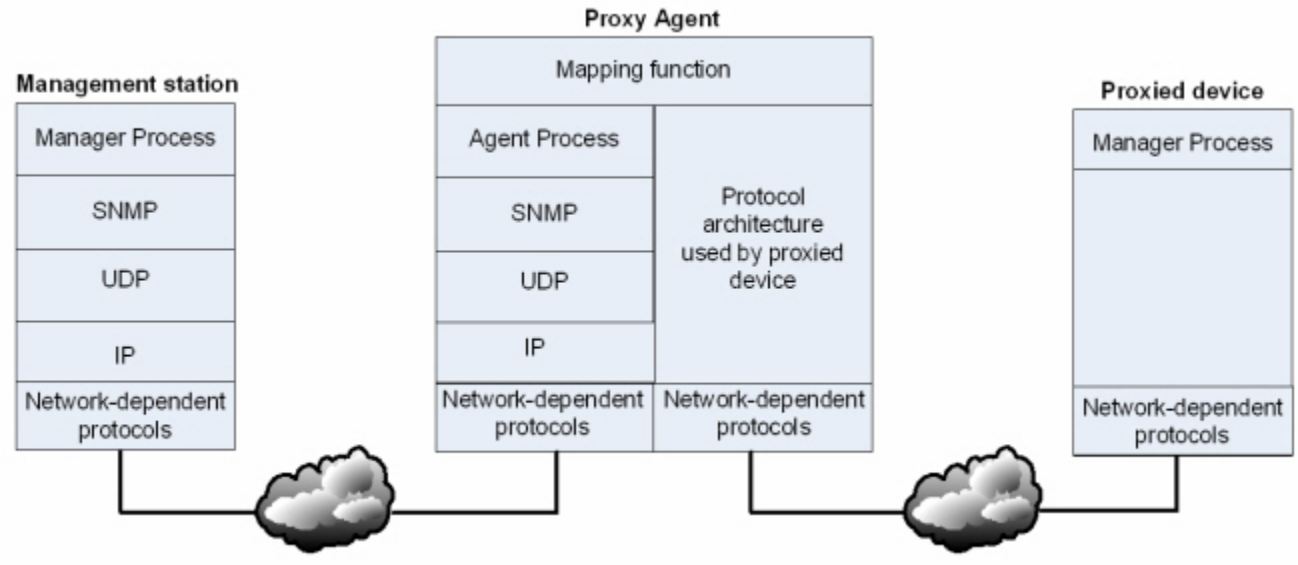



**Figure 1-2: Proxy Configuration**

# 2. INSTALLATION

## 2.1. INSTALLATION OF THE VISTALINK® PRO SERVER

### 2.1.1. Component Check-List

To start working with the VistaLINK® monitoring suite, your machine must meet the following requirements:

**VistaLINK PRO Server (or Server and Client):**

- Server Class Platform
- Intel Xeon Processor (5xxx or equivalent)
- 4GB RAM (minimum)
- 100GB HDD (minimum)
- 100/1000 Network Adapter
- Windows Server 2008 64-bit (recommended)

Most commonly used platform is HP DL360/380 servers

**VistaLINK PRO Client Only:**

- 2 GHz or faster 32-bit (x86) or 64-bit (x64) Core2Duo
- 2 GB RAM (minimum)
- 10 GB available disk space
- DirectX 9 graphics processor with WDDM 1.0 or higher driver
- 100/1000 Network Adapter
- Windows 7 (recommended)

**Compatible Operating Systems:**

- Windows XP
- Windows Server 2003
- Windows Server 2003 x64
- Windows Server 2008
- Windows Server 2008 x64 (recommended for VLPRO Server)
- Windows 7
- Windows 7 x64 (recommended for VLPRO Client)

### 2.1.2. Initiating the Software Installation for the Server

From the CD-ROM Monitoring Toolkit splash screen, select “Install VLPRO (30 day Trial/Full Version)”. This selection will initiate the software installation procedure for the VistaLINK® PRO Server.


**Figure 2-1: VistaLINK® Monitoring Toolkit Screen**

### 2.1.3. Important Menu

When the installer package finishes extracting, the first menu will appear outlining user privileges. Click the 'Next' button once you have verified that you are using a Windows login account that has administrative privileges.

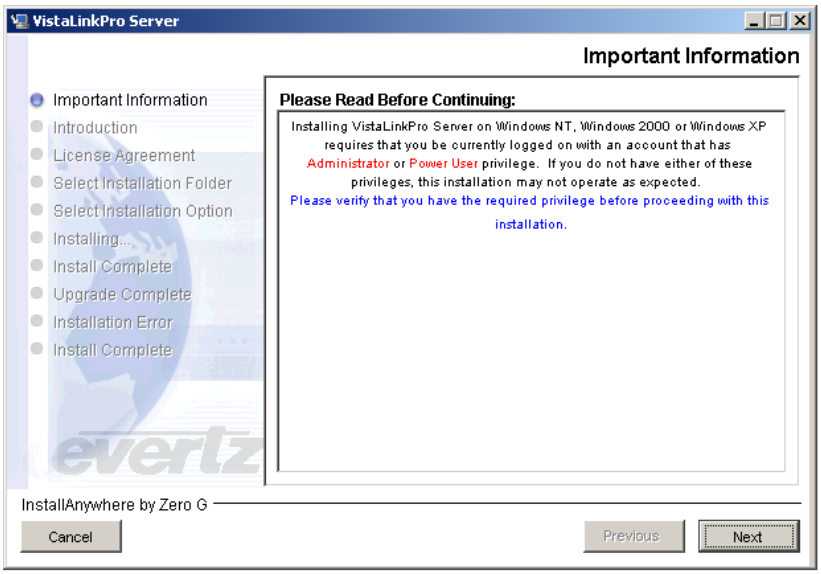



**Figure 2-2: Important Information**

### 2.1.4. Introduction Menu

The Introduction menu describes what license will be active once the installation has been finished. The license included with the install package provides a 30-day trial period. You will be given the ability to apply your purchased license once the installation is complete. Select the 'Next' button to proceed to the next menu.

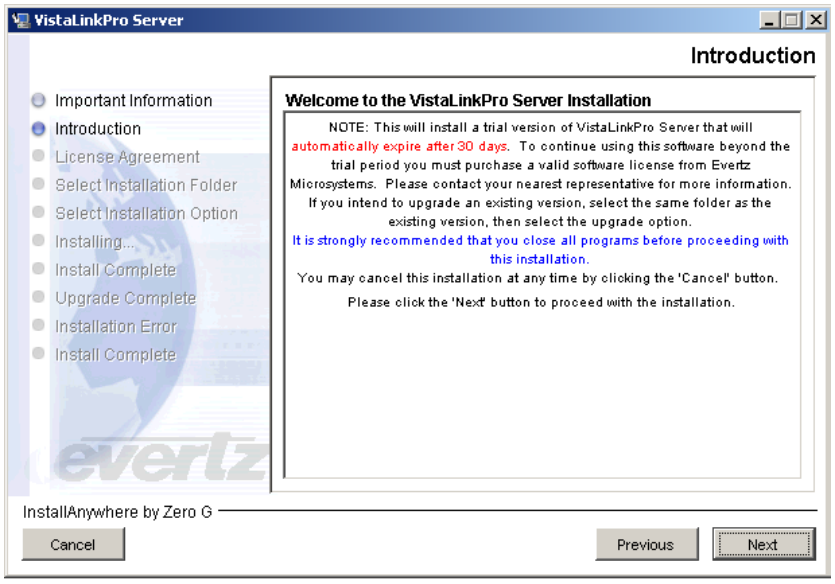



**Figure 2-3: Introduction Information**

### 2.1.5. License Agreement

Review the License Agreement to determine if you are able to accept the terms and agreements that are provided. Use the bottom radial buttons to make your selection. Select "Next" to proceed to the next menu if you have accepted the *Terms & Conditions*.

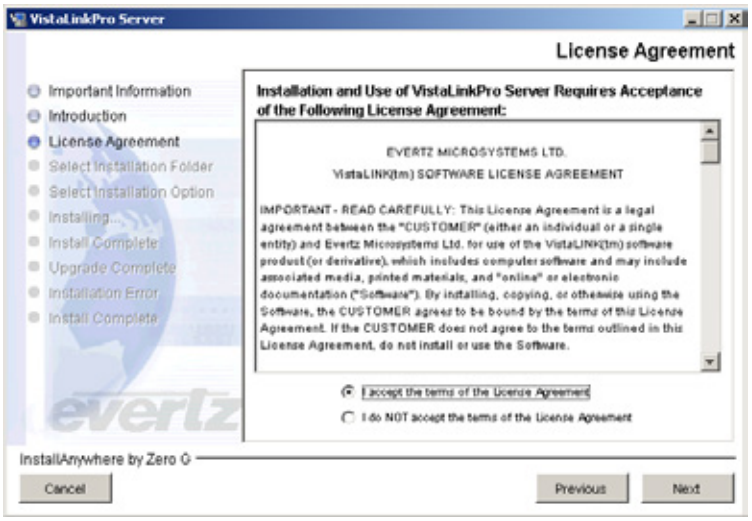



**Figure 2-4: License Agreement**

### 2.1.6. Select the Installation Folder

From the installation folder menu, a custom installation path can be made with either the text box or the 'Choose…' button. If the 'Installation Folder' path contains an existing VistaLINK® PRO Server installation, an option will be provided in the next menu to either 'Upgrade Installation' or 'Full Installation'. Select the 'Install' button when ready to start installing the application.

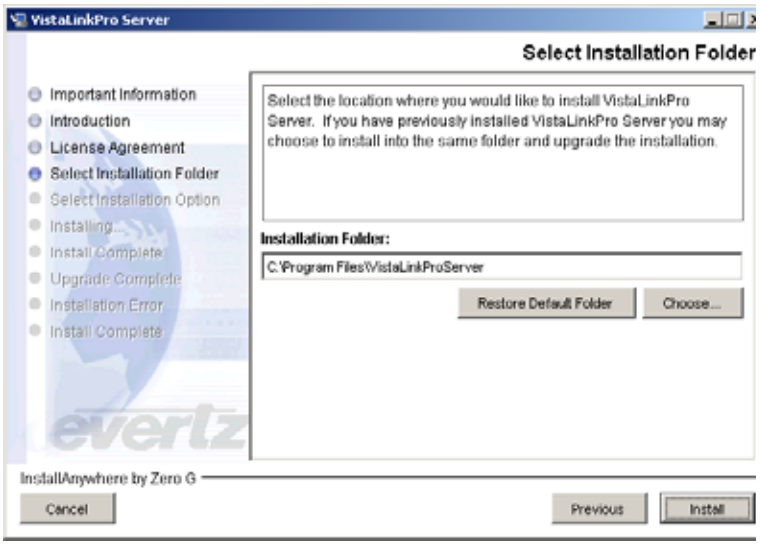



**Figure 2-5: Select Installation Folder**

### 2.1.7. Install Complete

Once the installation is complete, information is provided about the VLPRO default Administrator account. If the installation has encountered errors, information will be provided at this menu. If you require assistance troubleshooting these errors, please record the details of the encountered error so that a VLPRO specialist can more easily assist you. Select the 'Done' button to quit the installer.

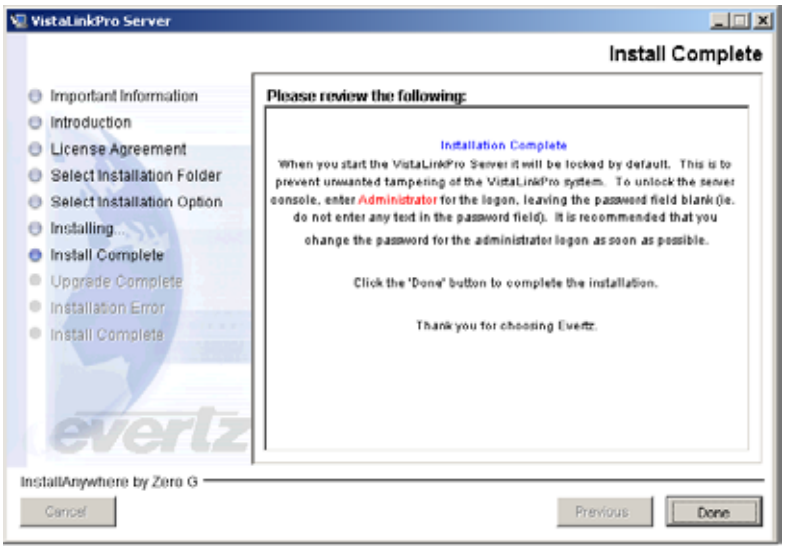



**Figure 2-6: Install Complete Window**

## 2.2. VISTALINK® PRO SERVER

### 2.2.1. Starting the VistaLINK® PRO Server

To start the VistaLINK® PRO Server use the shortcut provided in the start menu programs group.

*Start > Programs > VistaLinkPro Server > VistaLinkProServer*

The following is a list of additional items provided:

- HTML system wide help program
- Installation Guide for the VLPRO server
- MySQL database manual in HTML
- The VistaLinkProServer Property Editor
- Shortcut to launch the server
- Shortcut to launch the installer for client installations

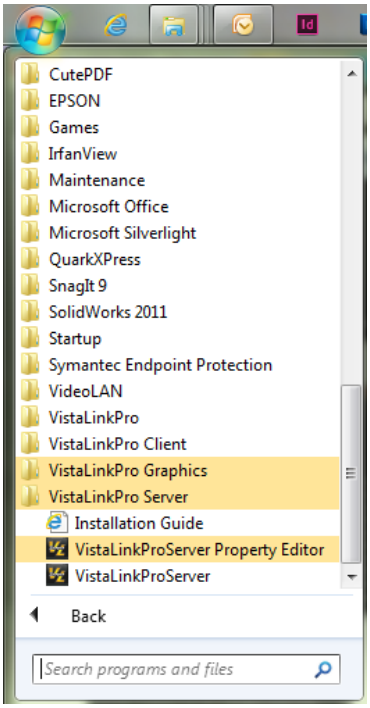



**Figure 2-7: Accessing VistaLINK® PRO Server**

### 2.2.2. VistaLINK® PRO Server Login Screen

When the Logon screen appears, you must use the default Administrator account. This account does not have a password set by default. It is recommended to change the Administrator account password from <blank>, to a secure password. Use the 'Users' menu from the 'Tools' drop down menu to change the password.

Click the 'Unlock' button once the username field is filled with 'administrator' and the password field is blank.

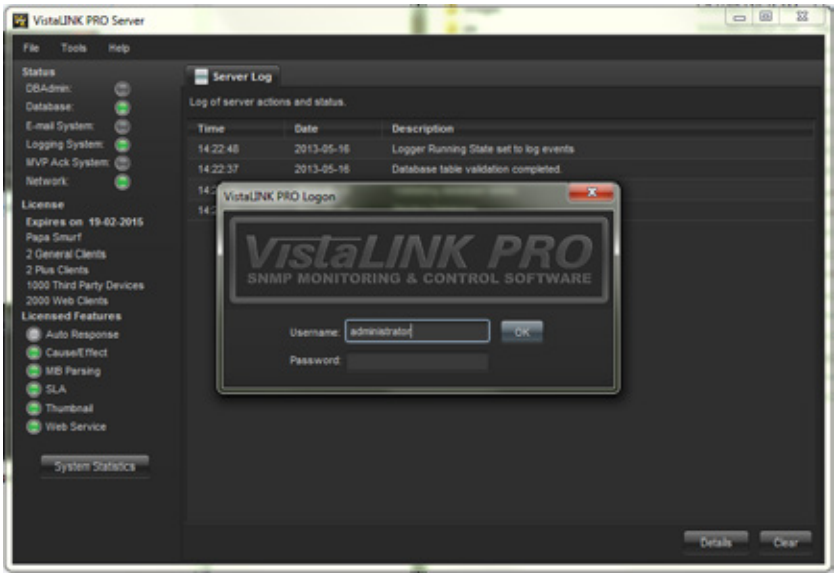



**Figure 2-8: Login Screen**

### 2.2.3. Verifying Server Startup Operations

The server status section allows the administrator to verify which components are loaded and running. The states can be verified by its virtual LED colour. The basic components that must be running are:

- Network
- Database
- Logging System

Ensure that the virtual LED's are Green so that the VistaLINK® PRO Server can operate correctly.

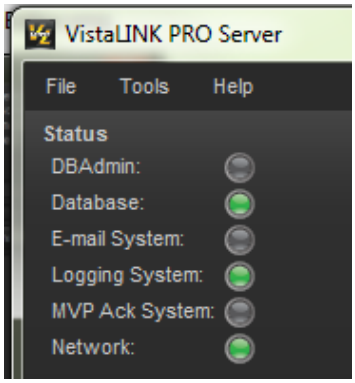



**Figure 2-9: Startup Operations**

## 2.3. CLIENT INSTALLATION INSTRUCTIONS

### 2.3.1. Executing the Client Installer

When installing your first client, it is recommended that it be installed on the same machine as the VistaLINK® PRO Server. To start the client installer, navigate through the start menu to the 'Install VistaLink Pro Clients (on this machine)' shortcut.

*Start > Programs > VistaLinkPro Server > Install VistaLinkPro Clients (on this machine)*

The client installer can also be executed directly from the following directory:

*<VistaLink Server install directory>*
*\VistaLinkProClient\Client.exe*

This file can also be copied to another computer for remote client setups.

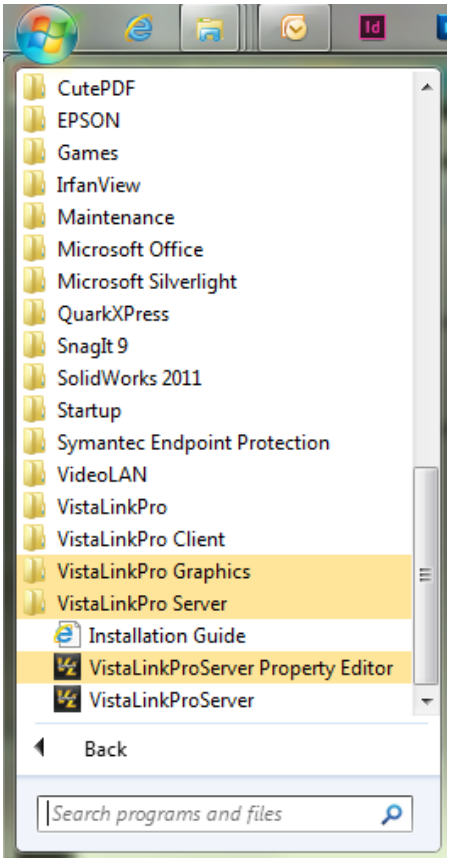



**Figure 2-10: Executing Client Installer**

### 2.3.2. VistaLINK® PRO Client Installer Welcome Screen

After the installer finishes extracting its contents, the install script starts with a note that mentions to shut down any programs that may be running. Select the 'Next' button when ready.


**Figure 2-11: Installer Welcome Screen**

### 2.3.3. Client Selection Menu

This menu allows the user to select a particular VistaLINK® PRO client to install. The remainder of this manual will refer to the "VistaLinkPro Client". Select the "VistaLinkPro Client" graphics button and click the 'Next' Button to advance to the next menu.

***Note: The other client types have the same installation and setup method. Please refer to your VistaLINK® PRO Server license information on client support.


**Figure 2-12: Client Selection**

### 2.3.4. License Agreement Menu

Review the License Agreement to determine if you are able to accept the terms and agreements that are provided. Use the bottom radial buttons to make your selection. Select "Next" to proceed to the next menu if you have accepted the Terms & Conditions.

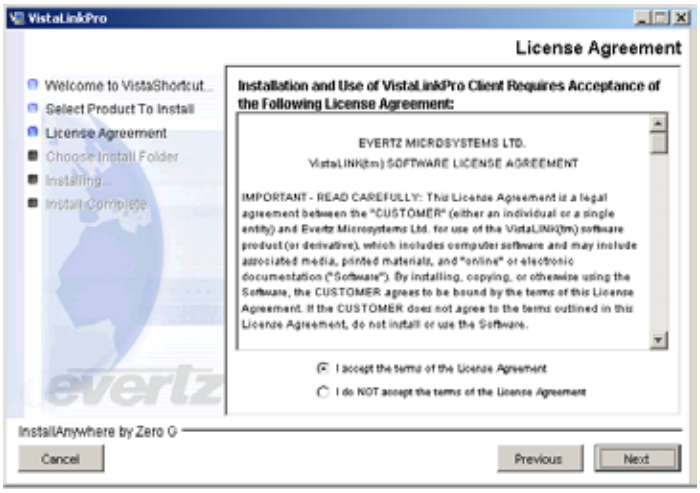



**Figure 2-13: License Agreement**

### 2.3.5. Select the Installation Folder

From the installation folder menu, a custom installation path can be made with either the text field or the 'Choose…' button. A note is provided about existing VistaLINK® PRO client installations. If the 'Installation Folder' path contains an existing VistaLINK® PRO client installation, the install script will write over top of it. Select the 'Install' button when you are ready to start installing the application.

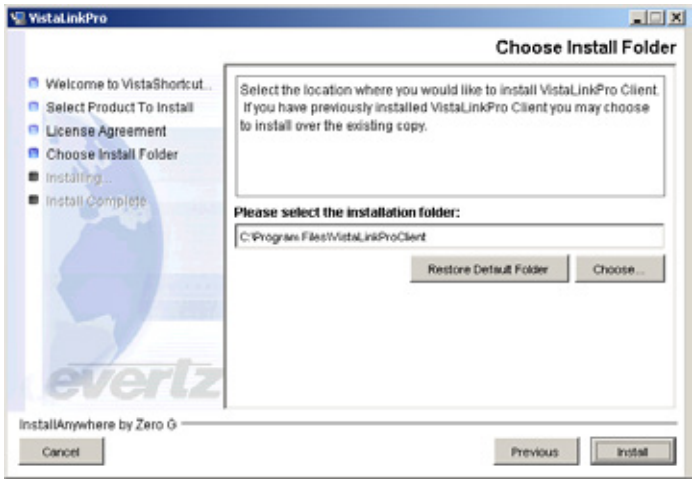



**Figure 2-14: Install Folder**

### 2.3.6. Installation Complete

Once the VistaLINK® PRO client has been successfully installed, select the 'Done' button to quit the installer.

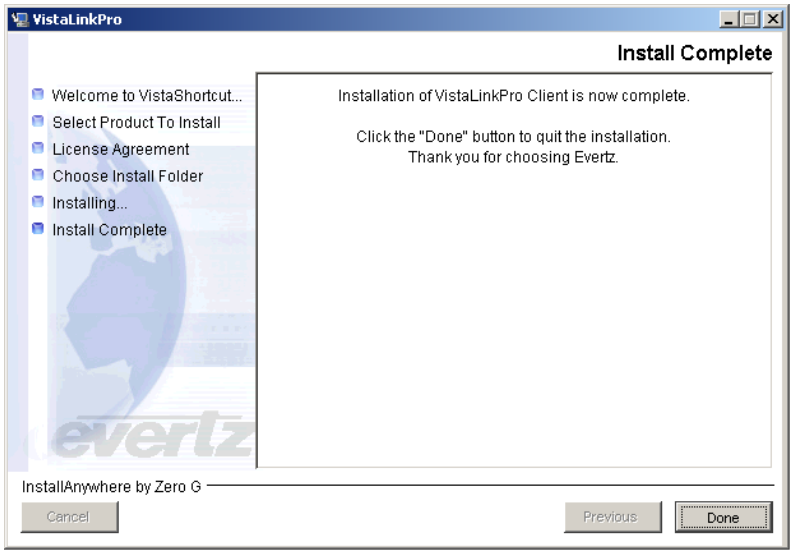



**Figure 2-15: Install Complete Screen**

## 2.4. CLIENT CONFIGURATIONS AND STARTUP

### 2.4.1. Client Server Configuration

To ensure the VistaLINK® PRO client communicates to the server correctly, you will need to ensure the connection settings are set correctly. Start the 'Client Server configuration' tool from the 'VistaLinkPro Client' group in the start menu.

*Start > Programs > VistaLinkPro Client > Client Server Configuration*

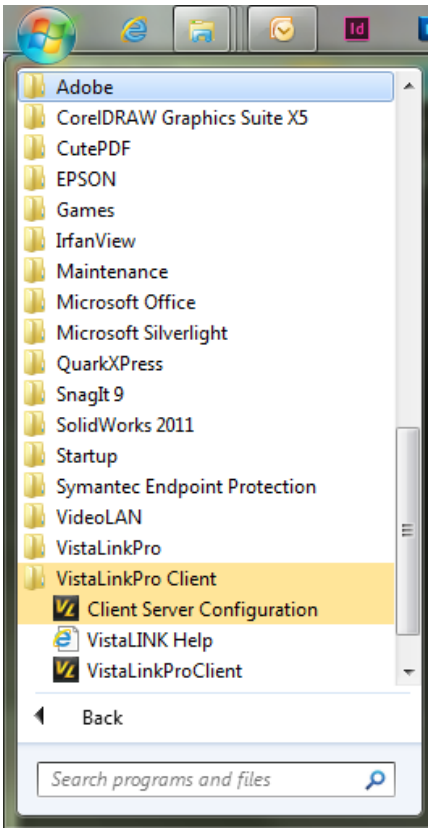



**Figure 2-16: Accessing Client Configuration Editor**

To edit the settings you must click the button with the key lock icon. Once the editor window is unlocked, settings can then be changed. In the 'Manual Configuration' frame, set the '**Alarm Server Address**' and '**Database Address**' to the VistaLINK® PRO Server computer IP address. Select the Lock button again so the editor is in lock mode. Click 'OK' and then click 'OK' to the pop-up message.

**Note: This setting needs to be implemented on all clients that are installed on all machines.

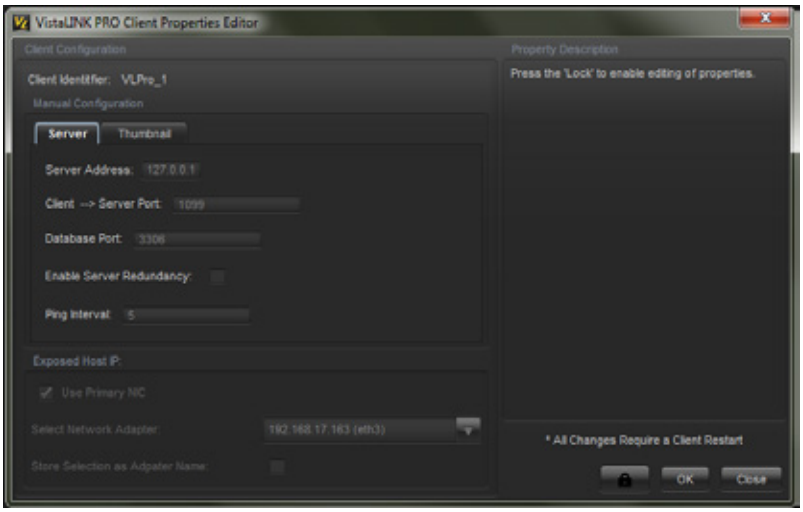



**Figure 2-17: Client Properties Editor**

### 2.4.2. Client Startup and Logon

To Start the VistaLINK® PRO client use the shortcut from the start menu.

*Start > Programs > VistaLinkPro Client > VistaLinkPro Client*

Once the logon prompt appears, use the same credentials as the VistaLINK® PRO Server.

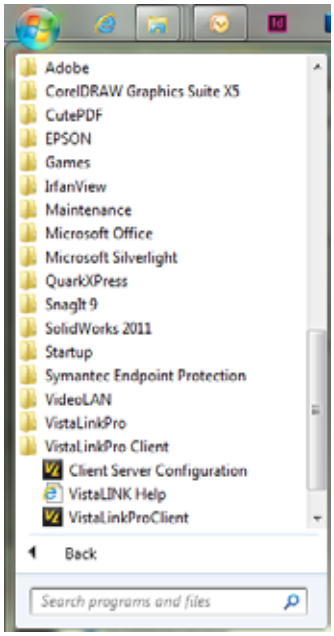



**Figure 2-18: VistaLINK® Logon**


**Figure 2-19: VistaLINK® Logon**

# 3. HARDWARE DISCOVERY IN VISTALINK® PRO

## 3.1. NAVIGATION TREE

The *Navigation Tree* is located on the left side of the VistaLINK® PRO window. The navigation tree displays super-nodes and sub-nodes that organize the VistaLINK® enabled hardware found by the system and displays all Evertz VistaLINK® - enabled products found on the network (see section 3.3). Nodes with a plus sign beside them can be expanded to expose underlying elements and similarly, nodes with a minus sign can be collapsed to hide unwanted information. Each node in the *Hardware View* has an associated icon that indicates the type and alarm state of the hardware device. For the VistaLINK® PRO Standard and Monitor Client applications there are five super-nodes under which all other nodes will appear.

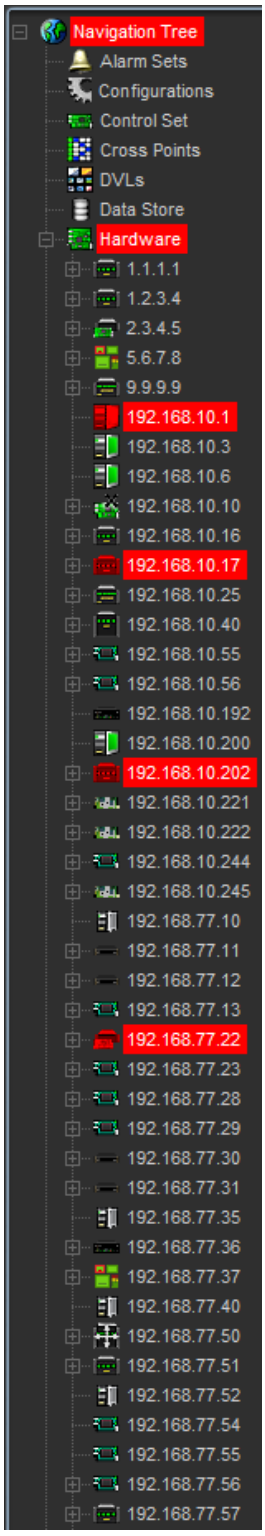



**Figure 3-1: Navigation Tree**

### 3.1.1. Hardware

All hardware devices that are auto discovered or entered manually will appear under this super-node. The *Hardware* super-node can contain any of the following hardware node types:

- Frame nodes, denoted by the icons ( )
- Network Control Panel nodes, denoted by the icon
- Module nodes, denoted by the icons
- VIP modules, denoted by the icon

## 3.2. MANUALLY ADDING HARDWARE

Depending on network conditions or if the *Discovery Subsystem* is disabled, the *Automatic Discovery System* may not find your frame or products. In this case you can choose to manually force discovery on a frame that is known to be connected to the network. Performing an *Add/Update Frame* function on a device, which is already present in the Hardware view will cause the discovery system to rediscover and verify the device and all contained modules.

### 3.2.1. To Force a Frame Discovery

1. Select *Tree -> Add/Update Frame*. The *Add/Update Frame* dialog box will appear.
2. Enter the IP address of the frame that you want to manually add, and then select the "*OK*" button. If the frame is already in the Hardware View you can select the IP address from the drop-down list presented.
3. The *Discovery Subsystem* will now attempt to directly contact the specified frame.
   - If the frame cannot be contacted it will not be added to the Navigation Tree's Hardware super-node.
   - If contact is established then the *Discovery Subsystem* will detect all products in the frame and the frame will be added to the Navigation Tree's Hardware super-node.

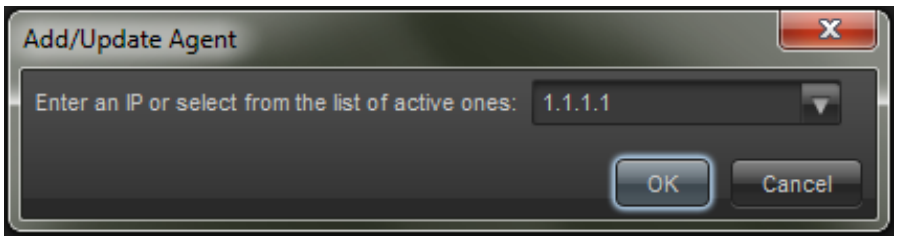



**Figure 3-2: Add/Update Evertz Frame**

## 3.3. AUTO DISCOVERY AND SYSTEM SETTINGS

### 3.3.1. Automatic Discovery

In order for VistaLINK® PRO to monitor and control connected hardware it must first perform a network auto discovery or have frame locations manually entered. The software searches for VistaLINK® (SNMP) enabled frames present on the network by sending a broadcast message out on the network adapter and waiting for a response. If multiple network cards are installed on the local machine then a broadcast message will be sent for each adapter. When a valid frame response is received the frame will be added to the *Navigation Tree* and the *Discovery Subsystem* will automatically begin product detection for this frame, as indicated by the icon - .

When all products in the frame have been found, or the frame detection cycle has ended, the frame node icon will change from the detection icon - to an idle frame icon - . Detected products will be added as sub-nodes of the frame node. Any products that have multiple video inputs, as in the 7761AVM-DC will be added with additional sub-nodes, listed per-input.

Once the initial detection phase has completed VistaLINK® PRO will enter into a discovery interval cycle where it will awake at regular intervals, checking for new VistaLINK® enabled frames and verifying that all previous frames and products are still responding across the network. If during this discovery cycle a new device is found, the device will be added to the *Navigation Tree*. If a device can no longer be contacted the icon for the device node will be changed to reflect the condition while leaving the device in the *Navigation Tree* to alert the operator of the error condition.

The *Auto Discovery* subsystem can be configured for various detection cycle times and discovery options.

### 3.3.2. Broadcast Traffic Note

If a device is located on a separate network or isolated by a firewall or router that does not allow the passage of broadcast traffic the VistaLINK® PRO broadcast discovery system will be unable to add the frame to the hardware list. In the event that a frame cannot be reached via the broadcast discovery system it will need to be manually added in to the hardware list (see section 3.2). After the frame has been manually added to the tree, all subsequent polling attempts will utilize a direct SNMP connection to the device that does not rely on the passage of broadcast traffic.

### 3.3.3. Configuring Discovery Settings

To configure the automatic discovery settings select *File -> Discovery Settings* from the main menu. The *Discovery Settings* dialog will open allowing the user to set options for the discovery status panel and queue size, the discovery system itself and the unverified hardware notification system.

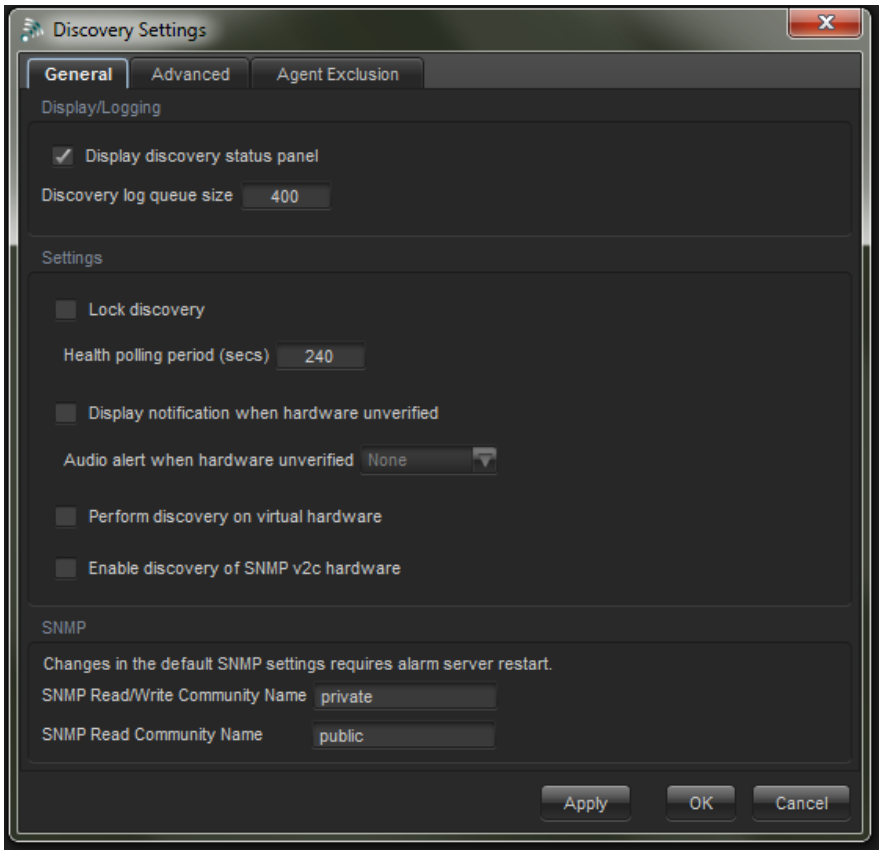



**Figure 3-3: Discovery Settings General Tab**

### 3.3.4. Displaying the Discovery Status Panel

To access the Discovery Status Panel, select *File->General Settings->Display Status Bar.* When the automatic discovery system is enabled, it may be beneficial to the user to view status information on what the discovery system has found and information on how it is interacting with devices. When the discovery status panel is enabled a discovery status bar will appear at the bottom of the client application window to inform the user when the auto discovery systems are active and provide details regarding the devices that have been discovered. When the discovery status panel is visible, clicking the *Discovery Log* button will open a log file containing all recent entries.


**Figure 3-4: Discovery Status Panel**

#### 3.3.4.1. Lock Discovery

By default, VistaLINK® PRO comes pre-configured with the *Discovery System* option enabled. Lock discovery disables the Auto Discovery system. When in lock discovery the program will then unicast query each device in the hardware tree at the default health-polling interval. When lock discovery is enabled, it is not possible to add new devices to the hardware tree.

### 3.3.5. Setting Discovery Cycle Duration

This setting will determine how often VistaLINK® PRO will check the status of equipment already present in the *Navigation Tree,* as well as search for new VistaLINK® enabled equipment connected to the network. VistaLINK® PRO keeps the network connection open during the discovery cycle and closes the connection immediately before the next discovery cycle. If you experience heavy load conditions, or delays in packet responses on your network, you can increase this value to wait longer for equipment to respond to the discovery process. To change the discovery cycle interval:

1. Locate the *New Discovery period (secs)* field directly below the *Discovery Enabled* setting and enter the desired value (in seconds) into the field provided.

#### 3.3.5.1. Subnet Mask Configuration

It is important to verify the subnet mask configuration in the application. Incorrect subnet masks will cause the Auto Discovery process to function incorrectly. This setting can be configured through the 'Advanced' Tab from the 'Discovery Settings' dialog.

#### 3.3.5.2. Ranged Discovery

When it is not possible for Auto Discovery to work because of network topologies, the *Ranged Discovery* feature can be used. The *Ranged Discovery* works when a user manually types in a range of IP addresses that the program can perform a unicast query against. This feature allows for a maximum number of 255 IP address's to be queried. This feature can be accessed through the 'Advanced' tab of the *Discovery Settings* dialog.

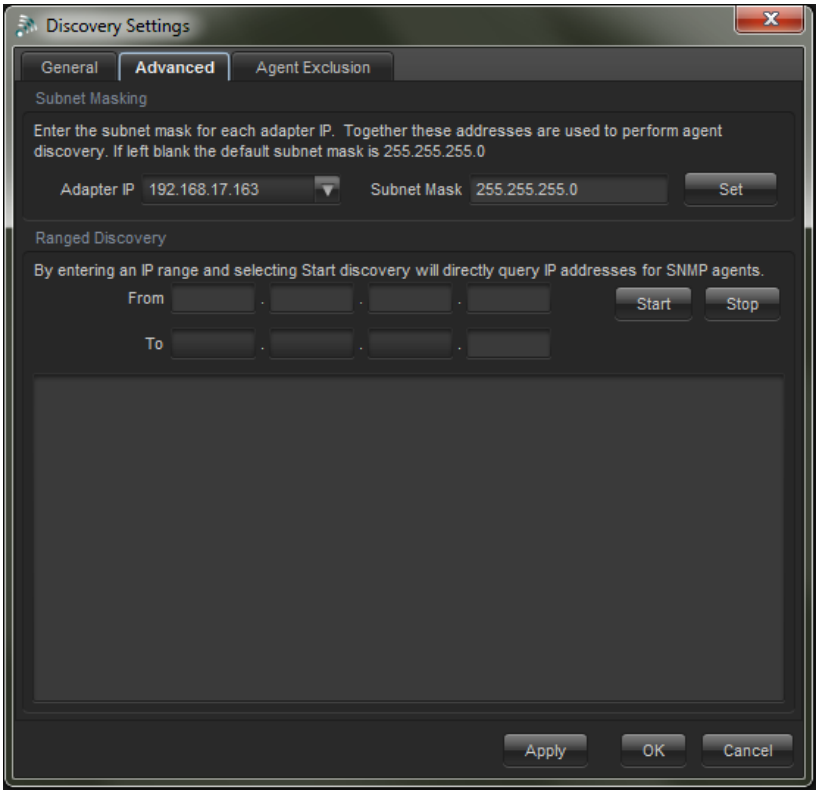



**Figure 3-5: Discovery Setting Advanced Tab**

### 3.3.6. Refresh Network View

The *Navigation Tree* discovered hardware can be refreshed at any time by selecting *Tree -> Refresh* from the main menu. Selecting this option will initiate an Auto Discovery cycle disregarding the *Discovery Interval* setting.

All present frames will be updated with any newly added or removed modules. All newly added or previously undiscovered hardware will be added to the Navigation Tree's Hardware super-node.

The toolbar button labeled "*Refresh Network View*"  can also be used to perform this action.

### 3.3.7. Cleanup Network View

If products have been removed from a frame or a frame has been disconnected from your network the Navigation Tree will show the frame and/or products, however, they will appear disabled. If you are aware that the hardware does not exist on the network or has been permanently removed you can force VistaLINK® PRO to "clean up" the Navigation Tree by removing the disabled hardware. To do this, select *Tree -> Cleanup* from the main menu.

The toolbar button labeled "*Cleanup Network View*"  can also be used to perform this action.

#### 3.3.7.1. Server Hardware Discovery

Server hardware discovery is a system that allows the VistaLINK® PRO Server to keep a detailed record of the available hardware on the network. Normally this process is an automated system. When the VistaLINK® PRO Client discovers a new device, it will push the support to the VistaLINK® PRO Server. This system is used to help the Server calculate alarm severities and to do other functions. To view what hardware the VistaLINK® Server has, it is possible to use the clients to see this information. To do this, select the Discovery Tab in the VistaLINK Pro Server window. The dialog houses the various tabs to do range discovery and hardware client/refreshing. It is also possible to configure the subnet mask so the Server calculates the right broadcast address for auto discovery.

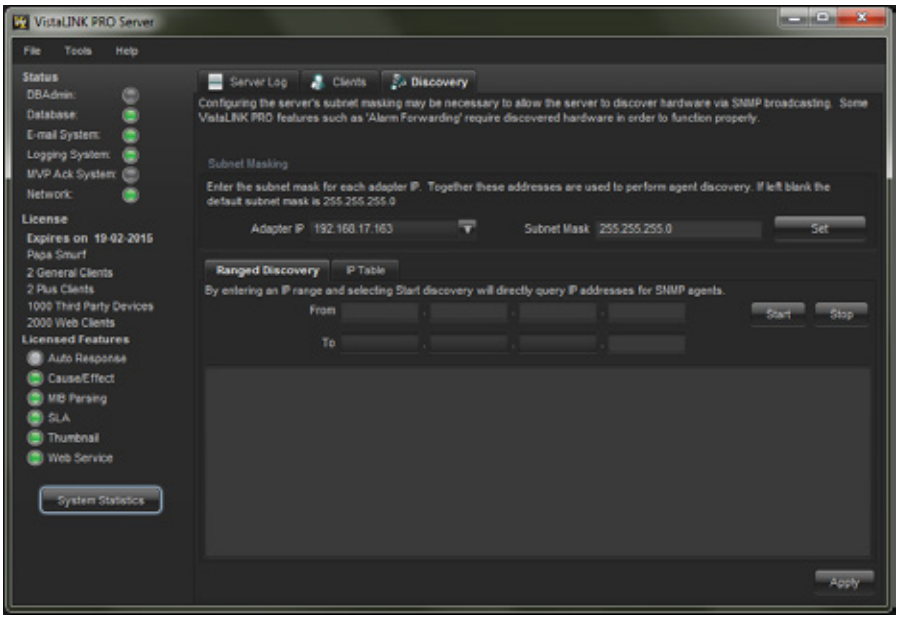



**Figure 3-6: Server Hardware Discovery Editor**

### 3.3.7.2. DiscoverySettings.xml

The discovery settings file is a local database that clients use to remember what hardware was discovered. The file gets re-written/created once the client is shutdown. If the client is forcibly closed through the windows task manager, the file will not be updated/created. The DiscoverySettings.xml can be accessed from the client installation folder in the config directory. It is possible to copy this file to other clients to maintain a uniform hardware tree. Discovery Settings configured at the client are also stored in this local database. The DiscoverySettings.xml can also be found in the VistaLINK® Server config directory. Below is what the file looks like when it stores some information of different settings.

```
<?xml version="1.0" encoding="UTF-8" ?>
- <DiscoverySettings xmlns="http://castor.exolab.org/">
  - <Discovery IsLocked="false" DiscoverVirtual="false" DiscoverV2C="false" QueueSize="400"
      ShowStatus="false" PollingInterval="240">
      <NotifyOnNonVerifiedDiscovered Enabled="false" Severity="Critical Blink" />
    </Discovery>
    <Adapter AdapterIP="1.1.1.6" Netmask="255.255.255.0" />
    <Adapter AdapterIP="1.1.1.5" Netmask="255.255.255.0" />
    <Adapter AdapterIP="192.168.3.14" Netmask="255.255.255.0" />
  - <StaticHardware>
      <SNMP_Agent Identifier="192.168.192.230::mvpd-agent" Type="AGENT-MVP-SERVER"
      Virtual="false" />
      <SNMP_Agent Identifier="192.168.192.32::90002ru" Type="AGENT-NCP-2RU" Virtual="false" />
      <SNMP_Agent Identifier="192.168.1.246::mvpd-agent" Type="AGENT-MVP-SERVER" Virtual="false"
      />
    - <SNMP_Frame Identifier="192.168.192.8::evertz" Type="AGENT-7700-FRAME" Virtual="false">
                                                                    <SNMP_Product
        Identifier="192.168.192.8::1::1.3.6.1.4.1.6827.10.17.3.1.1.1::7700FC::7700FC"
        Type="CARD-7700" Virtual="false" />
                                                                    <SNMP_Product
        Identifier="192.168.192.8::5::1.3.6.1.4.1.6827.10.109.2.1.1.1::7707ADVT::7707ADVT"
        Type="CARD-7700" Virtual="false" />
        <SNMP_Product Identifier="192.168.192.8::8::1.3.6.1.4.1.6827.10.44.2.1.1.1::7720DAC-
        A4::7720DAC-A4" Type="CARD-7700" Virtual="false" />
                                                                    <SNMP_Product
        Identifier="192.168.192.8::9::1.3.6.1.4.1.6827.10.77.2.1.1.1::7703BPXRF::7703BPXRF"
        Type="CARD-7700" Virtual="false" />
                                                                    <SNMP_Product
        Identifier="192.168.192.8::15::1.3.6.1.4.1.6827.10.93.2.1.1.1::7751TG2HD::7751TG2H
        D" Type="CARD-7700" Virtual="false" />
      </SNMP_Frame>
    </StaticHardware>
    <Exclude />
</DiscoverySettings>
```

# 4. DEVICE CONFIGURATIONS

## 4.1. CONFIGURATION

Using VistaLINK® PRO a user can change individual module setups by accessing and changing values in its associated *Configuration View*. *Configuration Views* provide access to all controllable parameters available on a module similar to its card edge controls or OSD menu system. *Configurations* can be saved and loaded into hardware using the VistaLINK® PRO system.

By taking advantage of VistaLINK® PRO's *Advanced System Configurations* feature many powerful and scalable system presets can be defined and used to quickly and accurately change hardware setups.

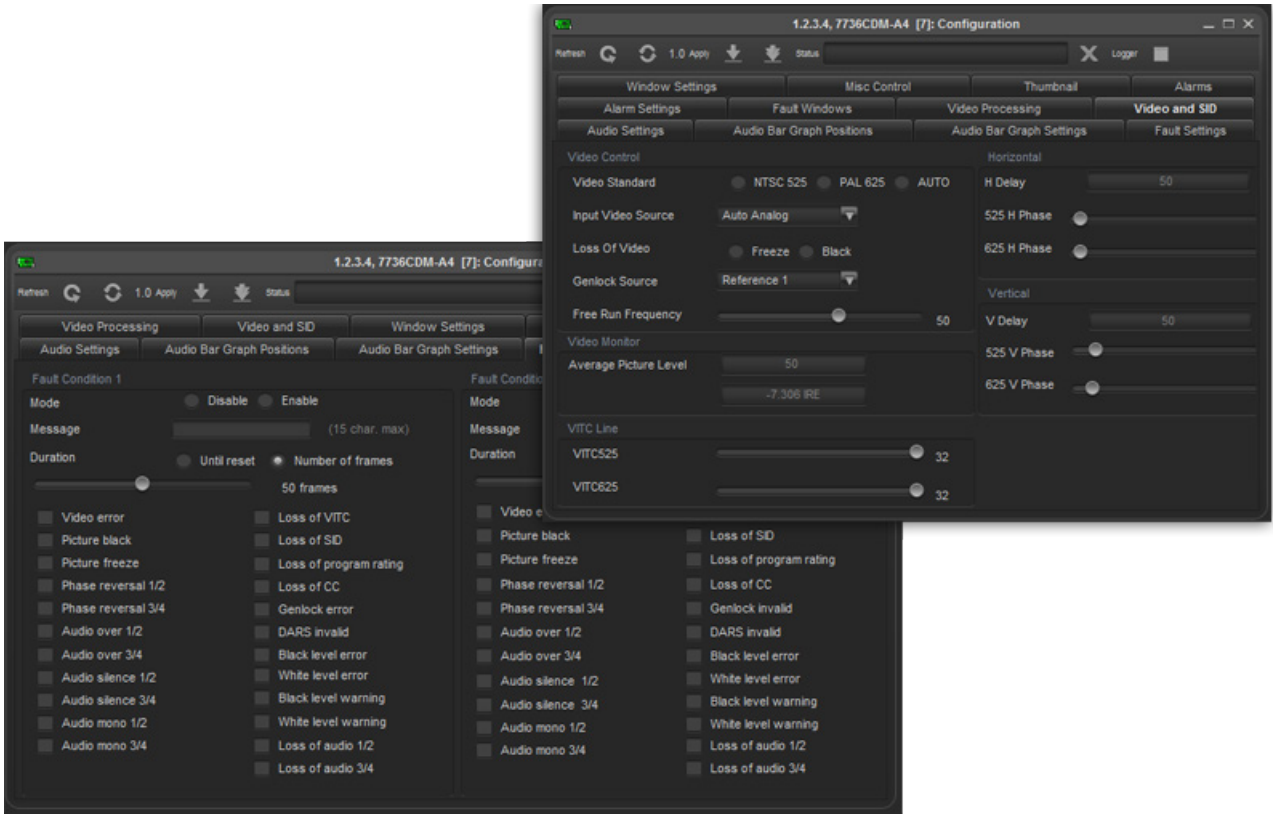



**Figure 4-1: Configuration Panel**

### 4.1.1. About Configuration Windows

Each *Configuration View* window provides a means of remotely viewing and setting the various parameters within a product. The configuration view window is composed of a series of tabs along the top of the window and a content area for each tab that contains the various configuration options. The configuration options, also known as *components*, can be broken down into six basic categories.

Described below are the six basic component categories with function descriptions.

- ***Monitored Text Component*** - The text component is a descriptive label. This type of component cannot be selected and does not represent a modifiable option.

- ***Group Box Component*** - The group box component is used to represent a group of common or related configuration options.

- ***Radio Button Component*** - Radio button components are used to represent a choice in configuration options. A single radio button represents each option. Only one radio button item can be selected within the group of radio buttons present. Since at least one option must be selected within a group of radio buttons, to remove the selection from one radio button you must select a different radio button within that group.

- ***Check Box Component*** - The check box component is used to represent an ON or OFF condition. If the component has a check mark to its left then it is enabled (or ON). If there is no check mark beside the component then the component is de-selected (or OFF). Check boxes can only exist in one of the two described states. Check boxes differ from that of Radio buttons since check boxes can be grouped together with each check box being selected. To change the setting of a check box component click on the component with the left mouse button or press the space bar on the keyboard.

- ***Slider Component*** - The slider component is used to represent a range of possible values. Slider components have a minimum value and a maximum value. The current value of a slider is represented by the position of the thumb box. To change the value of a slider component, click and hold the left mouse button on the thumb box and drag the box either left or right. Once you have selected your desired value, release the left mouse button. You can also change the value by pressing the left or right arrow keys on the keyboard.

- ***Dropdown Component*** - The dropdown component is very similar to a group of radio button components. The dropdown component presents a list of options when expanded. Only one of the options in the list can be selected at one time. To expand the list of options, click on the down arrow. To select one of the items in the list, click on the item with the left mouse button. An alternative is to scroll to the item with the arrow keys and press the Enter key on the keyboard.

Below is a screenshot containing the various component types:

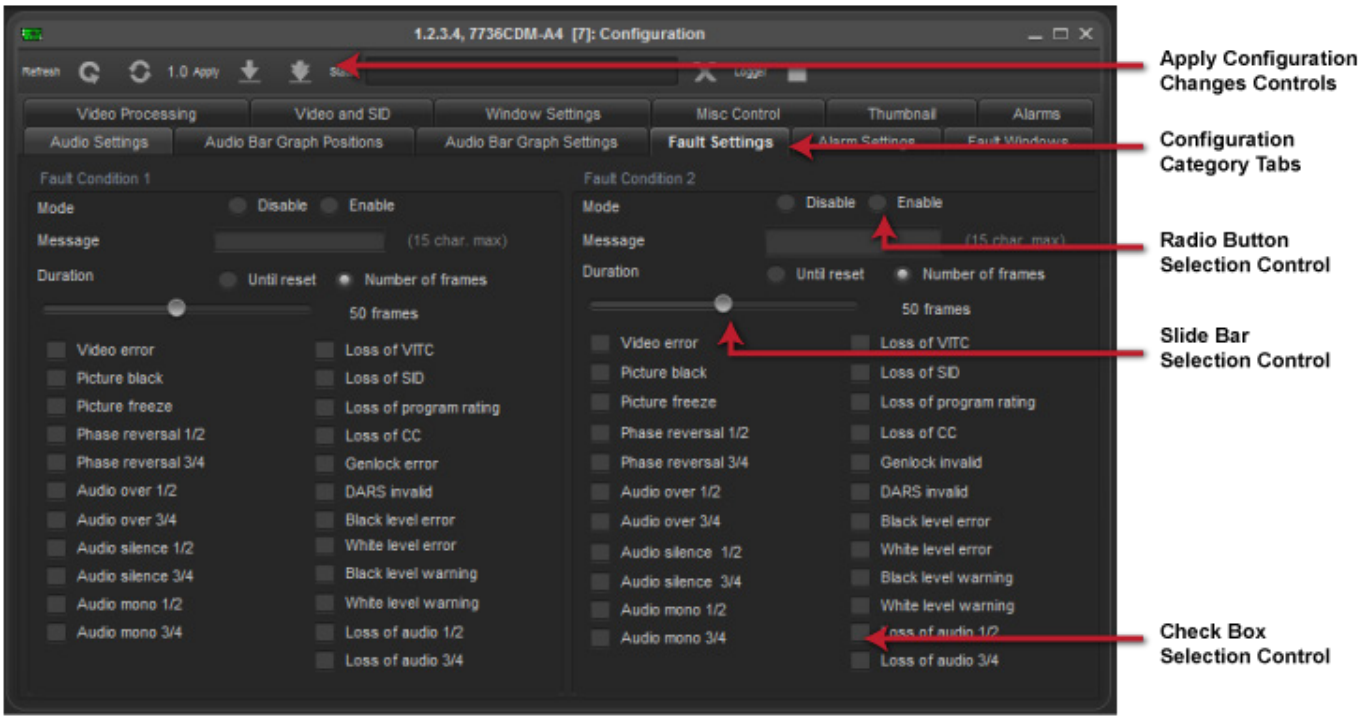



**Figure 4-2: Configuration Window**

### 4.1.2. Working With Configuration Windows

#### 4.1.2.1. Viewing Configurations

In order to change a module's parameters the *Configuration View* for that product must be opened. To open a product's *Configuration View*, right click the product desired and select -> *View Configuration* or click the *Open Configuration View* toolbar icon.

Below is a description of the various types of nodes that a Configuration View can be opened for.

- **Product Node**
  Opening this node will display the complete configuration view for the product selected.

- **Product Video Input Node**
  Opening this node displays the configuration view for the selected video input.

- **9000NCP Network Control Panel Node**
  Opening this node allows setup and configuration of a 9000NCP(2)
  (See the 9000NCP(2) manual for information on how to use the Network Control Panel with VistaLINK® PRO)

#### 4.1.2.2. Refreshing the View

At any time you may refresh the configuration view that you have open. Performing this option will synchronize your view with the information contained in the product. Any configuration changes that have not been applied to the product will be overwritten after executing a refresh.

To refresh the view, select *Configuration -> Refresh* or click the Refresh button found on the top of each configuration view window.

#### 4.1.2.3. Automatic Refresh

VistaLINK® PRO can automatically refresh an open configuration view. This is useful if you want to monitor a parameter that changes frequently. To enable Automatic refresh, select *Configuration -> Default Auto Refresh* from the main menu. A check mark should appear to the left of the menu item. To disable, select *Auto Refresh* again. The check mark should disappear.

An alternate method would be to select the *Auto refresh* button on the toolbar
The refresh interval will depend on your network conditions. The refresh operation is a continuous cycle meaning that the refresh will start with the first parameter, continue until the last parameter has been refreshed and start from the beginning again.

**Note: Automatic Refresh and Dynamic Apply cannot be enabled at the same time.**

### 4.1.3. Applying Changes Made to Configuration

When changes are made to a product's configuration settings, these changes must to be applied. There are two methods of applying changes: *Deferred and Dynamically*.

#### 4.1.3.1. Deferred

Deferred apply refers to the process of making one or more changes and then manually requesting for those changes to be sent to the product. Deferred apply also has the advantage of being able to select how the changes are to be applied. Applying changes using this method can be performed using the toolbar buttons found at the top of each *Configuration View* window. The following outlines the deferred options:

- ***Apply Configuration Changes*** – applies only the configuration settings that have been changed in the configuration view since the last apply operation. To apply just the *changed* settings, select click the *Apply Configuration Changes* toolbar button located at the top of each *Configuration View* window.

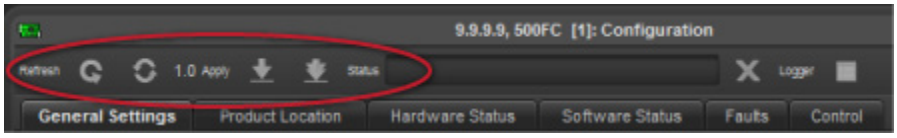



**Figure 4-3: Methods of Applying Changes**

**Note: Deferred apply is a verified process. This means that once the configuration has been applied the same configuration will be read back from the product to verify that all settings have indeed been set to the proper value.**

#### 4.1.3.2. Default Dynamic Apply

Dynamic apply refers to the process of updating the product in real time as the configuration settings are being made. Unlink *Deferred apply,* Dynamic apply cannot be applied to all product types. To enable dynamic apply, select *Configuration -> Default Dynamic Apply*. A check mark should appear to the left of the menu option. To disable, select the *Dynamic Apply* option again. The check mark should disappear if disabled.

An alternate method would be to select the Dynamic Apply  button on the toolbar.

**Note: When Dynamic apply is enabled, the Apply and Apply to Same Product type buttons will be disabled. Dynamic Apply cannot be enabled if Auto Refresh is active.**

## 4.2. BATCH CONFIGURATIONS

### 4.2.1. Saving and Loading Configurations

VistaLINK® PRO provides the ability to save the configuration for a product to an external file or system file so that the *saved* configuration can be loaded at a later date using the Load feature. This is useful if you want to create a backup of your product's configuration settings or if you want to use the saved configuration file as a template and *rubber stamp* the configuration settings to all *like* product types by loading the configuration file into those products. It also provides a method to create custom scalable presets for any single or group of hardware with resolution down to the individual parameter level. Configurations can be stored in several different formats depending on its intended use.

### 4.2.2. Saving Configurations

When saving a *Configuration file* for a product(s) there are several different methods to choose from depending on the intended use for the *Configuration file*. To save a configuration file select the products in the *Navigation Tree* (hold the Ctrl key to select multiple products) right click the selected product(s) and choose *Save -> <save options below>*. *System* configuration files can also be saved/created by right clicking the *Configurations* super-node and selecting *New -> Configuration*.

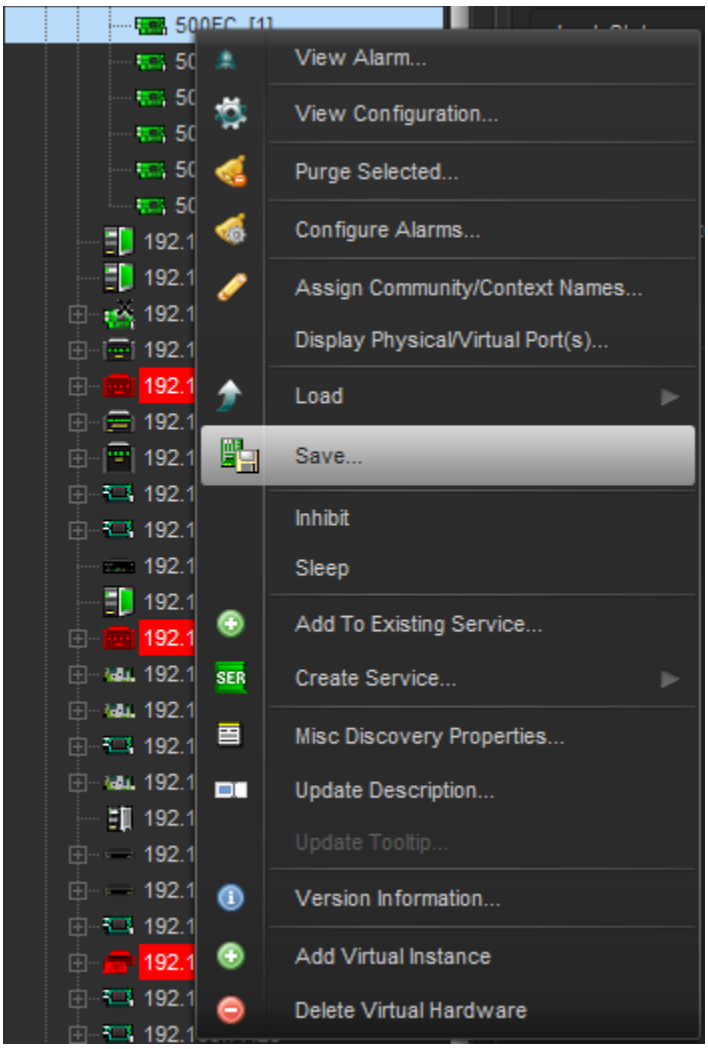



**Figure 4-4: Saving Configurations**

#### 4.2.2.1. Standard Local Configurations

If *Local* is selected as the format for the configuration save, all parameters for the product(s) selected will be stored to an external .xml file. This file can be copied to a disk for transfer to a different location. The user will be prompted to enter a name and location to store the configuration file to.

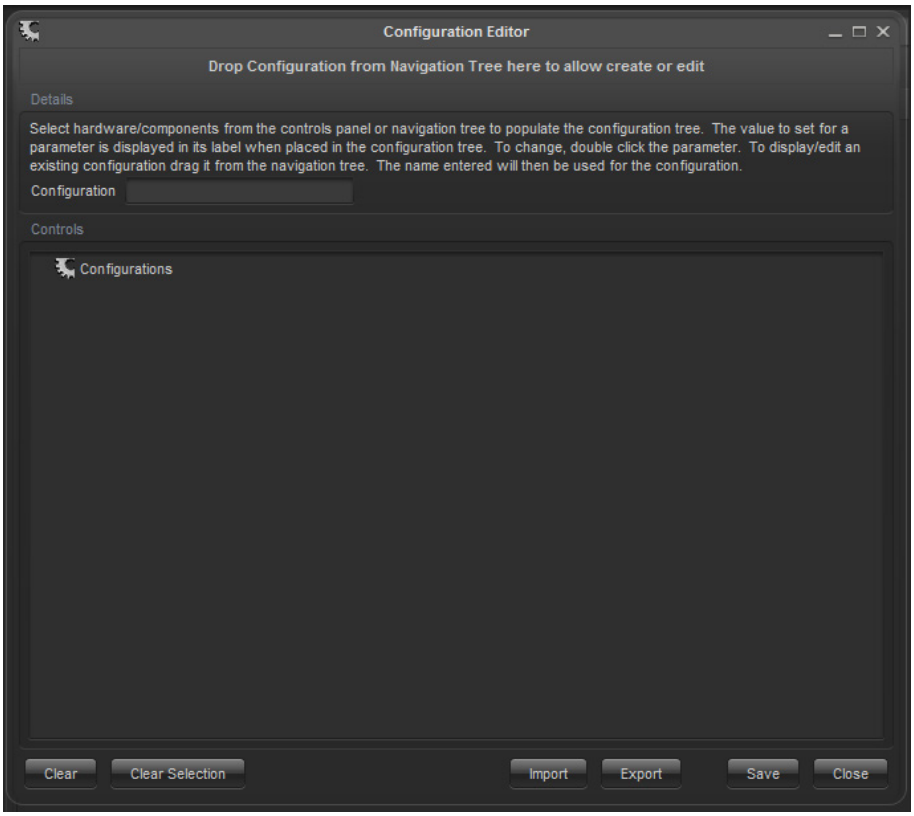



**Figure 4-5: Config Editor**

### 4.2.2.2. Save Configurations

*Save* configurations are stored in the VistaLINK® PRO Server database and will appear under the *Configurations* super-node in the *Navigation Tree*. *System* configurations are advantageous in that they can be run directly from the *Navigation Tree*, they are immediately available to all remote connected clients and they can be used with other systems such as the 9000NCP Control Panels or placed on a *View* in the VistaLINK® PRO Graphics Client.

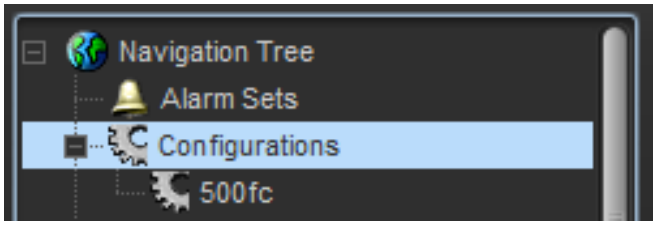



**Figure 4-6: Save Configuration**

the user is presented with a dialog during the save operation to choose what individual parameters from each product(s) will be saved as part of the configuration file. Save configurations are advantageous as they allow the user to load settings onto a module(s) for a specific parameter without affecting other non-related parameters on the same module(s). The *Configuration Editor* will appear allowing you to create the configuration file.

1. Notice the card automatically appears in the 'Controls' section at the bottom. It is possible to remove hardware and add hardware to the 'Controls' section using the drag and drop method.
2. Navigate through the *Controls section* tree to find a parameter and drag and drop it into the *Configuration Tree*. It is possible to add more than one control from different types of devices to the *Configuration Tree.*

3. Once the parameter has been added to the *Configuration Tree* it can be modified by double clicking the parameter to change it.

4. Provide a name and location to save the configuration file to and click save.

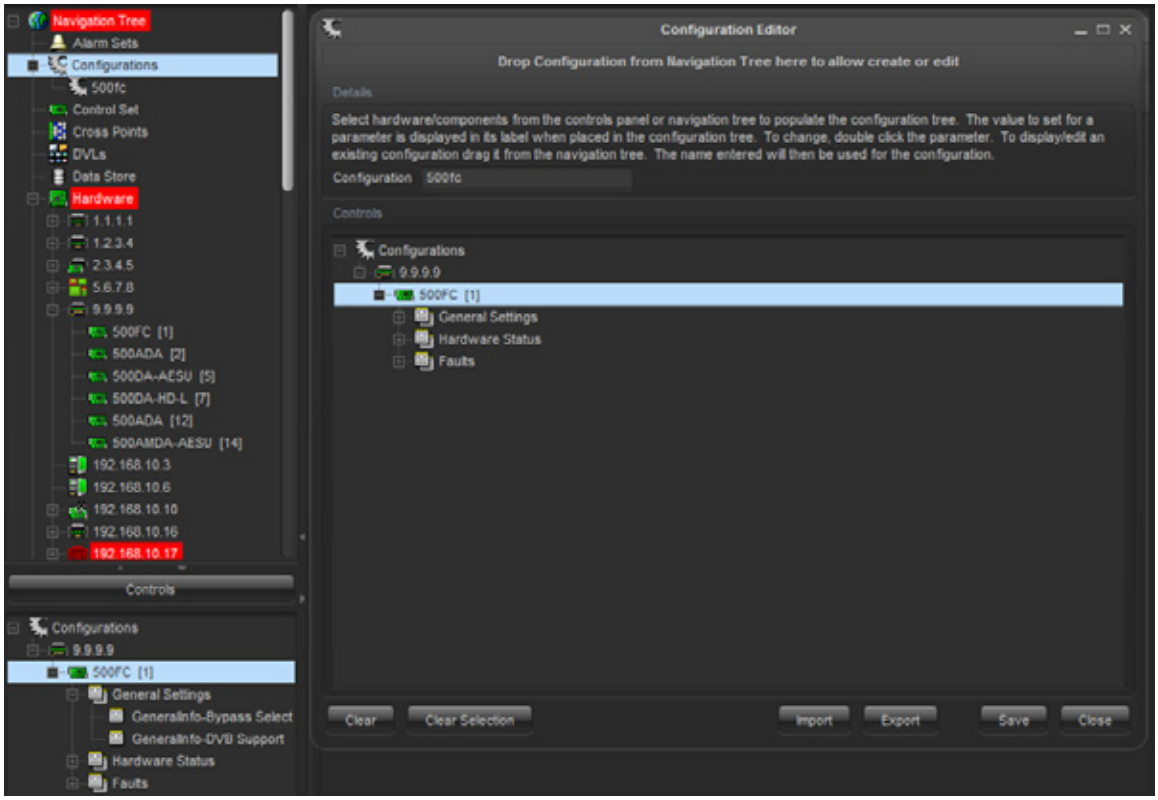



**Figure 4-7: Configuration Editor**

### 4.2.2.3. Export Configurations

If the user wishes to save to an external file select Export in the Configuration Editor. File will be stored to an external file.

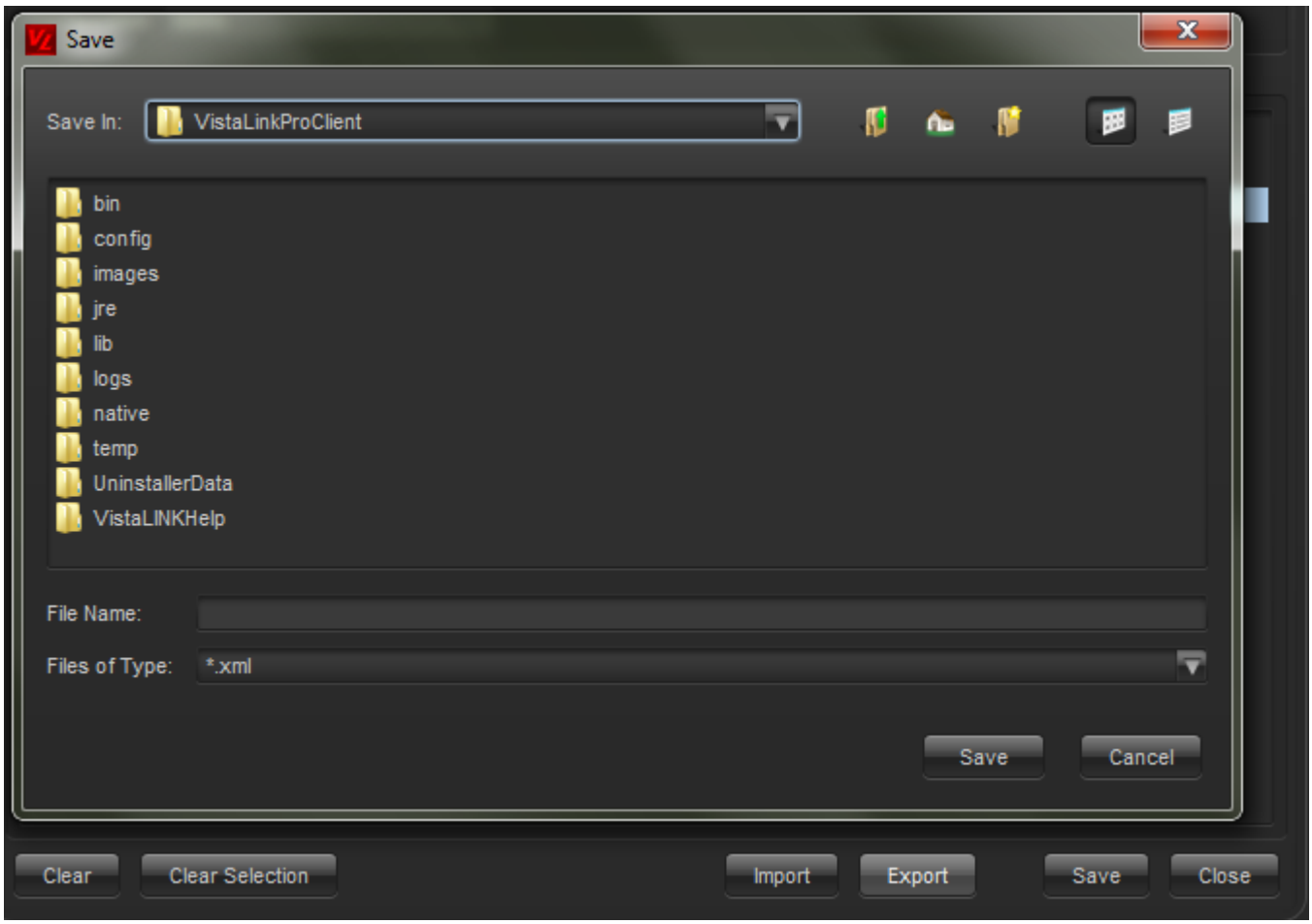



**Figure 4-8: Configuration Editor**

### 4.2.3. Loading Configurations

#### 4.2.3.1. Loading Local Configuration Files

VistaLINK® PRO provides the ability to configure a product by loading settings from an external file created by the Save feature. A configuration file may contain the configuration settings for one product, multiple products, one parameter or multiple parameters. Saved Local configurations can only be applied to the same product or multiple products that they were saved from.

**For example:**
A save operation was executed on a frame with an AVM in Slot 4 and an AVM-DC in Slot 8. This configuration file can only be loaded into a frame that contains an AVM in slot 4 and an AVM-DC in slot 8.

If the saved Local configuration is limited to a specific module or sub parameter, that saved configuration can be loaded into a similar product anywhere in the system.

#### 4.2.3.2. To Load a Configuration File

1. Select the desired node(s) in the *Navigation Tree*.

2. Right click the selected nodes and choose *Load -> Local.* The *Config Local Load* dialog box will appear. Select the saved configuration file and then select *Open*.

#### 4.2.3.3. Loading System Configuration Files

System configuration files can be loaded into modules in a similar manner to local files, however, System configurations can also be launched directly from the Navigation Tree. When initiated in this manner the System configuration will apply its settings strictly to the exact hardware that the configuration was built from.

System configurations can also be added to VistaLINK® PRO Graphics Views as well as attached to a 9000NCP(2) preset button.

# 5. ALARM MONITORING

## 5.1. ABOUT ALARM INDICATION

The Hardware and Service super-nodes in the *Navigation Tree* provide a means of immediately alerting the operator when an alarm condition exists on a hardware device or in a service. Alarm events that have been setup to generate alerts will colour key the nodes presently in the alarm and will use the "Rules of Broadcast" to determine which alarm alerts the operator first.

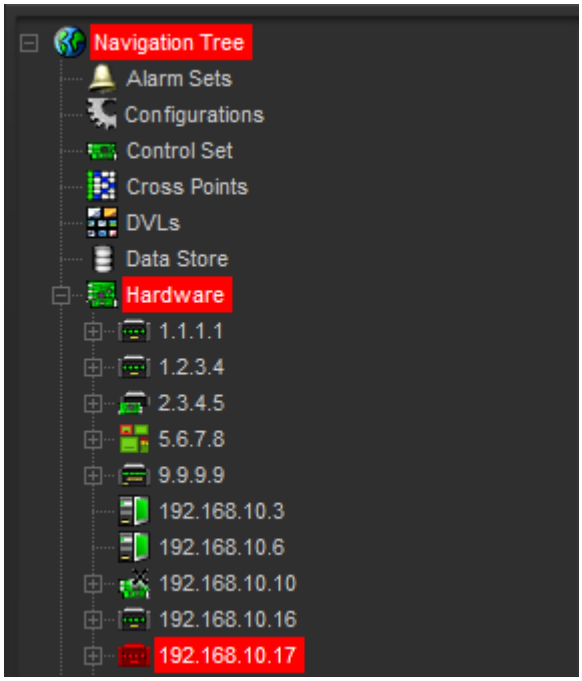



**Figure 5-1: Alarm Indication**

### 5.1.1. Rules of Broadcast

Broadcast of alarms depends on the severity assignment of the alarm. If more than one alarm condition is present for the same device the alarm with the higher severity assignment will take priority over the lower severity assignment. When broadcasting alerts back to the root (*Hardware* or *Services*) node, the highest product node severity will take priority. When the higher severity alert has been acknowledged, the next highest severity alert will be shown if one is present.

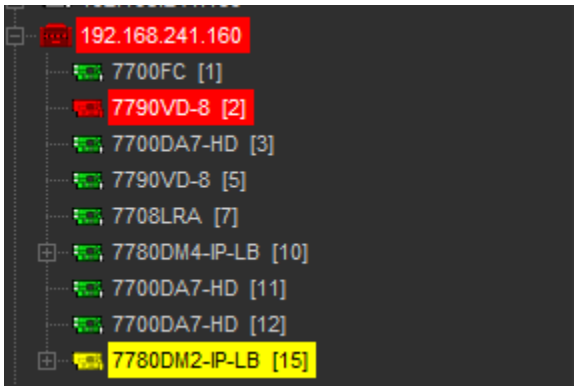



**Figure 5-2: Example of an Alarm Condition**

Figure 5-2 displays that the products in slot 2 and 15 have alarm conditions. The product in slot 2 has a critical alarm and the product in slot 15 has a minor alarm. Even though both products have alarms, the highest severity alarm has been broadcasted to the frame node, and subsequently, the Hardware super-node. The Rules of broadcast allow the operator to address the most critical alarms first.

## 5.2. ALARM VIEW WINDOWS

The Alarm view window provides a means of viewing, acknowledging and correcting alarms that have been logged to the alarm database. Alarms can be arranged by column and filtered by acknowledged, corrected, severity settings, etc.

Depending on the node selected in the *Hardware* or *Service* section of the *Navigation Tree*, the Alarm view window will tailor the display to show only the information that is pertinent for that device or service.

### 5.2.1. Alarm View Layout

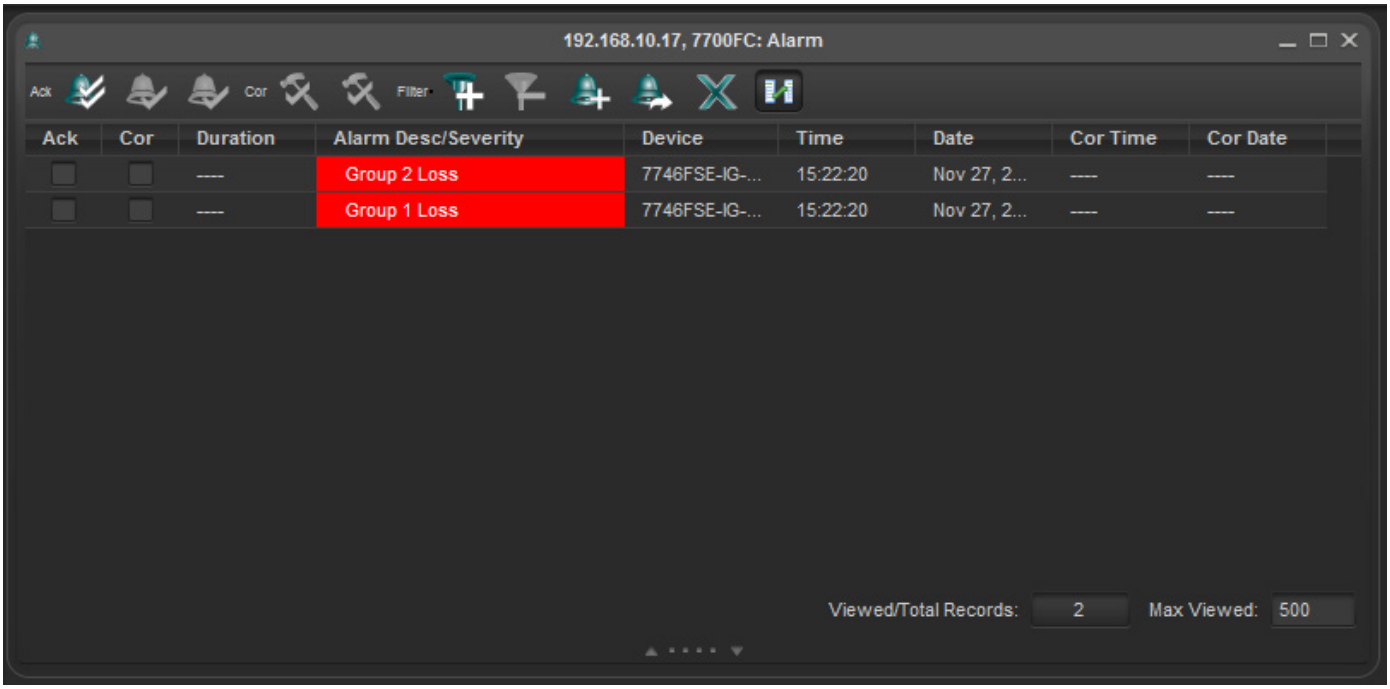



**Figure 5-3: Alarm Layout View**

The *Alarm View* window is comprised of 3 primary areas:

- The status area at the top of the window displays the *Navigation Tree* node selected for display, toolbar icons and the current filter settings.
- The alarm content area in the middle of the window displays the individual alarm events for that node that are in the active alarm database.
- The "Notes" and "Details" panel at the bottom of the window shows extended information about a selected alarm. See section 5.2.4 for more information.

### 5.2.2. Viewing Alarms

Individual alarms are viewed using the *Alarm View Window.* An *Alarm View Window* can be opened for any node on the tree in the *Hardware* or *Service* super-node sections. The node that is selected by the user will determine what alarm information will be displayed once the *Alarm View Window* is opened. Sections 5.2.2.1 to 5.2.2.4 provide descriptions of the various types of nodes that can be opened:

**Note: There is no limit to the number of *Alarm View Windows* that can be opened simultaneously. Each time the user makes a new selection in the *Navigation Tree* and launches the Alarm View a new *Alarm View Window* will open displaying alarm information for the selected node. The "*Window*" menu found on the menu bar provides options for configuring multiple open windows such as the ability to cascade or tile the windows. This menu also provides the ability to minimize, restore and close multiple windows simultaneously.**

#### 5.2.2.1. Hardware Super-Node

Opening an alarm view from the Hardware super-node  will display all alarm events in the alarm database (alarm information for all hardware currently in the *Navigation Tree)* including current alarm events as well as alarm events that have occurred under the following conditions:

- Hardware that has generated alarms but are longer connected to the network.
- Hardware that has generated alarms but have had their IP addresses changed.
- This also includes notes from any of the below mentioned node types.

#### 5.2.2.2. Frame Node

Opening this node  will only display alarm events that have occurred for all products in the selected frame.

- Includes alarm events for products that were previously in one slot but have since been moved to a different slot. This also includes products that were in the frame at one time but are no longer present in the frame.

#### 5.2.2.3. Product Node

Opening an alarm view from this node  will only display alarm events that have occurred for the selected product.

#### 5.2.2.4. Product Video Input Node

Opening an alarm view from this node will only display alarm events that have occurred for the selected video input.

### 5.2.3. Opening an Alarm View Window

To open an alarm view window use one of the following methods after selecting a node in the *Navigation Tree* (node selected will determine alarms displayed as stated above)

1. Select *Alarm -> View Alarm* from the main menu.
2. Click the *Open Alarm View* toolbar button -  .
3. Right click the selected node and choose *View Alarm* from the pop-up menu.

### 5.2.4. Acknowledging and Correcting Alarms

Each alarm in the alarm view has two distinct operator states. The first state, *acknowledged*, indicates that the operator has *seen* the alarm condition and has dispatched a request to correct the problem. The second state, *corrected*, indicates that the alarm condition has been corrected either by intervention of an engineer or the source of the problem has restored itself. By utilizing these two alarm states it is possible to give an accurate representation of the whole network system by keying alarm states in the Hardware or Service views with various colours, and steady or flashing states.

The following table shows the acknowledged and corrected state and the visual indication that will occur.

| Acknowledged | Corrected | Visual Alarm Indication |
|---|---|---|
| No | No | **Flashing**, in assigned severity colour |
| **Yes** | No | **Steady**, in assigned severity colour |
| No | **Yes** | **Flashing green** - this state indicates that an alarm occurred and corrected itself before an operator acknowledged the error condition. This is the lowest priority alarm state. See section 5.2.4.1. |
| **Yes** | **Yes** | No alarm indication |

**Table 5-1: Visual Alarm Indication**

#### 5.2.4.1. Corrected but Not Acknowledged

This is the lowest priority alarm condition. This means that if there is more than one alarm event for the same product then Flashing and Steady alarm conditions will be displayed before Flashing green alarm conditions. In other words, alarms that are not corrected, or alarms that have been acknowledged and not corrected will generate operator alerts first.

#### 5.2.4.2. Self Correcting Alarms

VistaLINK® PRO will report all alarm information from enabled devices including alarm conditions that have corrected themselves without user intervention (E.g. Momentary loss of video). If the alarm generated to the system has corrected itself, VistaLINK® PRO will place a check in the corrected column

check box for the particular alarm event and make that column check box unavailable. The system makes this column unavailable in order to indicate to the user that the alarm situation has returned to normal on its own as opposed to an alarm entry that has been corrected by a user manually checking the corrected column check box.

### 5.2.5. Acknowledging All Alarms

The Alarm view window provides a single click action to acknowledge all alarms presently in the view. Alarms that are already acknowledged when this action is performed will not be processed therefore the date and time stamps on those alarms will not be updated.

To acknowledge all alarms in the view, click on the  button located in the bottom-right corner of the alarm view window

### 5.2.6. Adding a Custom Alarm Entry

Each alarm view window allows for the entry of additional custom note alarm entries. These custom entries will appear in the *Alarm View Window*, however, will not be associated with a particular system event. To enter a custom note click the  *Add Custom Note* button located in the toolbar of the currently displayed alarm view window.

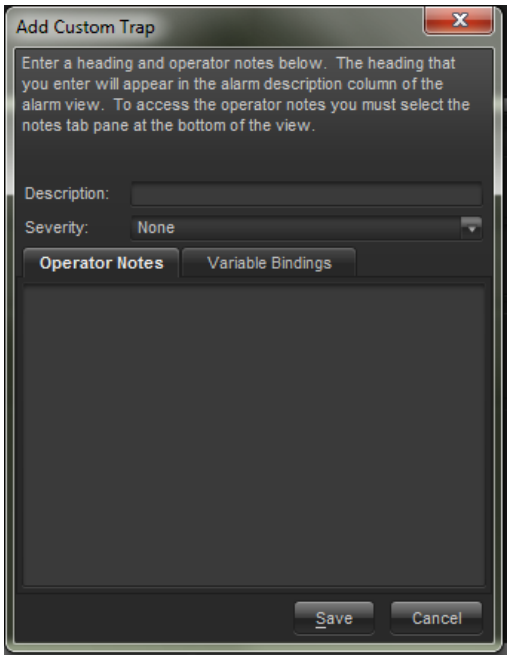



**Figure 5-4: Add Custom Note Window**

The *Add Custom Note* dialog box will open allowing the operator to enter a description for the custom note (displayed in the description column of the alarm view window), a severity setting and any extended operator notes that should be included with this entry. Click Save to add the Custom note to the alarm view window.

### 5.2.7. Filtering Alarms From the Alarm View

Normally when an alarm view is opened all alarm events for the selected node are shown. This may not be the desired functionality. VistaLINK® PRO provides an option to display only alarms that match

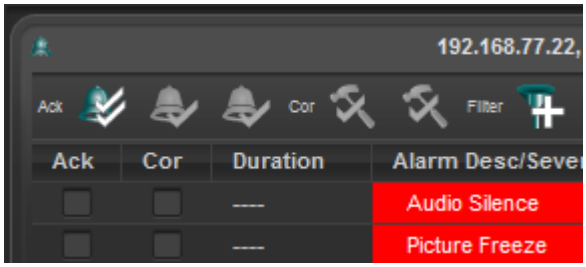
specified filter criteria. For example, the system can be set to filter out any alarm events that have been previously acknowledged or corrected thus only displaying the alarm events that have not been addressed.

In the event that new alarms are generated while a filter is enabled, the new events will be displayed in the alarm view only if the event passes the filter criteria.

### 5.2.8. Default and Custom Filters

A filter can be applied to an alarm view window in two different ways:

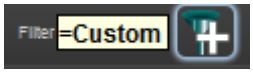
1. A ***Default Filter*** is established that will be applied to all alarm view windows each time they are opened.




When A *Default Filter* has been activated the *Default Filter* indicator will appear in the top left corner of alarm view windows each time they are opened.

To setup a *Default Filter* select *Alarm -> Setup Default Filters...* from the main menu. This will open the *Filter Options* dialog box allowing creation of the default filter (see section 5.2.9 for additional details). Select Data Field, Test Condition and Criteria, then "Save" filter. Upon reopening the alarm view, the default filter is applied.

2. A ***Custom Filter*** is applied to an open alarm view window that will apply to the alarms currently being displayed. However, when an alarm view window with a *Custom Filter* is closed and then reopened the filter will be removed and the display will return to the default view.




When a *Custom Filter* has been activated the *Custom Filter* indicator will appear in the top left corner of the alarm view it has been applied to.

To setup a *Custom Filter* click the  *Filter Alarms* toolbar button found at the top of the alarm view window. This will open the *Filter Options* dialog box allowing the creation of the custom filter (see section 5.2.9 for additional details).

### 5.2.9. Constructing Filters

*Default* and *Custom* filters are both created using the *Filter Options* dialog. This dialog allows the user the ability to establish a filter set that will limit which alarms are displayed in an alarm view window.

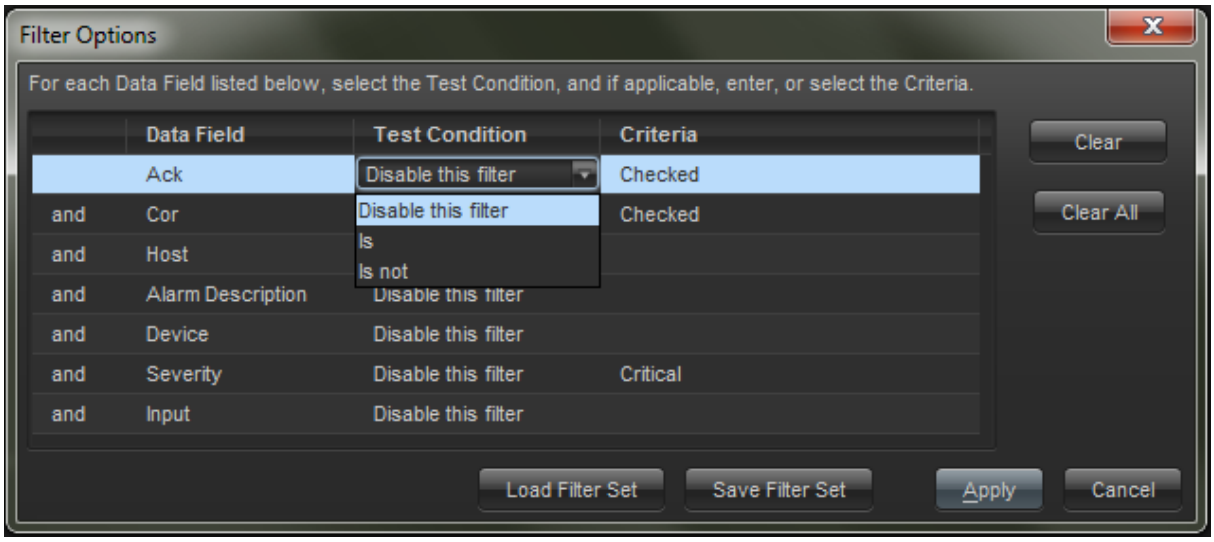



**Figure 5-5: Filter Options**

The *Filter Options* dialog box presents individual filter options (per row) that can be enabled or disabled in order to build the desired filter. Each filter option (row) has three columns that make up the filter option parts. Each filter option can be enabled or disabled as part of the final filter criteria by changing the *Test Condition* to any value other than "Disable this filter". When the *Test Condition* column has been changed for a filter option, that option becomes active and is indicated active by displaying the rows background colour in yellow.

- **Data Field:** This is the field in the alarm view that will be checked when this filter option is enabled.
- **Test Condition:** This drop down box is used to enable a filter option by selecting the appropriate Test Condition for the Data Field (if set to "Disable this filter", the filter option specified on this row will not be part of the criteria for the filter being created).
- **Criteria:** This sets what criteria the Test Condition should look for when checking the Data Field.

***Example*:** Changing the first *Test Condition* drop down box to "Is not" will establish a filter that will only display alarms where the Acknowledged Status (*Data Field*) Is not (*Test Condition*) Checked (*Criteria*) or simply, will only display alarms that are unacknowledged.

The user can enable as many filter options (rows) as necessary, in order to build the appropriate filter. When using more than one filter option the user has the ability to set each additional option as an *AND* option, meaning the alarm must meet all filter requirements (Option 1 *AND* Option 2), alternatively, additional options can be set as *OR* options, meaning the alarm will be shown if it meets any of the filter options (Option 1 *OR* Option 2). After all filter option selections have been made, clicking the *Apply Filter* button will activate the filter (*Default* or *Custom* depending on how the Filter Options dialog was accessed).

### 5.2.10. Clearing Filter Options

The *Clear* and *Clear All* buttons can be used to reset filter options back to a disabled state. *Clear* will reset only the selected row, while *Clear All* will reset all selected filter options.

### 5.2.11. Saving and Loading Filters

Once a filter has been created, it can be saved for future use or copied to other clients. To save a created filter, click "Save Filter Set". VistaLINK® PRO will prompt for a name and location to save the filter set to. Saved filters can be loaded back into the Filter Options dialog by clicking "Load Filter Set" and then browsing to the saved filter and clicking "Open".

### 5.2.12. Default "Unresolved Alarm" Filter

With this filter applied, the alarm view window will only display alarms if they have neither been acknowledged nor corrected thus eliminating all alarms from the view that have been fully addressed. To load the *Unresolved Alarm* filter click *Load Filter Set* in the *Filter Options* dialog, browse to the VistaLINKProClient folder (C:\Program Files\VistaLINKProClient by default) and select the "Filter_UnresolvedAlarms.xml" file. This will load the default *Unresolved Alarms* filter into the *Filter Options* dialog enabling the first two rows. (Ack Status Is not Checked OR Cor Status Is not Checked).

### 5.2.13. Suspending View Updates

While an alarm view window is open it may be desirable to temporarily hold new alarms from interrupting the display of existing alarms. In this case it is possible to *suspend* the processing of alarm updates by clicking on the  Suspend toolbar button in the top-right corner of the alarm view window. The button will stay depressed and the alarm view will display the button  to indicate that the alarm view window is currently suspended.

While in this mode, the alarm view window will not receive any new alarm events. The alarm view will continue to update the status of any events in the view if the status changes.

To resume receiving new alarms, click on the Suspend button once again. The button will restore to its normal state and the alarm view will immediately catch up on any alarms that have occurred during the suspended period.

### 5.2.14. Saving the Current Alarm View

This feature allows you to save (or export) the alarms in the alarm view window to an external file. Any filter settings that are currently applied to the view will also be applied to the save operation. Note that any customizations to the headings will not be inherited by the save. All headings are saved when the current view is saved.

#### 5.2.14.1. Saving to a New File

1. Click the *Save Alarm log to disk*  button on the toolbar. A dialog box will appear asking for a location and filename for the new alarm log file.

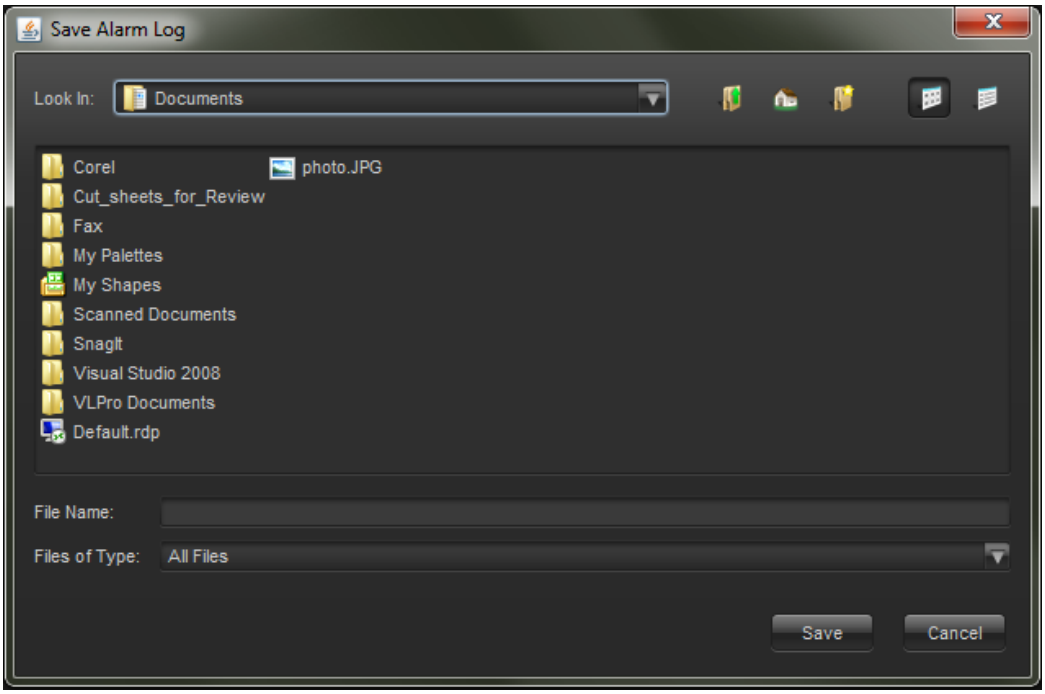



**Figure 5-6: Save Alarm Log**

2. Select the desired location for the file and enter a filename in the file name area. If no extension to the filename is specified a *.txt* extension will be appended.

#### 5.2.14.2. Appending to an Existing File

Follow the steps outlined in section 5.2.14.1 to specify the filename of an alarm log file that already exists on your system. You will then be prompted to select whether or not you wish to append to the end of this file. If you choose to append, the alarm information will be appended to the end of the specified file, separating existing information from new information with a single line header describing the date and time the new append occurred.

## 5.3. CONFIGURING ALARM PROPERTIES

### 5.3.1. Viewing and Modifying Alarm Properties

The *Alarm Severity Configuration* dialog provides a means of custom tailoring each alarm event to meet the requirements of your installation. The hardware devices connected to your network generate alarm events, also known as "TRAPS". These traps are received by the VistaLINK® PRO Server and stored in VistaLINK® PRO's alarm database. The alarm properties determine if, when and how VistaLINK® PRO clients are informed of these alarm events.

Upon installation, VistaLINK® PRO is configured with all alarms set to their highest severity setting (critical). You should review these settings as soon as possible to ensure that they are setup correctly for your broadcast center.

#### 5.3.1.1. Severity Options

VistaLINK® PRO provides five severity level options. The following is a list of severities and their description:

- **Critical** - The highest level of severity that can be set for an alarm. This severity setting should be used for alarm events that are critical in nature and require immediate attention. All critical alarms will be shown in red.

- **Major** - This setting is of a lesser importance than the Critical alarm setting above. This setting should be used for alarm events that are still important in nature but can be looked at after all critical alarm events have been acknowledged. All major alarms will be shown in orange.

- **Minor** - This setting is of a lesser importance than both the Critical and Major alarm settings above. All minor alarms will be displayed in yellow.

- **Warning** - This setting is the lowest severity that can be assigned to an alarm event and still generate an operator alert in the Device View. Use this setting for alarms that are of lowest importance. All warning alarms will be displayed in dark gray.

- **None** - This setting will cause the alarm event to be ignored. Alarms with this setting can still be acknowledged but do not generate an operator alert in the Device View. All alarms of this type will not have a colour associated with them.

### 5.3.2. To View or Modify Alarm Properties

1. Select *Alarm -> Configure Alarms* or right click a hardware device in the *Navigation Tree* and select the *Configure Alarms...* option. The *Alarm Severity Configuration* dialog box will appear displaying the User Label, Severity, Auto-acknowledge, Email and Alarm Note settings for all "TRAPS" of the product type selected. Severities other than "None" will be colour-keyed to the severity setting.

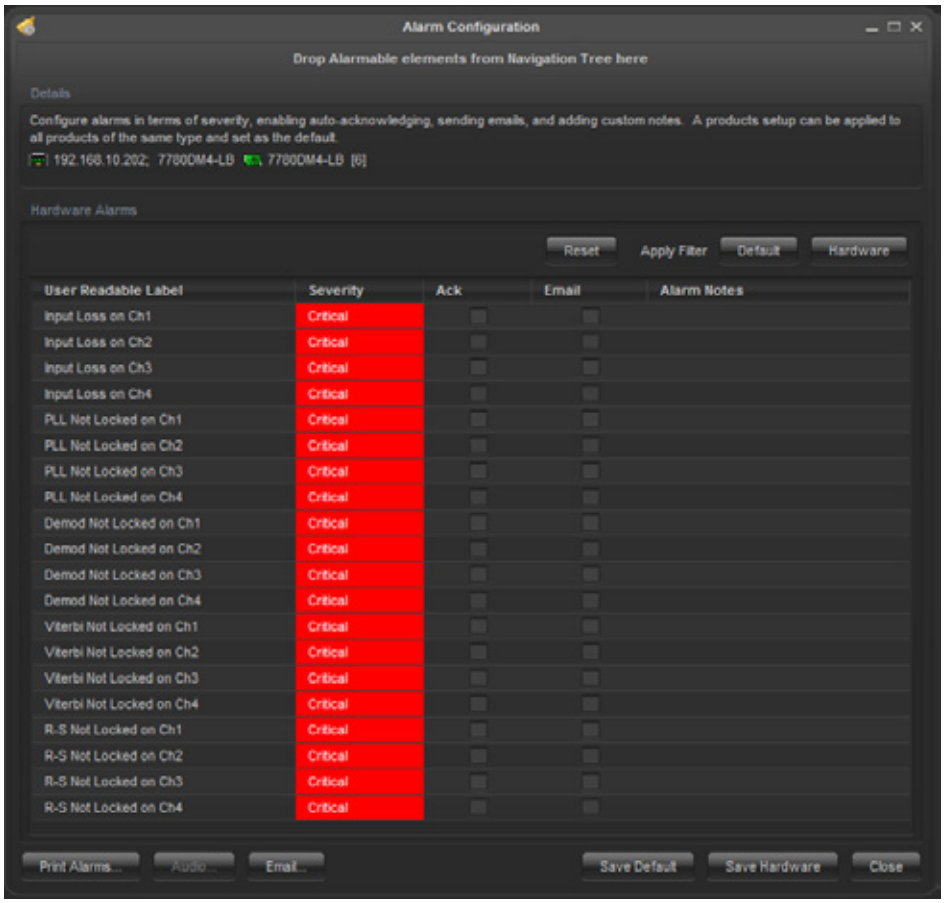



**Figure 5-7: Alarm Configuration Window**

It is possible to drag and drop another element from the navigation tree to update the dialog to show the elements alarm listings.

2. When you have completed making changes select either the *Set Current or Set Default* button. Pressing the Set Default makes the alarm configuration apply to all products of that type. The *Set Current* button allows for customized alarm configuration to that specific card. It is possible to mix and match configuration using both methods. Below is a list of the columns that can be modified:

    - **User Readable Label** - This is a *friendly* version of the engineering label. This is the text that will be shown in the *Description* column of the *Alarm View Window* displays.

    - **Severity** - This setting determines the severity of the alarm event. When the event occurs and is reported to the Clients the *Navigation Tree* indication and the *Alarm View Description* column background colour will match the severity colour level set in this dialog.

    - **Ack** - If this option is checked, the alarm event will automatically be marked as acknowledged at the time it is stored in the alarm database. Having an event marked as acknowledged means that an operator has seen the alarm and knows that there is a problem. See section 5.2.4 for more information about this setting.

    - **Email** - This setting will cause an email to be dispatched to a list of recipients describing the alarm condition. (See section 5.5.1 for more information)

- **Alarm Notes** - Alarm notes are additional pieces of information that can help the operator diagnose a problem. These notes will be displayed in the *Alarm Notes* section of the *Alarm View* for each alarm of this type that is logged by the system.

### 5.3.3. Factory Defaulting

You can clear all changes you have made to a product by clicking the *Default* button. A confirmation box will appear asking you to verify the operation. A *Defaults* operation will reset all severity settings back to critical and clear the auto acknowledge and email flags. It is possible to use the *current* button to reset recent changes to what is currently applied.

### 5.3.4. Bulk Operations

Programming each alarm event for every product can be a tedious task. To ease this process you can perform bulk apply and clear operations. First, select the alarm events that you want to modify. This can be done either by holding down the control (Ctrl) key and highlighting each alarm event individually, or by selecting one alarm event, holding down the shift key and selecting a second alarm event. All events that lie in between the first and second selections will be highlighted.

Once you have selected the events, click the right mouse button while the mouse pointer is over top of any one of the selected items. This will display a pop-up menu with the following items:

- **Enable Autoack**
- **Enable Email**
- **Set Severity:** The Set Severity menu item has a sub-menu that will pop-up when the mouse is hovering over the menu item text. The sub-menu contains all severity option settings.
- **Clear Autoack**
- **Clear Email**
- **Clear Alarm Notes**

Selecting any one of these items will apply the operation to all selected alarm events the same as if you had performed the action on one item.

### 5.3.5. Alarm Thresholds

Some alarming products have the ability to configure thresholds. Thresholds provide a way to ensure the alarm is sent when a real fault condition occurs. Thresholds come in different settings and it is a feature of the device itself. Common thresholds are:

- **Error Duration:** This is the time in seconds or in number of frames the error has to be present until an alarm is sent from the device. Common error durations can be:
    1. Audio Missing Error Duration (seconds)
    2. Video Missing Error Duration (frames)
    3. Video Black detection Duration (frames)

- **Error Levels:** Often special levels are needed to provide accurate fault alarming. Error Levels and Error Durations are combined together to determine a fault. For an audio silence type of alarm, it is possible to configure that audio has to be below a certain level at a certain amount of time before an alarm is sent. Common level thresholds are:
    1. Audio Silence Level (dB FS)

2. Audio Over Level (dB FS)
3. MAX APL Level (IRE)

- **Reset Duration:** The Reset Duration setting specifies when the program should be flagged as *cleared*. This special type of alarm is recognized by VistaLINK® PRO to auto correct alarms in the alarm view. This setting is used to prevent false indications specifying problems have occurred but are ok. When configuring Reset thresholds, is it specified in the number of seconds the monitoring parameter must be out of the error condition before a correction alarm is sent.


**Figure 5-8: Input Configuration Window**

### 5.3.5.1. Disabling/Enabling Alarms

Alarms can be disabled at the device itself. These settings are commonly found on a single tab containing check boxes. Modify the state to true and false disables or enables the alarm condition from being sent from the card.

Every alarm condition has a fault status condition box. This box represents the current status of that parameter. This fault status box can either be red or green, meaning bad or good. These fault status indicators can be used for poll monitoring in systems where an operator always needs to see what the current value is at. The fault status indicators operate always whether the alarm is enabled or disabled. The fault status indicators will follow any threshold rules that may be configured.

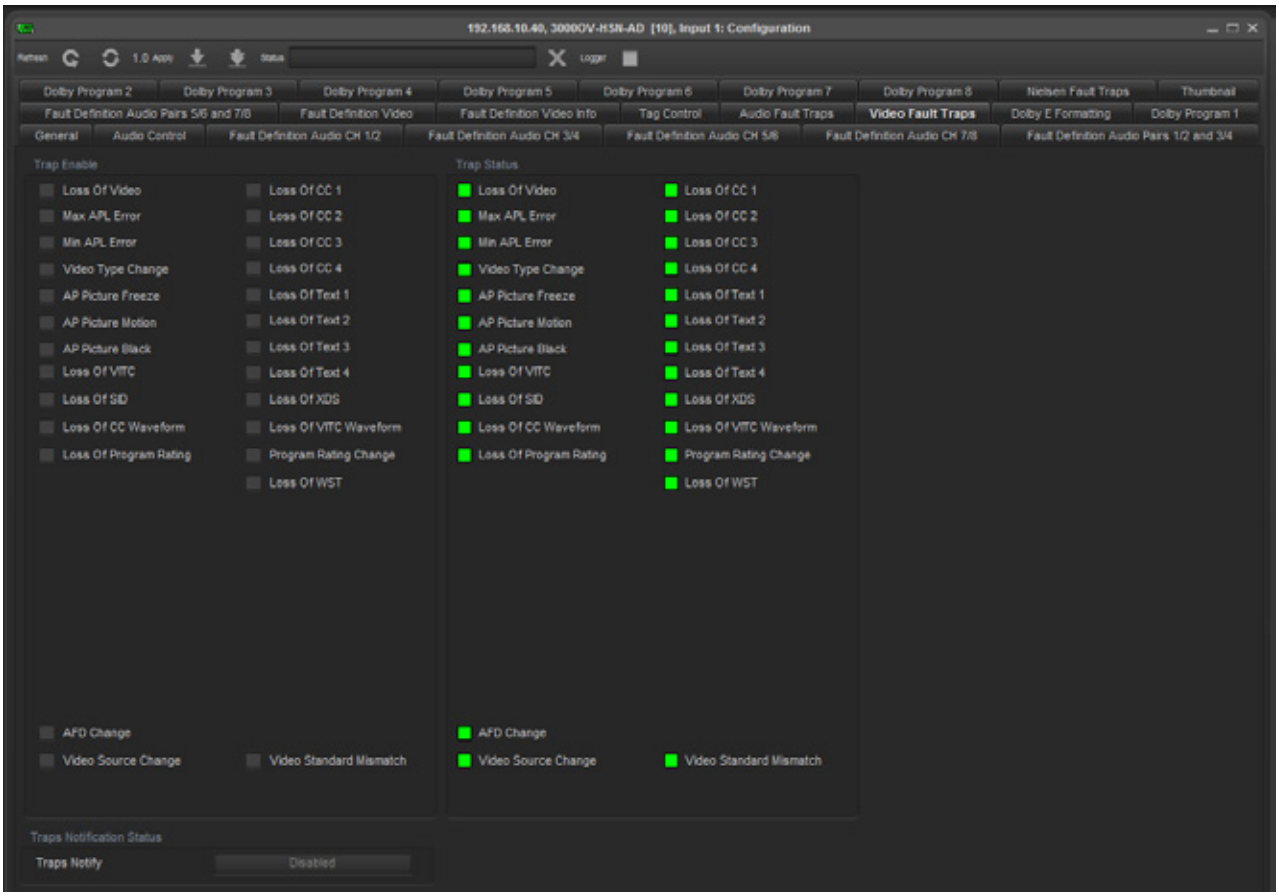



**Figure 5-9: Video Fault Traps**

It is important that alarm enabling/disabling and alarm thresholds are properly configured. This is to ensure that accurate notifications are sent when real problems occur.

### 5.3.6. Inhibiting and Sleeping Hardware or Services

*Inhibiting* or *Sleeping* hardware or services is a means of disabling the alarm capabilities of the device from VistaLINK® PRO without physically disconnecting the device from the network.

**Inhibiting Hardware:**
When a device has been inhibited fault alarms generated by the device will not show any indication in the Navigation Tree view and the fault **will not be logged** to the VistaLINK® PRO trap database. When a device is inhibited in VistaLINK® PRO the device will still be visible in the Network and Service views but will be displayed in a blue colour where the shade of blue will determine how the device has been inhibited (See section 5.3.6.1 for more information on inhibited/sleep colours).

**Sleeping Hardware:**
When a device has been put to sleep, fault alarms generated by the device will not show any indication in the Navigation Tree view, however, the fault **will be logged** to the VistaLINK® PRO trap database. When a device is put to sleep in VistaLINK® PRO the device will still be visible in the Network and Service views but will be displayed in a orange colour where the shade of orange will determine how the device has been inhibited (see “Inhibited/Sleep Colours”).

#### 5.3.6.1. Inhibited/Sleep Colours

There are two types of colours displayed for both the Inhibit and Sleep features. Inhibited hardware will be displayed in either dark or light blue. Sleeping hardware will be displayed in dark or light orange.

- **Direct Inhibit** – (Dark Blue) - This status indicates that the device has been directly inhibited by the Inhibit menu option.
- **Direct Sleep** – (Dark Orange) - This status indicates that the device has been directly put to sleep by the sleep menu option.
- **Inherited Inhibit** – (Light Blue) - This status indicates that this "child" device is being inhibited by the Direct Inhibit status of another higher ("parental") device. One of the many scenarios that this will occur is when a frame is inhibited and all of the products within the frame inherit the inhibit status from the frame.
- **Inherited Sleep** – (Light Orange) - This status indicates that this "child" device is being put to sleep by the Direct sleep status of another higher ("parental") device. One of the many scenarios that this will occur is when a frame is put to sleep and all of the products within the frame inherit the sleep status from the frame.

Figure 5-10 shows examples of inhibit status on frames and/or products:

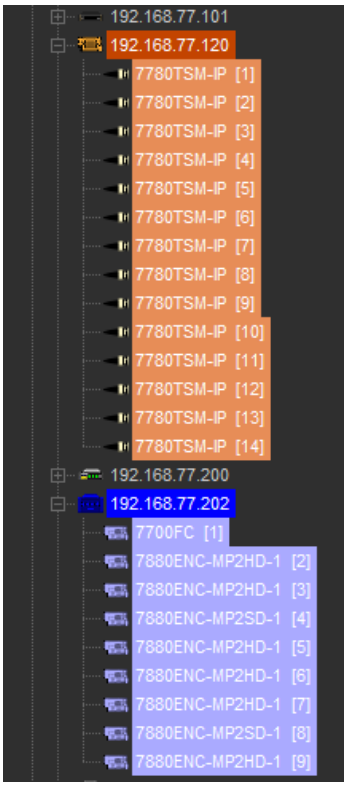



**Figure 5-10: Example of Status on Frame and Products**

#### 5.3.6.1.1. To Inhibit / Sleep a Device

1. Select a node in the *Hardware* or *Service View* and then click the right mouse button. A pop-up menu will appear.

2. Select the *Inhibit or Sleep* option in the pop-up menu. The selected node will change to a dark blue or dark orange to indicate that this device is now inhibited or put to sleep.

#### 5.3.6.1.2. To Remove Inhibit / Sleep Status

1. Select the inhibited nodes in the *Hardware* or *Service View* and then right-click the mouse button. A pop-up menu will appear.
2. Select the *Allow Alarms or Waken* option in the pop-up menu. The blue or orange inhibit/sleep status indicator will be removed from the node and the node will return to normal alarm indicating state.

## 5.4. SERVICES

The Service super-node 

is located within the *Navigation Tree*. It appears directly below the Hardware super-node. Refer to section 5.4.1 for additional information on creating, editing and deleting services.

Services allow the user to logically group or isolate hardware from one or more frames to create a logical relationship between the physical characteristics of your network and the actual setup of your broadcast center. The hardware contained in a service view follows the same "Rules of Broadcast" outlined in the 5.1.1 section. When an alarm occurs on a hardware device contained in a service, the alarm condition is broadcasted up to the Service, and subsequently the service super-node.

Note that there are exceptions to this rule when viewing alarms in the service view. Consider where a frame has two products but only one of the products has been added to the service view. If the product in the service view displays a minor alarm condition, but the product is not contained in the service view and has a critical condition, the frame in the service will reflect a critical alarm condition. This is because the service view indicates the actual state of the frame, not the perceived state of the frame in the service. In other words, the frame contained in the service does not simply show the alarm status of only the products contained in that service.

It is also possible to see an alarm condition on a frame in the service but not see any alarm conditions on any of the products shown in the service. In this scenario the frame has an alarm condition and you should check the *Hardware* super-node to determine which product is causing the frame to show an alarm.

### 5.4.1. Creating and Editing Services

#### 5.4.1.1. To Create a New Service

1. Ensure the Services super-node is visible by enabling though the Tree Properties dialog.

2. Right click the Services super-node and select *New -> Service*.

3. The user will be prompted to enter a name for the new service. Once the service has been named clicking the OK button will add the new service as a sub-node under the *Services* super-node. The user is now ready to add hardware to the new service.

#### 5.4.1.2. Adding Hardware to a Service

VistaLINK® PRO allows the user to add hardware to a Service using two different methods.

**Method One (Drag and Drop):**

1. In the *Navigation Tree* under the Hardware super-node, locate the hardware device you wish to add to the newly created service.
2. While holding down the left mouse button, drag the selected hardware device over the name of the service you wish to add it to and release the mouse button to add it to the service.

**Method Two (Right Click Add):**

1. In the *Navigation Tree* under the Hardware super-node, locate the hardware device you wish to add to the newly created service.
2. Right click the hardware device and select the "Add to Existing Service..." option.
3. A dialog will appear listing all created Services, which allow the user to select the service the hardware device should be added to.

### 5.4.2. Right Click Service Creation

An alternate and faster way to create a service is to highlight all devices to be part of the service in the *Navigation Tree* (hold the "*Ctrl*" key to select multiple items). After all items are highlighted, right click the selected devices and choose the "*Create service from selection"* option from the pop-up menu. The user will be prompted to enter a name for the service, which will then be added to the *Service Tree View* list.

### 5.4.3. Renaming a Service

A user created service can be renamed at any time. To rename a created service:

1. In the *Navigation Tree*, right click the service to be renamed and select the "rename service" option.

2. The *Rename Service* dialog will open allowing the user to enter a new name for the service, enter the new name and click "OK".

All local and remote clients will immediately update their *Navigation Tree* as well as any Monitoring Client grid cells containing the service to display the new service name.

### 5.4.4. Removing a Service

To remove a Service, right click the Service in the *Navigation Tree* and select the *Delete Service* option.

### 5.4.5. Service Grouping Mode

To provide a second level of organization for Services 

in the *Navigation Tree*, VistaLINK® PRO provides the ability to further group user created services into Service Groups. Grouping services into Service Groups provides a method for the user to logically organize created services according to their environment. Service Groups also provide a better view of the Service Tree View fault indications for installations that utilize a large list of services. The *Service Group Mode* feature can quickly be enabled or disabled allowing the user to easily switch between a short *Service Group* list or a complete *Service* list display in the *Navigation Tree.*

### 5.4.6. Creating a Service Group

1. Ensure the Services super-node is visible by enabling though the Tree Properties dialog. **(The *Groupings* option must be enabled in order to create Service Groups.)**

2. Select one or more Services in the *Navigation Tree* (use the ctrl key to select multiple services). Once the selection is complete, right click the selected services and choose the *Create Service Bundle from Selection...* option.
3. Service Groups can also be created by right clicking the Service super-node then selecting *New -> Service Group.* Once the new Service group is created services can be added by dragging them to the new group while holding the left mouse button down.

#### 5.4.6.1. Alarm Sets

Alarm Sets provide a filter mechanism to service alarms. Setting alarms only enables certain alarms to contribute to raising severities of specific services. One could make an *Alarm Set* that only enables the optical input alarms for a certain service. This tool is most useful when a card houses multiple services. Video multiplexes and GPIO cards can be divided up into separate alarm entities for monitoring.

The first step to using *Alarm Sets* is to create the Alarm Set. This is done by right clicking Alarm Sets and choosing *New -> Alarm Sets.* Once the dialog opens, a device from the hardware tree can be dropped into the *Alarm Set Editor*. A list of alarms will appear that can be enabled in the *Alarm Set*. Each *Alarm Set* that gets created will require a unique name.

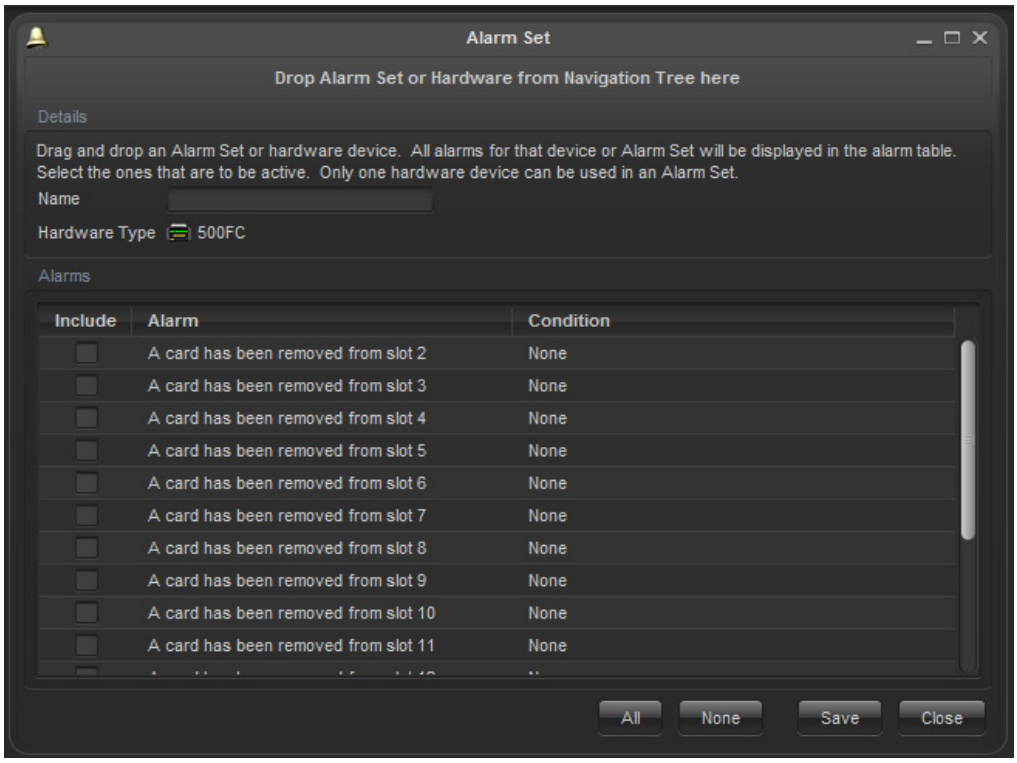



**Figure 5-11: Alarm Set**

To apply an *Alarm Set* to a Service, first navigate to the device in the Service. Right mouse click on the hardware device in the *Service* and select *Assign Alarm Sets.* A popup window will appear presenting which Alarm Set to enable for this device. The program will automatically figure out which *Alarm Sets* are compatible for use.

There will be future uses for Alarm Sets but currently this is one way of using them to control service severities at an alarm level.

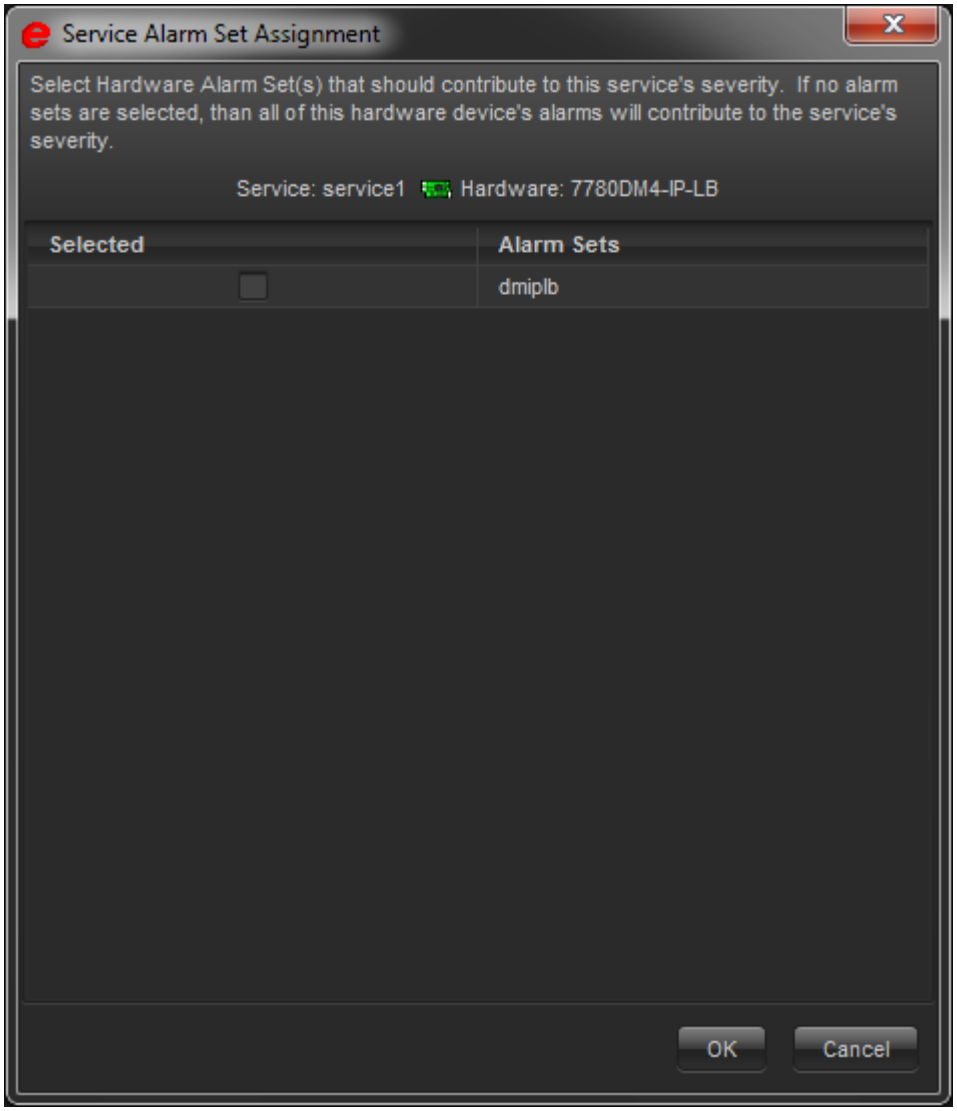



**Figure 5-12: Service Alarm Group Assignment Window**

## 5.5. EMAIL NOTIFICATION SYSTEM

### 5.5.1. Configuring the Email Alert System

VistaLINK® PRO can be configured to dispatch email when an alarm event occurs if the alarm "TRAP" event has the email option checked in the *Configure Alarms* dialog. The Email system must be enabled and properly configured with valid SMTP mail server and recipient addresses for email notification to function.

To configure the email system, select *Tools -> Email*. The *Configure Email* dialog box will appear displaying options for the email system.

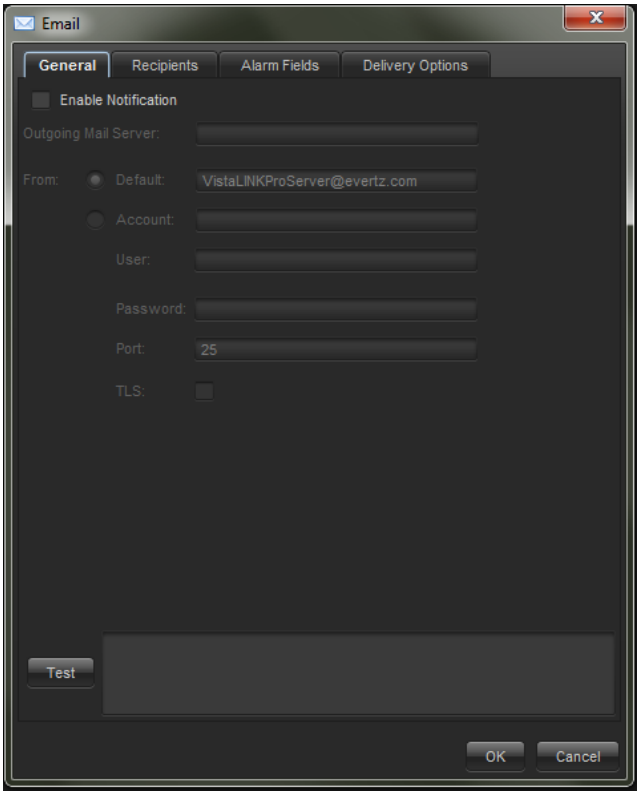



**Figure 5-13: Email – General Tab**

To enable or disable the email alert system, check or un-check the *Enable Notification* option in this dialog.

Enter a valid mail server address in the *Outgoing Mail Server* text area. VistaLINK® PRO will use this mail server for sending email notifications.

**Important SMTP Mail Server Note:**
VistaLINK® PRO will issue email notification packages to a valid SMTP mail server on port 25. The mail server (e.g. Microsoft Exchange Server) must be set up to accept unsolicited mail on port 25 for relay.

**Note: If the SMTP Server does not accept unsolicited mail and requires the use of SMTP AUTH, enter in the Account, username and password for SASL authentication.**

### 5.5.2. Delivery Options

**New Alarms Only:** Email notification will be sent only when a new alarm event is received. *Recipients* will only be notified once for a particular new event according to the *Check and Send* time interval.

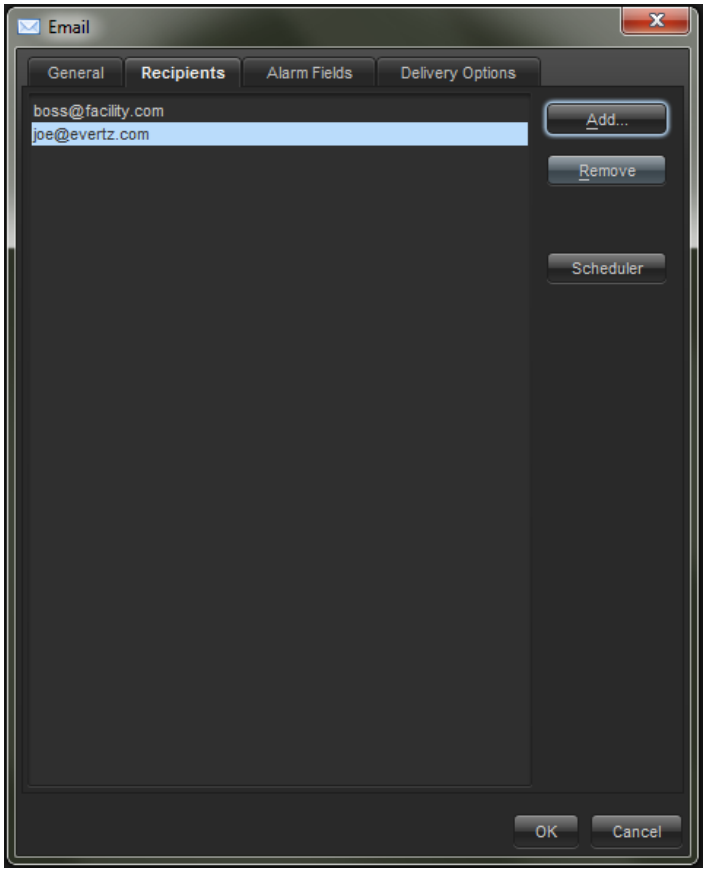
**New and Previous Uncorrected:** Email notification will be sent for new alarm events as well as existing events that have not been corrected. Existing alarm events that have not been corrected will persist in the email alerts up to the *Remove alarm if not corrected after ____ email* count

**Note:** Enter a number in *Remove alarm if not corrected after _____ email* option to change the count for how many email alerts an existing uncorrected alarm will persist for, before being removed.

Set the *Check and send alarm email every _____ seconds* to set the duration in seconds for the VistaLINK® PRO system to check for alarms and send email notifications according to the *Delivery Options.*

### 5.5.3. To Configure the Email Recipients

Select *Tools>Email* Change to the Recipients tab of the Configure Email dialog.




To add a recipient address to the list, click *Add,* then enter the email address and click *OK*.

To remove a recipient from the list highlight the address and click *Remove.*

**Note: All addresses displayed in the Recipients list will receive email notifications from VistaLINK® PRO. Email notifications will only be sent for those alarms that have the email notification option enabled in the *Alarm Configuration* setup.**

### 5.5.4. Advance Configuration

Including extra information in the email can create additional configuration options. Select the *Advanced* tab from the Email setup. It is possible to add more information to the email by moving the available field items to the rendered field items list. Once the email system has been configured, its virtual LED status will change colour to denote it is now running.

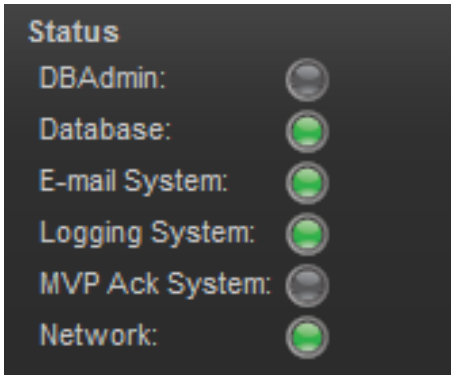



**Figure 5-14: Status**

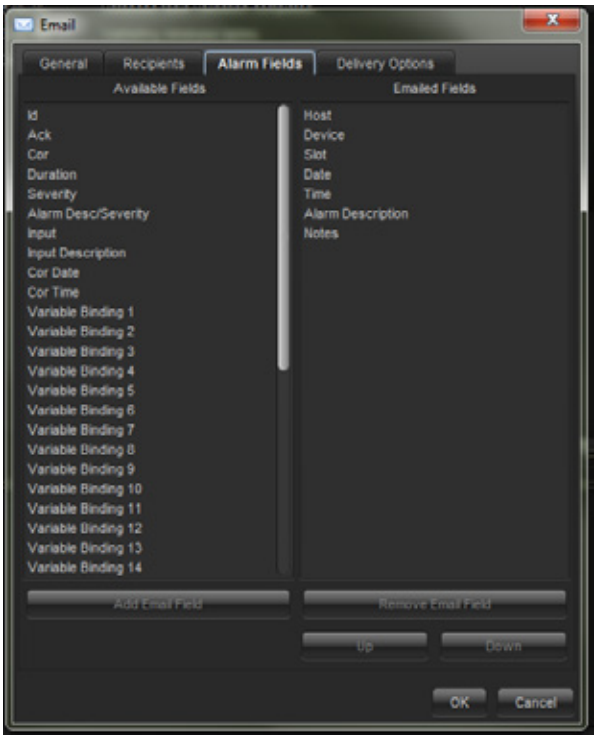



**Figure 5-15: Advanced Tab**

### 5.5.5. Audible Alert System

#### 5.5.5.1. Audible Alerts (Playing Sounds When an Alarm Occurs)

When an alarm is displayed in the *Navigation Tree*, a corresponding sound that matches the severity condition can be played (if programmed) up to the repeat count, or until acknowledged, depending on how the sound is configured. To play sounds when alarms are received:

1. Select *Alarm -> Configure Sounds*. This will open the *Audio Configuration* dialog box allowing sounds (.wav files) to be linked to each of the 9 severity states for an alarm (4 severities unacknowledged [flashing], 4 severities acknowledged [non flashing] and the OK state).

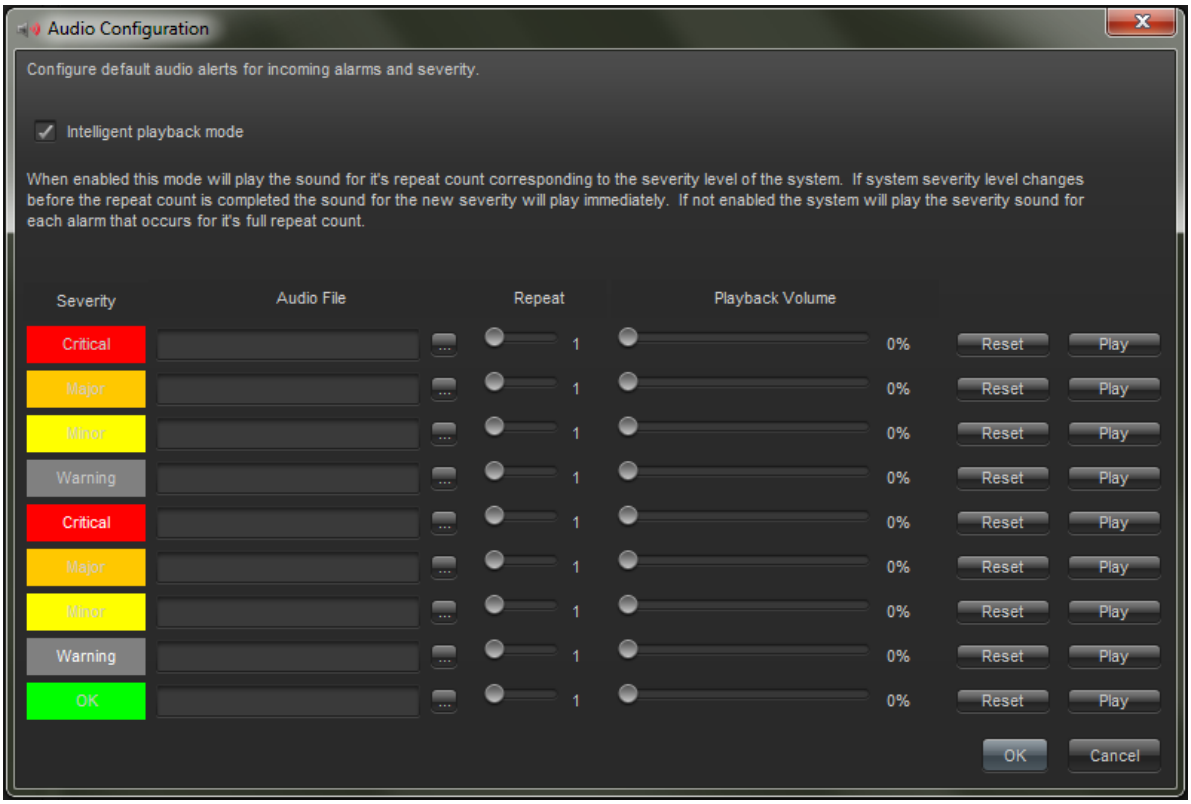



**Figure 5-16: Audio Configuration**

2. Click the browse button (...) next to the Audio File text box to enter a sound file to play when an alarm with the selected severity is displayed in the *Navigation Tree*. Set the repeat count and playback volume for each sound.

**Note: To program the sound to repeat forever (intelligent mode only) until the alarm condition is acknowledged, set the repeat count to the maximum setting until the count value shows ∞.**

### 5.5.5.2. Audible Alert Playback Mode

The *Enable intelligent alarm sound playback* option can be enabled or disabled to switch between the two available operating modes for audible alerts.

**Intelligence Enabled (checked):** This mode will play a sound for it's repeat count corresponding to the severity level of the system. If the system severity level changes before the repeat count is completed the sound for the new severity level will play immediately.

**Intelligence Disabled (unchecked):** This mode will play the severity sound for each alarm as they occur for it's full repeat count (max repeat count = 10) regardless of current system severity level.

### 5.5.6. Alarm Log Management

#### 5.5.6.1. Logging, Holding and Ignoring Alarms (Server Properties)

Upon installation, VistaLINK® PRO comes pre-configured to log all alarms that are received. If you are designing and setting up the infrastructure of your broadcast center you may not want to be notified, or may not want to log any alarms that are being generated during this process. In this scenario you can choose to hold the logging of alarms or ignore alarms completely. Below are the possible logging states with descriptions:

- **Log Alarms (L*og Events*)** - This is the normal state of the logging system. This setting will log and notify all clients of each alarm that is received.

- **Buffer Alarms (*Do Not Log*)** - This setting will put the logging system on hold and *buffer* the alarms in memory. Alarms will not be logged to the database while in this mode. If while in this mode alarms are received and the logging system is switched to the normal mode, the alarms held in the buffer will be dumped to the database and the logging and notification system will continue as usual.

- **Hold (*Ignore Events*)-** This setting will completely ignore all received alarms. Alarms will not be buffered, or logged, thus any alarms generated will be ignored.

**To change the logging system setting:**

1. The *Logging System* settings can be accessed from either the VLPRO Server or VLPRO client applications. To change the Logging System settings:
   **From the Server application**: Select *Tools -> Logging*.
   **From the Client application**: Select *Tools -> Logging* from the main menu.

2. In the *Logging* dialog box select the logging option of your choice and click the *OK* button. The transaction will occur immediately and the Server logging system will be adjusted to reflect the new setting.

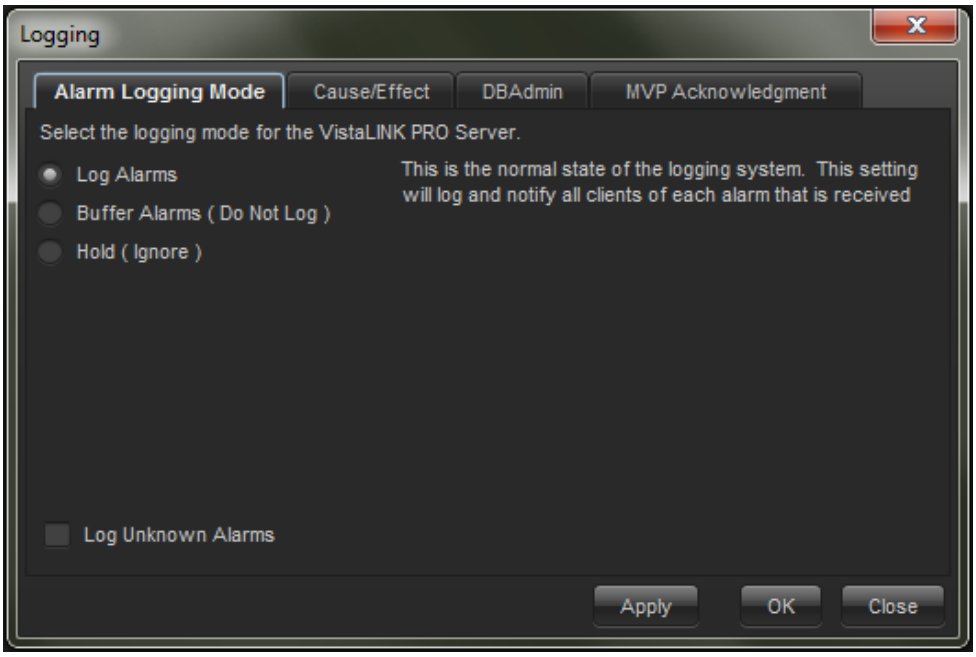



**Figure 5-17: Logging Mode Tab**

### 5.5.7. Event Archiving (Database Administrator)

VistaLINK® PRO incorporates an automatic *Database Administration* feature. It is possible to direct the VistaLINK® PRO Server to archive any alarms older than a specified duration to an external file. The VistaLINK® PRO Server achieves this by periodically querying the alarm database for any alarms older than the specified duration. If alarms are found the server runs the Save alarm log feature storing the alarms to an external report file. The *Database Administrator* can also be run manually at any time. A proper database administration cycle will keep the active alarm database running at best performance. The archive duration should be selected according to the amount of hardware being monitored and how often fault alarms are reported to the VistaLINK® PRO Server.

#### 5.5.7.1. To Enable or Disable the Database Administrator

1. Select *Tools -> Logging* in the VLPRO *Server* application or select *Tools -> Server->Server Properties* in the VLPRO *Client* application. Either of these two methods will open the *Logging* dialog box.

2. Select the *Database Administrator* tab and check or un-check the *Enable Database Administrator* option to enable or disable this feature.

#### 5.5.7.2. To Set the Log Administration Duration and Save Location

1. Select *Tools -> Logging* in the VLPRO *Server* application or select *Tools -> Server ->Server Properties* in the VLPRO *Client* application. Either of these two methods will open the *Logging* dialog box.
2. Select the *Database Administrator* tab and change the *Archive events that are older than ___ day(s)* duration.
3. Select the *OK* button. Your new duration will take effect the next time the VistaLINK® PRO Server queries the alarm database.

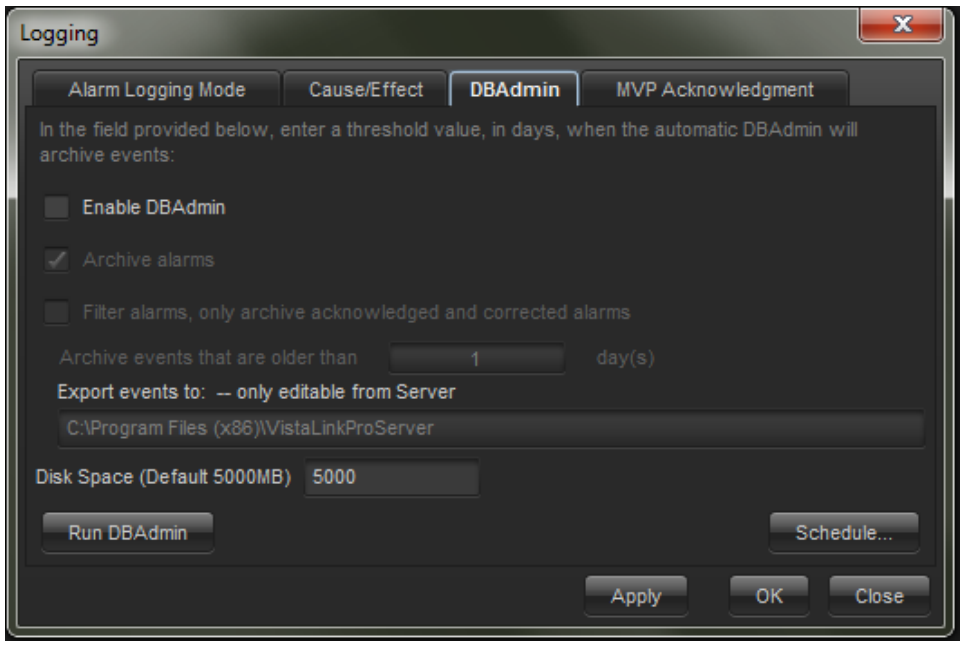



**Figure 5-18: DBAdmin Tab**

The Logging dialog also allows the user to select a different location to save the archived alarm and audit logs to. Use the *browse* button to select a different path location.

#### 5.5.7.3. To Run the Database Administrator Immediately

Clicking the *Run Database Administrator* button found in the *Logging / Database Administrator* dialog will immediately run the *Database Administrator* feature, bypassing its regular schedule thus immediately archiving events according to the *Archive events that are older than* duration.

# 6. ADVANCED CONTROL

## 6.1. MVP CONTROL

### 6.1.1. MVP DVL Introduction

MVP DVLs are macro-based controls that gain access to the running MVP Software Server for layout changes. From VLPRO, the user can recall predetermined layouts or possibly make custom source changes to the layout boxes. VLPRO provides MVP monitoring and the necessary layout control in a dynamic environment. There are many types of strategies that are involved in giving operator access to the multi viewer. Some are listed below using various techniques.

- Global Preset like launches across multiple MVP systems (one click)
  - NCP Panel
  - Graphics Client with touch screen or mouse click
- Scheduled layout changes using the +SCH option or cycling macro's
  - Reduce display burnings
  - Operator comfort
  - Layout scrolling
- A navigational system of drill down layouts for supervisors (mouse click or touch screen). Ideal for Pod environments.
- Grouping monitoring sources in a drill down interface (VLPRO Graphics using video overlay)
- Source redirection for fault analysis
  - Automatically using +SCH option
  - NCP Panel
  - Graphics Client

### 6.1.2. DVL Creation Dialog

To create a DVL, first right click on the DVL node ( ) or group ( ) to bring up the popup menu. Select NEW -> then DVL. Once this is done the editor and side bar control area will appear.

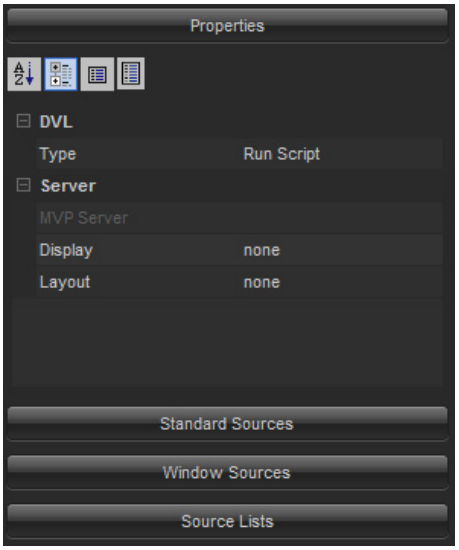



**Figure 6-1: Properties Side Bar**

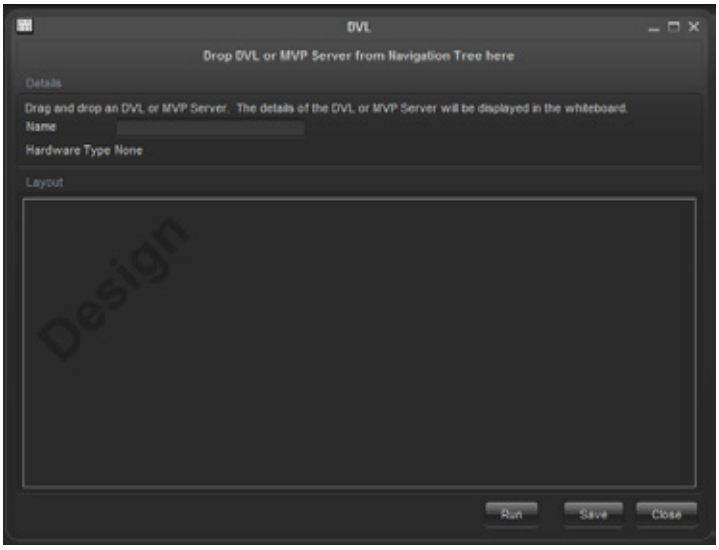



**Figure 6-2: DVL Editor**

This dialog uses drag and drop to facilitate ease of creation. Select a DVL server from the *Navigation Tree*. This icon can be identified in the tree with the following symbol, ( ). Drag this component into the DVL editor. The server will then be contacted and all its available Layouts and Displays will be populated in the side bar control area. The available hardware will also be pulled from the server and shown in the Standard Sources section of the side bar area.
Design a layout in Maestro as you would like to have it display on the MVP wall Including the actual sources
A standard Run Script DVL can be made in a few quick steps:

1. Drag and Drop the MVP Server from the hardware tree into the DVL Editor window.
2. Ensure the *Type* property is set to *Run Script.*
3. Configure the *Display* property so that a display is targeted for change.
4. Select the *Layout* parameter and choose a layout that is available for use. After choosing the layout, the DVL editor window will display the appearance of the layout.(See **Error! Reference source not found.**).

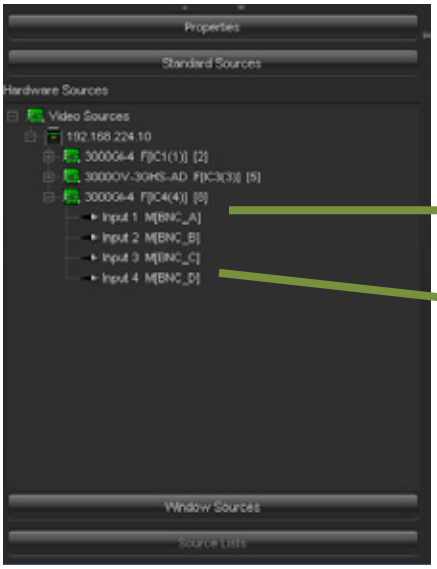



**Figure 6-3: Source List View**


**Figure 6-4: DVL Editor with active windows**

Click the save button to save the DVL.

Once the DVL is saved, it can then be executed from the *Navigation Tree* by double clicking the DVL. It was also possible to click the RUN button from the editor to have it execute from within the editor without saving it.

### 6.1.3. Change Stream DVL

It is possible to make a DVL that changes an input assignment to a particular window on a layout, which will not affect the entire layout running on the display. When the change stream DVL runs, it requires that the layout is already present on the current display.

Follow the steps outlined below the make a basic change stream DVL:

1. Drag and Drop the MVP Server from the hardware tree into the DVL Editor window.
2. Ensure the *Type* property is set to *Change Stream.*
3. Configure the *Display* property so that a display is targeted for change.
4. Select the *Layout* parameter and choose a layout that is available for use. After choosing the layout, the DVL editor window will display the appearance of the layout.The layout selected has to be designed to allow for video replacement.
5. Adjust the side bar properties area so the Standard Sources are shown. (See Figure 6-5)

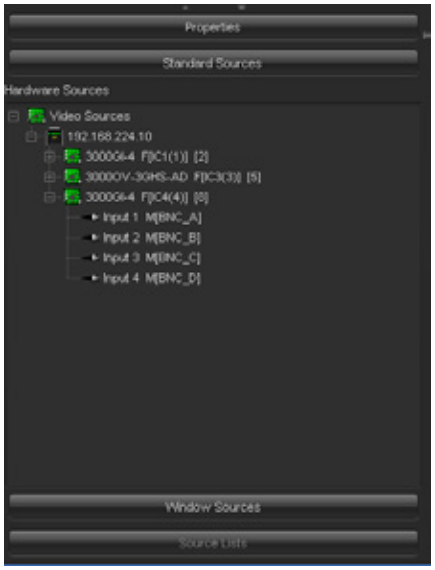



**Figure 6-5: Source List View**


**Figure 6-6: DVL Editor with active windows**

6. Select a source input and drag and drop it into one of the available windows in the DVL editor. Figure 6-6 shows that the window turns green to denote that it has an active input assignment in its window. When using *Change stream DVL's*, it is not possible to change multiple windows at once.
7. Click the *Save* button to save the DVL into the system.

### 6.1.4. Change Stream DVL Source List

It is possible to make special source groups. The source groups can then be applied to a particular window. When the *Change Stream DVL* runs, the list box is presented with available sources that the user can choose from. This can create a more intuitive method for having the user manage the available sources.

To create a Source List, click *Source lists* from the properties side bar. If this option is disabled, it is because the *Change Stream* is not used as a DVL type. Click the *New* button on the editor window. Figure 6-7 shows the Source List panel and editor opened.

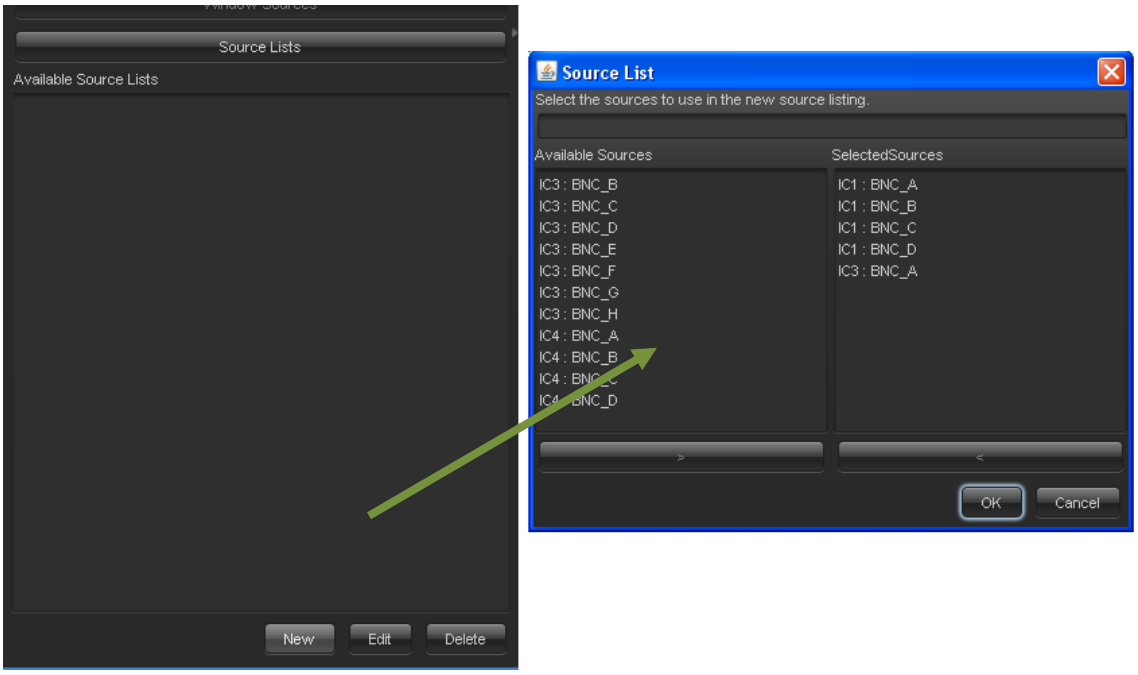



**Figure 6-7: Source List Panel and Editor Opened**

Once the *Source List* editor is shown, a custom source list can be made for the available sources. Click the *OK* button to save the source list. Once a source list is made it can than be dropped into a window on the layout of the *DVL Editor*.

### 6.1.5. Save/Load DVL

A *Save and Load DVL* provides a function to save layouts running on a certain display. The *Save and Load DVL* can also be executed as a Load method to run previously saved layouts. Creating a *Save and Load DVL* can be done in the following steps.

1. Drag and Drop the MVP Server from the hardware tree into the DVL Editor window.
2. Ensure the *Type* property is set to *Save/Load Display.*
3. Configure the *Display* property so that a display is targeted for change.
4. Click the *Save* button to save the DVL into the system.

To run the *Save/Load DVL,* double click the function from the *Navigation Tree*. The *Save Load Selection* window, shown in Figure 6-8, appears and presents two options.


**Figure 6-8: Save Load Selection**

Click the *Save* button to save the layout on the running display. Clicking the *Load* button will load a previously saved layout onto the display.

### 6.1.6. Audio Route DVL

DVL audio routing  is a function to route the audio from any given source out to the AES outputs of the MVP. The system targets input assignments rather than sources directly. This means that when using Audio Routing DVLs, it requires that layouts be already running on the display. The creation of an *Audio Route DVL* is explained below.

1. Drag and Drop the MVP Server from the hardware tree into the DVL Editor window.
2. Ensure the *Type* property is set to *Audio Route*
3. Click the *Window Sources* Panel to open the window.

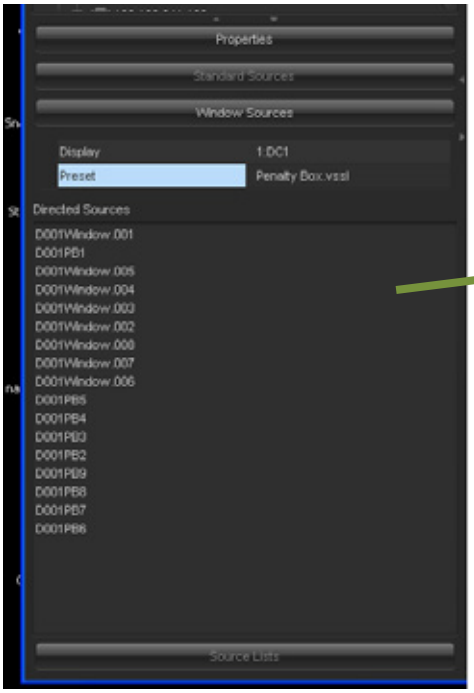



**Figure 6-9: Windows Sources Panel**


**Figure 6-10: Audio Route Window**

4. Configure the *Display* parameter to display the layout that will be running.
5. Select a layout that will be running on the display.
6. After selecting the layout, the available layout windows will appear in the *Directed Sources* list. Drag and drop one of the *Directed Sources* list into the *DVL Editor.* Figure 6-10 shows the *DVL Editor* containing the audio routing window.
7. Click the Save button to save the DVL into the system.

To run the *Audio Route DVL*, double click it on the *Navigation Tree*.

## 6.2. CROSSPOINT CREATION

To create a Crosspoint, first right click on the Crosspoint node ( ) or group ( ) to bring up the Crosspoint creation dialog. When this dialog first appears it will contain only a listing of routers that can be controlled. Figure 6-11 illustrates the initial appearance of the Crosspoint creation dialog.

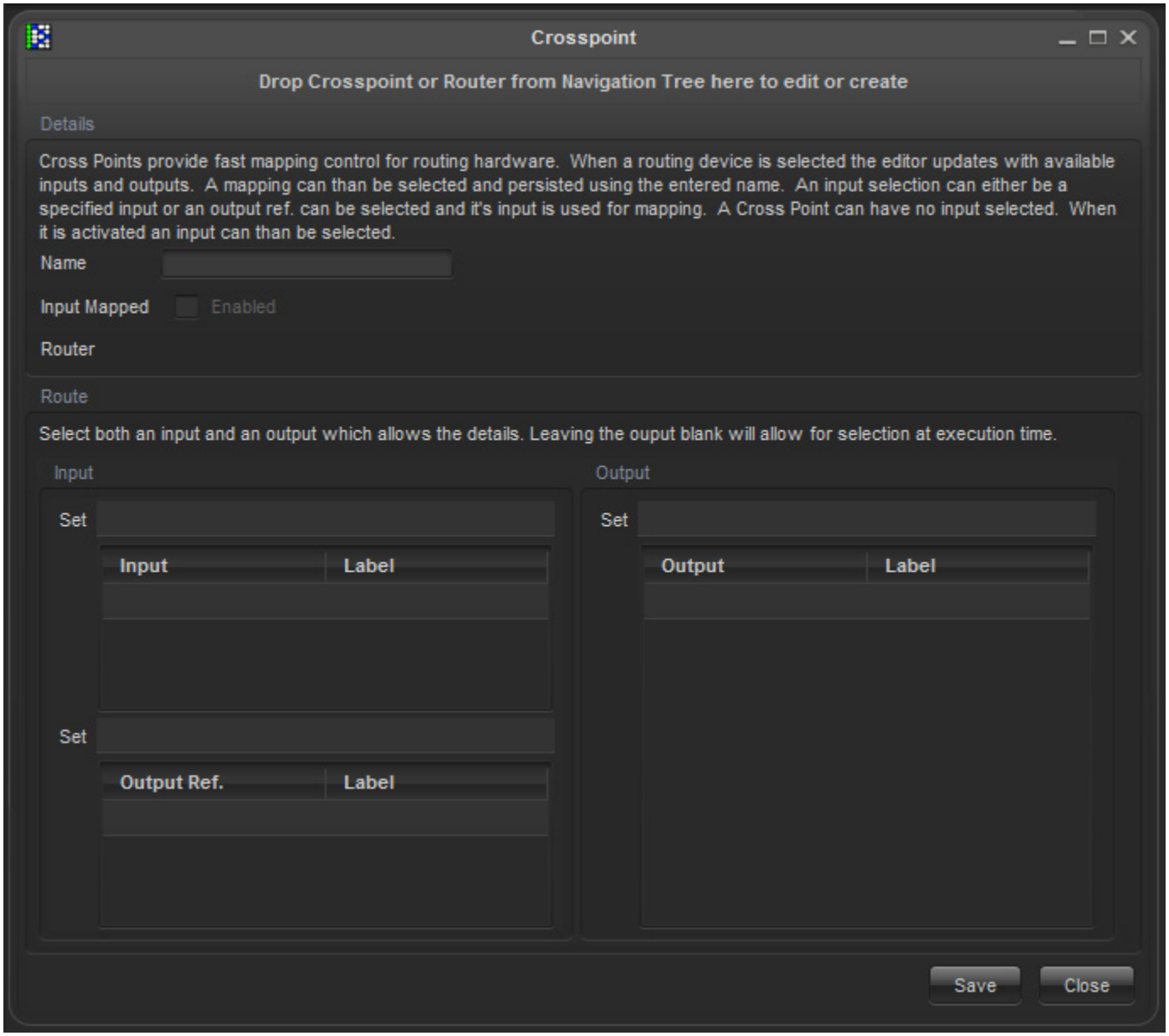



**Figure 6-11: Crosspoint Creation Dialog**

This dialog uses drag and drop to facilitate ease of creation. Select a Router from the tree; there exist several types of routers that can be used in this dialog. For example each of the ptx ( )'s ports can be used as a router for control in a Crosspoint.

The creation dialog consists mainly of four sections, the label field, and the sections: Routers; Content, and Crosspoint Type. Each of these sections will allow for a partial definition of a crosspoint.

### 6.2.1. Router Selection Section

On the left hand side of the dialog is a section that allows for the selection of the router to be controlled. Select and click on a router in the tree. Components that cannot be used as routers will not affect the dialog. Once a router has been selected the input and output areas in the Content section will be filled in as shown in Figure 6-12.

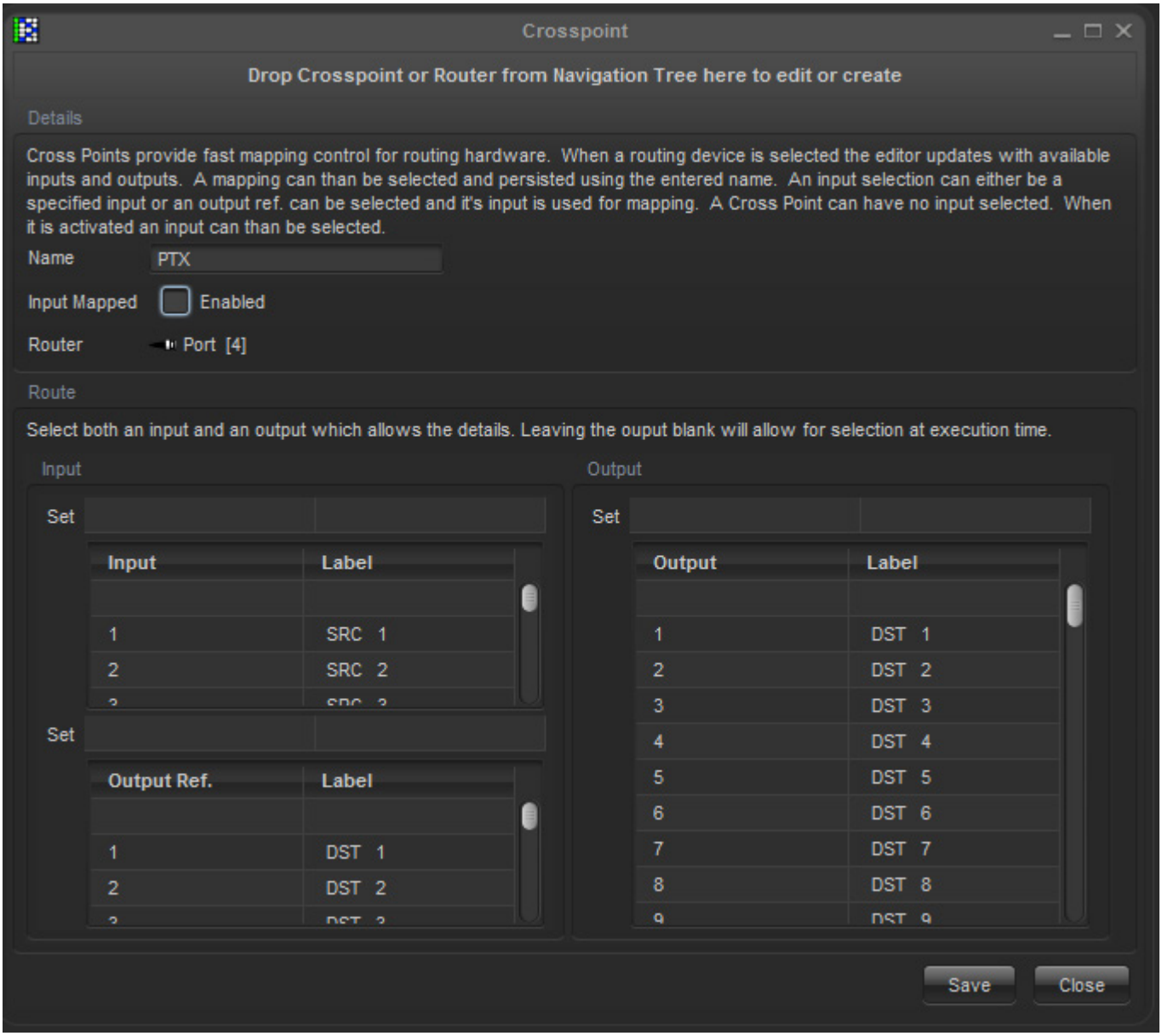



**Figure 6-12: Selected Router**

The available inputs and outputs are populated through direct communication with the router. If for any reason communication with the router is hindered, a warning will be displayed and Crosspoint creation may be prevented.

### 6.2.2. Content Section

To fully define a Crosspoint you are required to select both an input and an output. Inputs are displayed on the left, while outputs are on the right. While the definition of a Crosspoint is simply a Router along with

and input and an output, there are some additional options that are facilitated. These include open-ended Crosspoints, Label tracked Crosspoints, and output referenced Crosspoints.

### 6.2.3. Open Ended Crosspoint

Normally when we create a Crosspoint we specify both an input and an output, this fully describes a Crosspoint. However this dialog allows for the specification of only an output as in Figure 6-13. If the input is left empty, when the Crosspoint is about to be launched, a dialog will appear and at run time prompt the user for the desired input. This allows users to create Crosspoints for a specific output, in which the input is only known at run time.

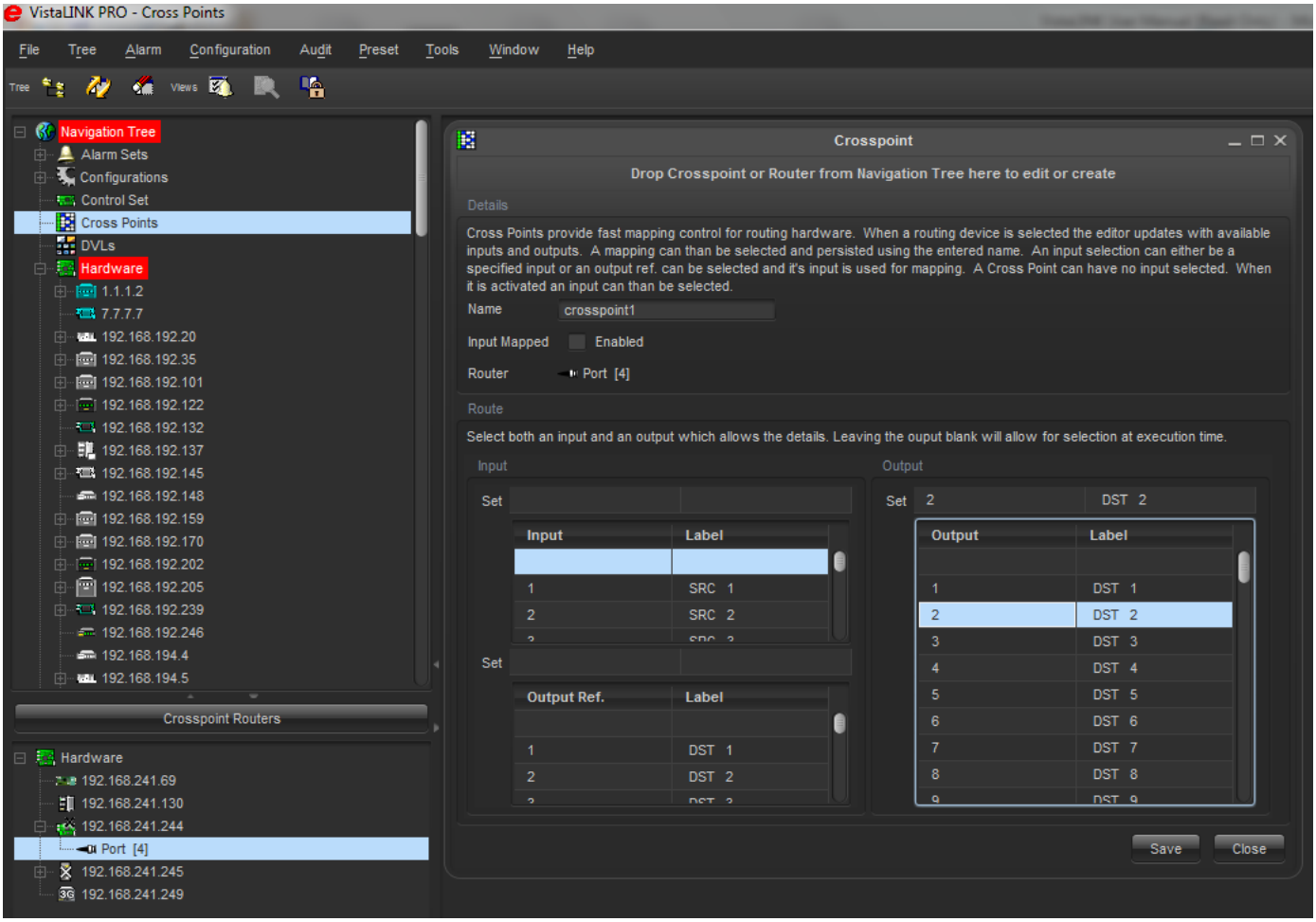



**Figure 6-13: Open Ended Crosspoint**

### 6.2.4. Label Tracked Crosspoint

A Crosspoint defined by input number and output number is only useful if all the video inputs and outputs are on fixed numbers. However, some routers allow for inputs and outputs to be tracked dynamically by assigning input and output labels. On occasion this labeling affects the ordering of the inputs and outputs on a router. Therefore, if the label tracking option is selected, then the input/output numbers are not used as the references for the Crosspoints, but the input/output labels are used as in Figure 6-14. This feature is only available on some routers, if the feature is enabled for a given router then the bottom section of the dialog (Crosspoint Type) will be enabled, otherwise this feature will be disabled.

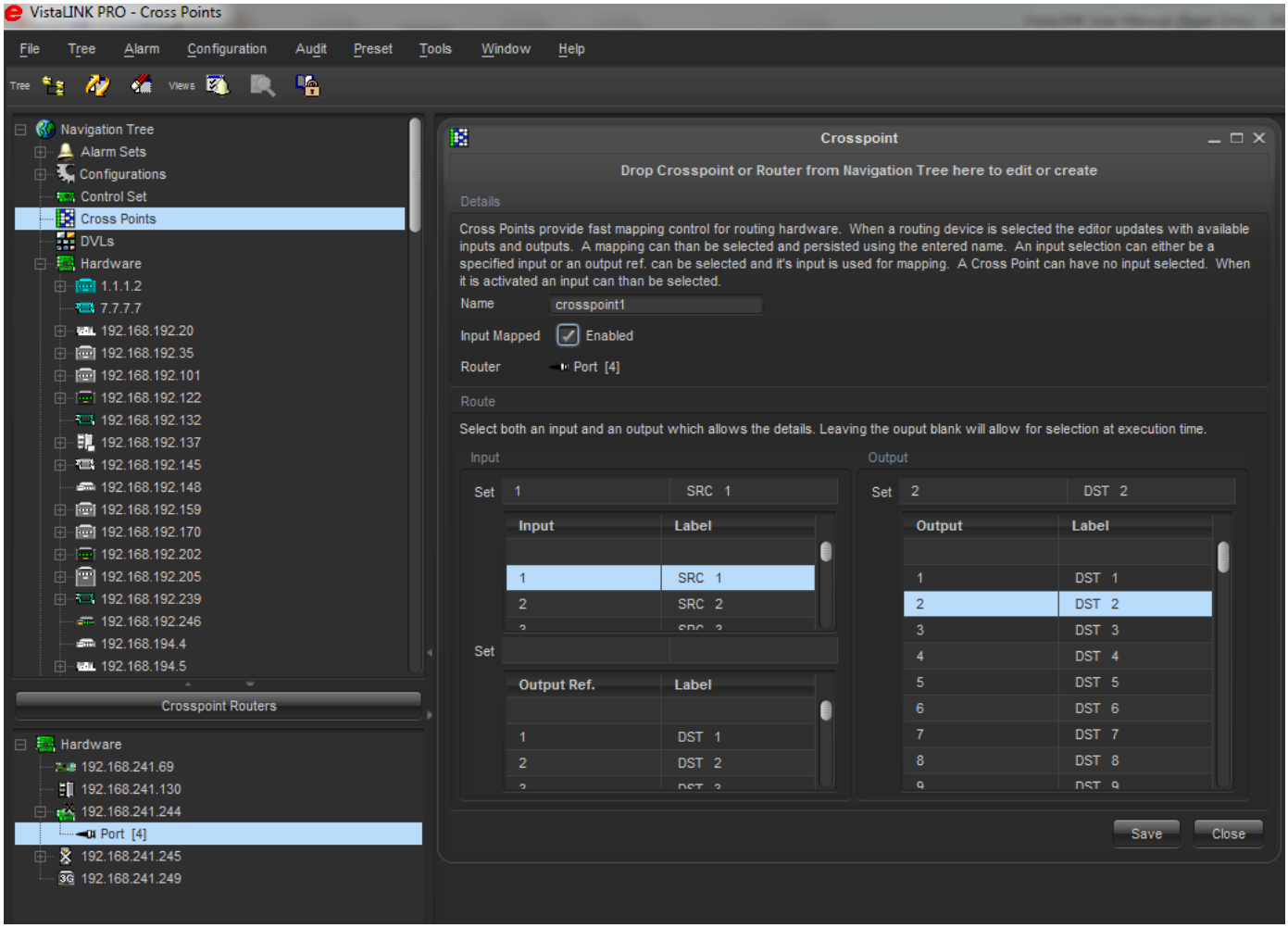



**Figure 6-14: Label Tracked Crosspoint**

### 6.2.5. Output Referenced Crosspoint

Sometimes it is useful to create a Crosspoint in which we do not directly know which input is to be connected to an output, however, we do know that another output is already pointing to the desired input. This is where output referenced Crosspoints come into play. These Crosspoints function by selecting an output as normal, however, instead of specifying an input, we specify another output (output reference) as in Figure 6-15. If this is selected, then at run time, the input that is feeding the output reference is determined by querying the router; this input is then substituted for the input of the new Crosspoint.

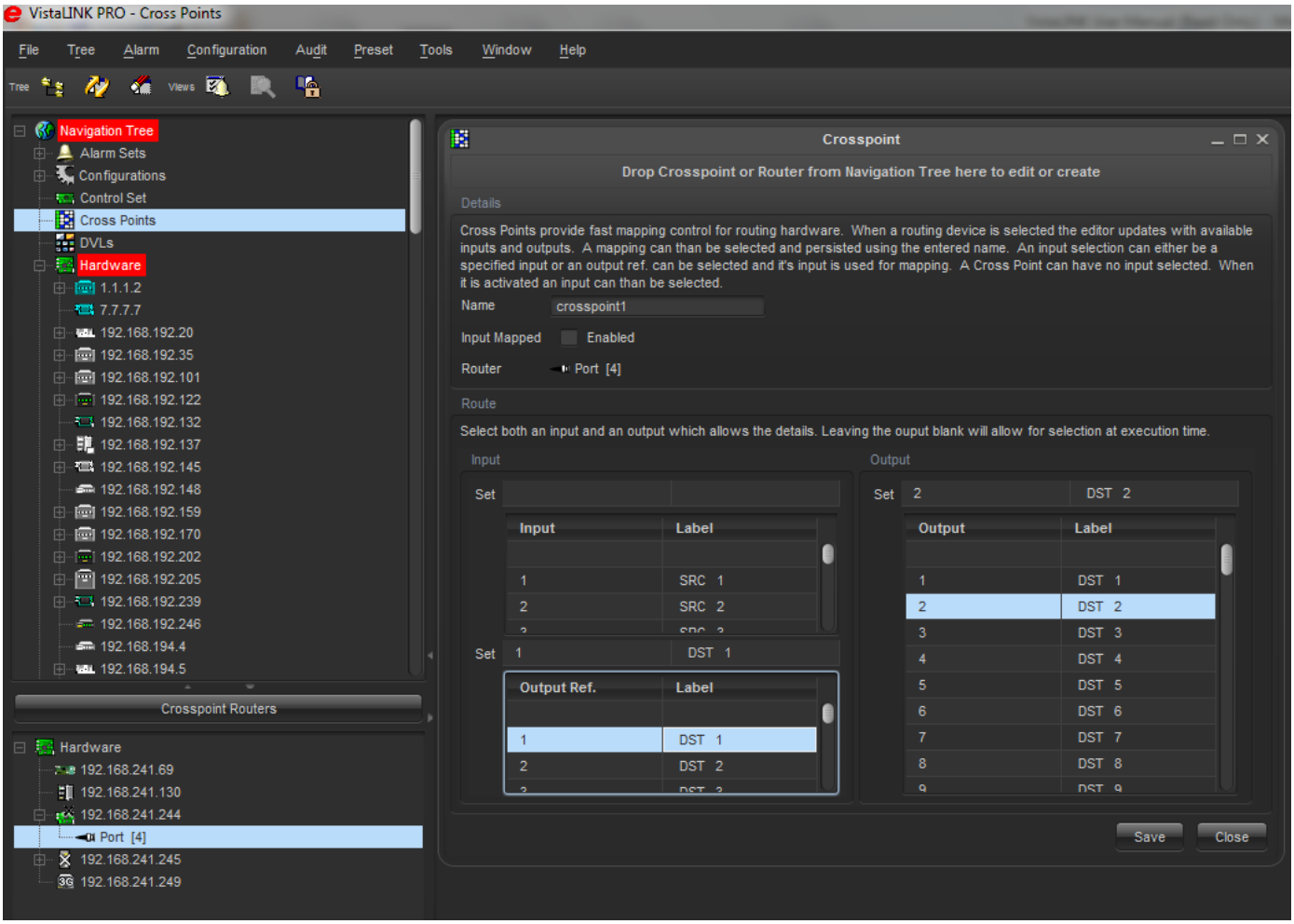



**Figure 6-15: Output Referenced Crosspoint**

Once a router has been selected and the content specified, the new settings can be saved into a Crosspoint. Specify a name for the Crosspoint in the Crosspoint Field at the top of the dialog. Once this is done either press the *Apply* button if more than one Crosspoint is to be created, or press the *OK* button if only one is to be created at this time.

Once the Crosspoint(s) have been created, they can be executed by right clicking on the Crosspoint in the main tree and selecting launch in its popup menu options.

**Helpful Hints:**

Some routers have thousands of inputs or outputs, which means that scrolling through each of these lists may take a long time. To speed up this process the Set fields for each of the input selection and output selection lists can be typed into. When typing into these fields a search will be performed to select the closest input or output to the description that has been typed. Once an input or output has been found, press enter to ensure that the correct input or output will be used.

### 6.2.6. Editing of Crosspoints

To edit a Crosspoint simply take any Crosspoint from the main tree and drag it into the description field at the top of the Crosspoint creation dialog. The existing Crosspoint description will be displayed and modification of any field can be performed. When finished with the changes simply press the *Apply* or *OK* buttons. If you wish to discard your changes simply select the *Cancel* button.

## 6.3. LAUNCHES

VistaLINK® PRO Launches provide a convenience method of launching an external application or http link without exiting the VistaLINK® PRO client application. Launches can be set up to provide quick access to such items as:

- Third party control applications
- Utility service applications
- Product manuals
- Product HTTP control interfaces
    - Internet links

### 6.3.1. Creating Launches

To create a new *Launch* , use one of the two methods described below depending on whether it is an executable launch or an HTTP launch.

#### 6.3.1.1. HTTP (URL) Launches

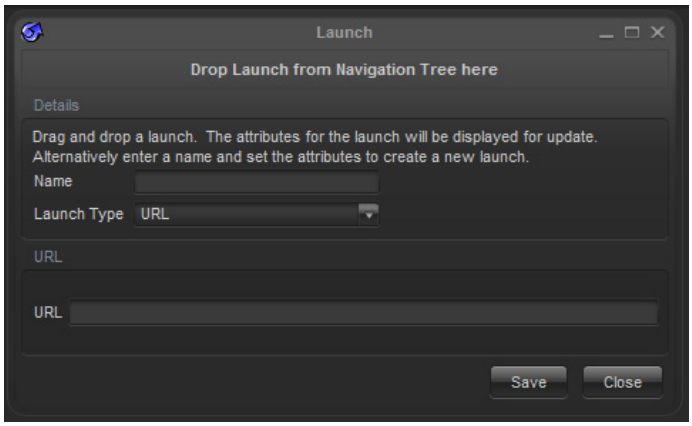



**Figure 6-16: Create a Launchable**

1. Ensure the *Launches* super-node is displayed (see section 3)
2. Right click the Launches node and select *New -> Launch.*
3. In the *Launch Name* field, enter a name for the new *Launch* and enter the URL in the *URL Action* field to have your default browser open when this Launch is accessed. Once the fields are filled out, select O*K*.

#### 6.3.1.2. Executable (.exe) Launches

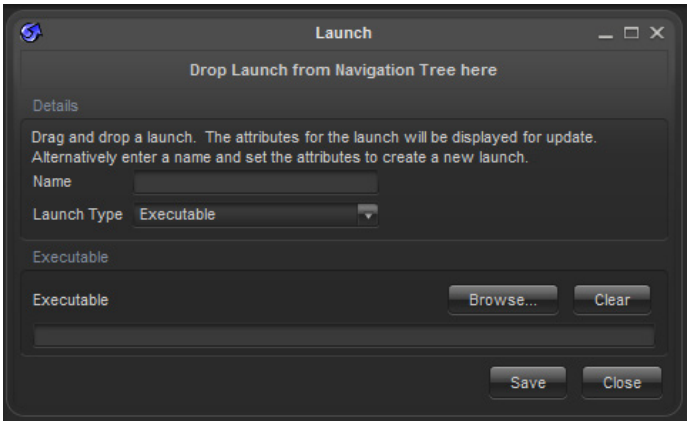



**Figure 6-17: Create a Launchable**

1. Ensure the *Launches* super-node is displayed (see section 3)
2. Right click the Launches node and select *New -> Launch.*
3. In the *Launch Name* field, enter a name for the new *Launch* and use the *Select* button to browse to and select the executable (program) that will be run when this Launch is accessed.

### 6.3.2. Accessing / Using Launches

Once new *Launches* have been created, they will appear in the *Navigation Tree* under the Launches super-node. To use a Launch, right click the Launch node and select -> *Launch.*

The right click menu will also allow you to Edit or Delete the selected Launch node.

## 6.4. INTRODUCTION TO MACRO'S

The VistaLINK® PRO macro system provides a flexibility to do almost any task. This system allows the software manager to access the internals of the application for unique control. Using the Macro system, a developer can gang multiple actions into a single click. The macro system is unique enough that it does not require the user to know a lot about how VistaLINK® works. The macro system gives the user an intuitive interface for accessing the internals of the application through a drag and drop, and a point and click system.

Macros provide a way to target certain clients to run different tasks. Through macros a user can target a client and have that client open up a specific configuration view or a graphical view. Creating and manipulating macro's is done through the main macro editor. The macro editor can be accessed from the *Navigation Tree* by right clicking on *Macro* and choosing *New -> Macro -> Basic.*

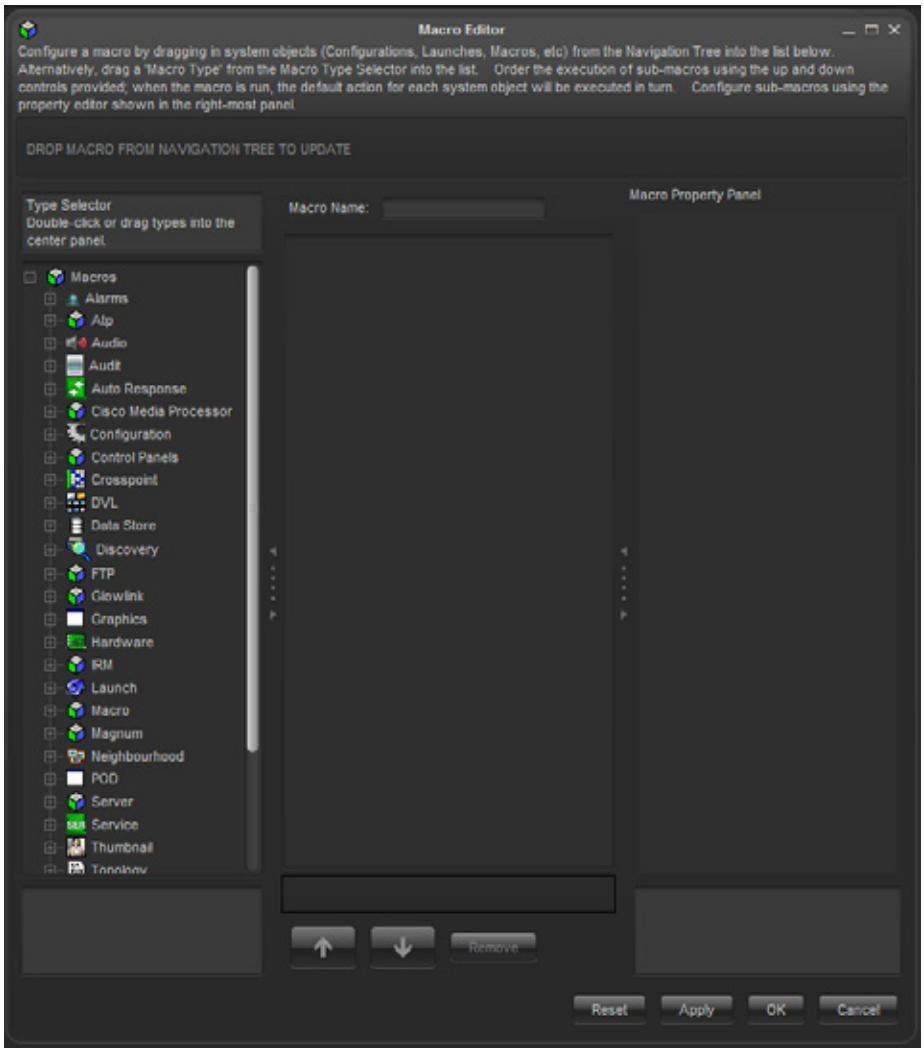



**Figure 6-18: Macro Editor**

The Macro editor is composed of three columns.

The left column contains the macro features that are available for use. This list changes frequently as new features are added to the system. Some of these features relate to manipulating the application, while others allow the executions of the features in the VistaLINK® System.

The middle column is for containing what the macro is going to do. The list will show the order in which the function is going to run. The middle column can be modified in two ways.

1. Items from the left column can be dragged and dropped into the middle column.
2. Items from the navigation tree can be dragged and dropped into the middle column.

Items can also be re-organized by using the bottom **UP** and **Down** arrows. If an item needs to be deleted, select the **Remove** button.

The right column called *Macro Property Panel* is a panel that allows the user to modify the properties of each *Macro* element. By selecting the macro item, the *Property Panel* will update to show the relevant settings. Common settings are typing intervals, selecting configurations and typing in email messages.

Some macro functions may not need additional settings, therefore, the *Property Panel* may not show any information.

Macro items can have a special property to target certain clients. The below image is the control panel for this feature. It is located at the bottom of the Macro Editor.

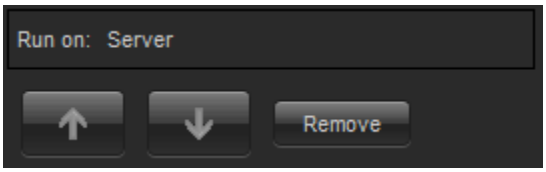



**Figure 6-19: Control Panel of Macro Editor**

The default settings for functions that support this are ***Executing_Client.*** This option dictates that the client who runs the macro will be executing the contents. The option button '…' will allow the user to choose which client will run the contents. This feature is used for systems when a remote client needs to change graphical views on other remote clients.

After configuring the Macro, a name must be given to the macro to uniquely identify it. Once the macro is saved, it can be executed from the *Navigation Tree*.

### 6.4.1. Cycling Macro's

Unlike the basic *Macro's* mentioned above, *Cycling Macro's* are re-occurring. Cycling Macro's can be configured to run in an infinite cycle or a set amount of times. It is possible when making *Cycling Macro's* that the existing *Basic Macro's* can be added. The cycling macro editor has additional properties for managing the cycling process.

To open the Cycling Macro Editor, right click on *Macro's* and choose *New -> Macro -> Cycling*

Three additional properties are available compared to the *Basic Macro* editor.

**Cycle Pause (ms):** Cycle Pause indicates the duration of a pause when moving from the last execution to the first execution.

**Action Pause (ms):** Action Pause indicates the duration of a pause when moving between each execution in the cycling macro.

**Cycle Count:** Cycle count indicates the amount that the *Cycling Macro* will run. The default setting is Infinite.

### 6.4.2. Running Cycling Macro's

*Cycling Macro's* have two states. The idle state means that the cycling macro is not running. The macro can be identified in this state by its idling icon from the *Navigation Tree*. Actively running *Cycling Macro's* has a unique icon that can be identified from the *Navigation Tree*. When a *Cycling Macro* is active, it is possible to right click the *Cycling Macro* and choose the 'Terminate Cycling' to stop the *Cycling Macro.*

### 6.4.3. Macro Property Selection

There are many features with macros. The following list outlines a sample of the features of the Macros.

| **ALARMS** | |
|---|---|
| *Create Custom Alarm* | Allows for the creation of a custom alarm. |
| *Purges Alarms* | Purges the logging system of all alarms. |
| *Open Alarm View* | Opens an alarm view for the given hardware. |
| *Service Alarm Viewer* | Opens an alarm view for a particular service. |

| **AUDIO** | |
|---|---|
| *Clear Sound Buffer* | Stops currently playing sounds and removes all queued sounds from the Audio Manager's sound buffer. |

| **AUDIT** | |
|---|---|
| *View Log* | Opens the Audit Log for viewing. |
| *Purge Entries* | Removes all existing audit entries. |

| **AUTO RESPONSE** | |
|---|---|
| **Alarms** | |
| *Response Trap Generator* | Generates a customized Response trap originating from the Primary Auto Response Server. The response server must be online for this macro to function properly. |

| **AUTO RESPONSE** | |
|---|---|
| **Redundancy** | |
| *Promote Response Server* | Promotes a redundant Auto Response Server from a redundant status to a primary status. |

| **AUTO RESPONSE** | |
|---|---|
| **Triggers** | |
| *Fire Trigger* | Fires a trigger. A mechanism for raising custom Auto Response event. |

| **CONFIGURATION** | |
|---|---|
| **Load** | |
| *Load Configuration* | Loads a Configuration. The control values in the configuration will be applied to relevant hardware devices |
| *Load Directed Configuration* | Applies a Configuration to a set of hardware, the types of which must match the hardware defined within the specified configuration. |

| CONFIGURATION | |
|---|---|
| **Utility** | |
| *Update Configuration* | Updates a Configuration. The control values in the configuration will be updates with the current values retrieved from relevant hardware devices. |
| *Copy Configuration* | Copies the controls from one configuration into another configuration. This action will overwrite any pre-existing controls in the configuration that it is being copied to. |
| *Control Change Notifier* | Detects control value changes; issues traps to a specified IP upon value change detection. Typically called from a cycling macro or an interval-triggered response. Requires a licensed, running VistaLINK® PRO Auto Response system. |
| *Parameter Shuttler* | Transfers parameter values from one device to another. Parameter shuttling is defined within a user-defined shuttle configuration file resident within the Alarm Server. |

| CONFIGURATION | |
|---|---|
| **View** | |
| *Fire Trigger* | Fires a trigger. A mechanism for raising custom Auto Response events. |

| CROSSPOINT | |
|---|---|
| *Launch Crosspoint* | Launches a Crosspoint |

| DISCOVERY | |
|---|---|
| *Refresh Tree* | Causes the discovery tree to be 'refreshed'. This involves setting all hardware markers in the system to an 'unknown' state. Each piece of hardware is then queried, in turn, to ensure that it is still functioning. |
| *Refresh Agent* | Causes discovery to be 'refreshed' for a particular agent. |
| *Remove Dead Hardware* | Removes 'dead' hardware from the system tree. When VistaLINK® PRO is unable to communicate with hardware, it is marked as dead, and is coloured gray in the system tree. |

| DVL | |
|---|---|
| *Run Script DVL* | Launches a Run Script DVL. |
| *Run change Stream DVL* | Launches a Change Stream DVL. |
| *Save/Load DVL* | Launches a Save/Load DVL. |

| GRAPHICS | |
|---|---|
| *Open Graphics View* | Macro to open a graphics view on a selected client. |

| HARDWARE | |
|---|---|
| *Device Label* | Sets a custom label for a hardware device. |

| LAUNCH | |
|---|---|
| *Execute Launch* | Executes a pre-configured launch. |

| MACRO | |
|---|---|
| **Cycling** | |
| *Stop All cycling Macros* | Stops all actively cycling macros. |
| *Stop Cycling Macro* | Stops all instances of a specified cycling macro, if they are running. |

| NEIGHBORHOOD | |
|---|---|
| *Open View* | Opens the VistaLINK® PRO Neighborhood view. |

| SERVER | |
|---|---|
| *Message* | Causes a message to be delivered to all logged in clients. |
| *Email* | Sends an email to identified recipients. |

| UTILITY | |
|---|---|
| *Authorization* | Used to request user authorization before proceeding with macro execution. |
| *Pause* | Used to insert a wait period in between macro executions. For example: Suppose you require a macro that needs to perform two sequential actions with a five-second interval between them; simply insert a Pause with a value of 5000 (5 seconds expressed in milliseconds) between the two actions. |
| *Show Client ID* | Prominently displays a VistaLINK® Clients identifier. Useful for troubleshooting client IDs. |

| VISIBILITY | |
|---|---|
| *Tree* | Shows and Hides the system Tree |
| *Menu Bar* | Shows/Hides the system menu bar. |
| *Tool Bar* | Shows/Hides the system tool bar. |

| WINDOWS | |
|---|---|
| *Minimize* | Minimizes any open views on a client. |
| *Restore* | Restores all minimized views on a client. |
| *Cascade* | Lays out all open client views in a cascading fashion. |
| *Tile* | Lays out all open client views in a tiled fashion. |

## 6.5. INTRODUCTION TO MIBS

The MIB Control Set was introduced in VistaLINK® 10.2.266 as an entry-level open control system for third-party SNMP devices outside of the Evertz product realm. The goal of the MIB Control set is to supply an open dialog that can access all the different SNMP enabled parameters on any SNMP managed device. This document will provide information on how to build up an MIB Control Set, as well as possible SNMP functionality that could exist throughout one's hardware plant.

The MIB Control Set is composed of a new node element in the *Navigation Tree* of any VLPRO Control or Monitoring Client. From this node, users can create saved sets of control and monitoring dialogs. Operators or engineers would access these sets for SNMP monitoring and control of the managed equipment. SNMP control of a device could be almost anything as long as it is within the scope of the device capabilities through SNMP. A Management Information Base (MIB) provides information on determining a devices control and monitor capabilities.

The MIB can be provided straight from the equipment vendor for vendor specific controls. Also, public standard MIBs can be downloaded from a variety of the Internet resources. A very helpful Internet resource for viewing, downloading and searching all the different kinds of MIBs is http://www.oidview.com/mibs/detail.html. Deciding whether the vendor-specific or standardized control level is appropriate is solely based on the specific application. The MIB Control Set is designed to accompany any kind of SNMP accessible parameter, therefore, it is possible to mix and match between the different MIBs. When deciding to use standardized MIB objects in the MIB Control Set, it is important that you consult the product documentation to find out if the MIB object has been implemented in the device. Usually, it would be documented in the SNMP Specific sections as "RFC <number> compliant". Each standardized MIB is ruled into a *Request for Comment,* and it is necessary that the vendor implements the RFC Spec. fully before claiming it in product advertisements and documentation. If the vendor does not indicate compliance in documentation, the device may still only implement part(s) of a particular MIB standardization.

Below is a short list of useful standardized MIBs that may be implemented on a SNMP managed device.

| RFC | Date | Name | Description |
|---|---|---|---|
| 1213 | March 1991 | Management Information Base for Network Management of TCP/IP-based Internets: (known as MIB-II) | *Includes Ethernet, IP and TCP/UDP statistics information* |
| 1514 | Sept. 1993 | Host Resources MIB | *Provides details about CPU, program processes, disk storage and file system statistics.* |
| 1628 | March 1994 | UPS MIB | *Battery backup control and monitoring statistics* |
| 1595 | March 1994 | Definitions of Managed Objects for the SONET/SDH Interface Type | *Statistics on interfaces and rings for SONET/SDH devices* |
| 1850 | Nov 1995 | OSPF Version 2 MIB | *Statistics and information of OSPF processes in a dynamic routing environment* |
| 1697 | Aug 1994 | Relational Database Management System MIB | *Contains information on installed databases, servers, and on the relation of databases and Servers.* |

**Table 6-1: Standardized MIBs**

A vendor may also provide a private MIB that is specific to the device functionality. All vendors use private MIBs when the standardized MIBs do not support a definition to a particular control that the equipment supports. The vendor is free to provide descriptions about the controllable objects, or even the MIB itself at their discretion. Sometimes vendors will choose to fully develop SNMP support privately, even though all the controls could have been implemented through a standardized MIB. This is usually because the vendor feels they need to present the monitoring and control access in a different way so that the system is easier to manage through SNMP.

### 6.5.1. The MIB Control Set

The MIB Control Set dialog is illustrated in section 6.5.2. The dialog can be in the following two modes:

**Edit Mode:** This mode gives the MIB Control Set designer a enviroment to create or make changes to MIB Control Sets and save them for later use.

**View Mode:** The ideal working enviroment for an operator to gain access to the custom MIB Control Set and utilize the parameter setup for read and write operations to the device. From this mode, a user cannot change the MIB Control Set setup.

When designing the MIB Control Sets, it is useful to develop them on a per device basis. Each MIB Control set would be associated to a particular device for ease-of-use. Multiple MIB Control Sets can be opened at any time and can partition the computer monitor logically so that each area of the monitor is devoted to a particular device.

It is possible to create a one-time MIB Control Set which the operator can recall and manually input the IP address of the managed device to access it. With this method, the managed device would respectively need to have the same SNMP monitoring and control characteristics to work correctly.

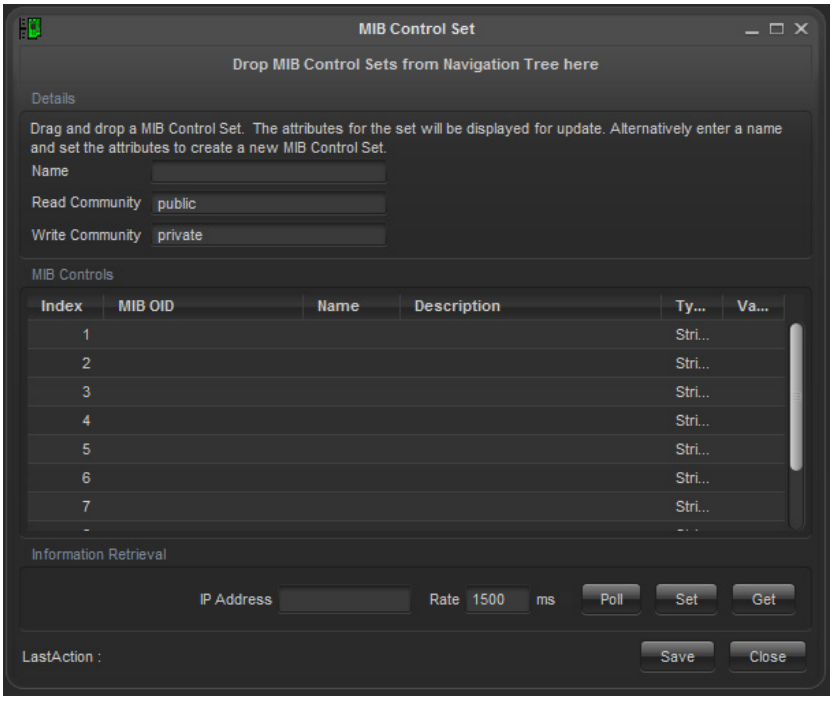



**Figure 6-20: An empty MIB Control Set Dialog**

### 6.5.2. MIB Control Set Dialog in Detail

**Name:** Used to describe the custom dialog. This entry is also reflected in the *Navigation Tree* when managing saved MIB Control Sets.

**Read Community:** The community name that is used to pass to the Agent for verification in get operations. By default, this is set to "public".

**Write Community:** Community name that is used to pass to the Agent for set operations. By default, this is set to "private".

**Index Column:** Up to 10 rows are available per dialog. This uniquely identifies a row in each dialog.

**MIB OID:** The object identifier (OID) numerical string is placed in this column to create a monitoring or control parameter in one of the rows. This OID is in the format of a dotted decimal string, and it would look similar to: 1.3.6.1.2.1.1.4.0. The example OID addresses the sysContact leaf from the RFC 1213 (MIB II) MIB definition. It is vital to have the MIB file when deciding on SNMP enabled parameters because the OID is derived from the MIB files.

**Name:** Textural string that describes the leaf object that is being accessed (through the OID)

**Description:** More textural documentation about the leaf object. It is ideal to write a small description about the parameter to help validate what the return value means. Possible entries would be 'CPU Load 0-100%' so the operator would know what a '66' return value would mean. With some leaf objects, this documentation is necessary because they may only return a '1' or a '2'. For example, a '1' could mean a network interface is up and a '2' could mean the interface is down.

**Type:** Used for set operations and formats, this column identifies the type of leaf object being accessed. This can be set to a "String" (Octet String), "Integer" or "IP Address".

**Value:** This column holds any returned value for each row using the *Get* function. This column is fully changeable for changing a leaf object value using the *Set* operation

**IP Address:** Used to direct the dialog action controls to the appropriate device on the computer network.

**Rate:** This control tells the *Poll* button how often it should issue a get SNMP command.

**Poll:** After selecting the desired rows either using the mouse, or the CTRL, or SHIFT key for multi-select, repeated get SNMP commands are issued. The frequency is dictated by the *Rate* control. This control is desirable for watching real-time changes about the parameter in question and the return value is updated in the *Value* column.

**Set:** The set function is used to change a value of the SNMP object for a particular row in the MIB Control Set dialog. The *Value* column is always in edit mode, therefore changes to the field value can be made first before the *Set* button is clicked. This button will issue a Set SNMP command with the *Private* community string

**Get:** After selecting the desired rows either using the mouse or the CTRL or SHIFT key for multi-select, a single get SNMP command is used using the *Public* community string. The return value is updated in the *Value* column.

**Last Operation Result:** This field provides notes on successful and unsuccessful actions that were made contacting the device with either the *Set* or *Get* button.

### 6.5.3. Creating a MIB Control Set

The MIB Control Sets are stored in the *Navigation Tree* from the following node icons.


MIB Control Set super node


MIB Control Set groups

To create a new MIB Control Set, right mouse click the *MIB Control Set* node from the *Navigation Tree* to bring up a small menu system. Select *New,* and then select *MIB Control Set.* See Figure 6-21.

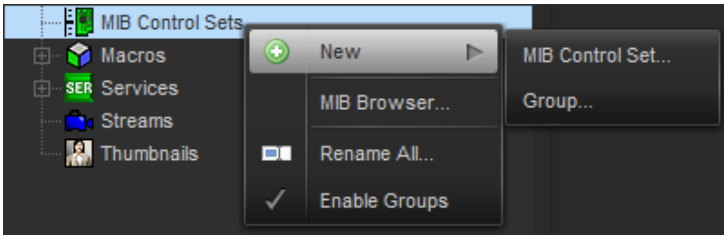



**Figure 6-21: MIB Control Set…**

Once the blank dialog starts up, the form elements can be changed. The below steps instruct how to create a MIB Control Set to monitor switch port status from a Ethernet switch that supports the RFC1213 MIB.

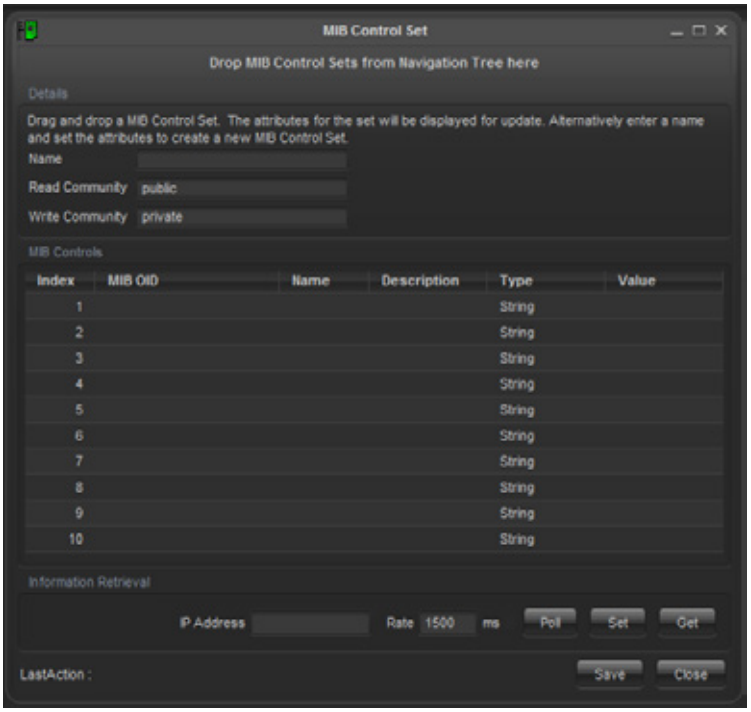



**Figure 6-22: Sample MIB Control Set Being Created**

1. The first task would be to find the right OID for the SNMP accessible parameter. This example 'Super Switch' MIB Control Set uses the *ifOperStatus* object from the RFC1213 MIB (known as MIB II). The *ifOperStatus* object provides information whether the network interface is either *up (1)* or *down (2).* Since this example is setup to monitor an Ethernet switch, the *ifOperStatus* object is going to have the same amount of rows, as there are switch ports. The RFC1213 MIB provides all the details on how this works.

2. A textural name is then applied to the *Name* column for indication on what parameter is being accessed. This entry is custom and the example uses 'Port #' for simplicity.

3. The *Description* column can be filled in with a functional description on how the *ifOperStatus* behaves. This information is always provided in the object description field from the MIB. The example uses 'up (1), down (2)' to help determine what the value from the *Value* column means.

4. An IP address may be inserted into the *IP Address field*. Filling in this field will trigger the dialog to be remembered for future startups.

5. Making changes to the *Rate,* community string fields and the *Type column* will also be remembered for future startups. The *Type* column is only needed when doing set SNMP operations. Since the *ifOperStatus* object is read-only, this setting has no effect on the *Value* column.

6. Once done, click *OK* and the dialog will close and be saved in the *Navigation Tree.*

### 6.5.4. Running the MIB Control Set

After saving the *Super Switch* MIB Control Set, it can be opened again from the *Navigation Tree* in *View* mode. Figure 6-23 demonstrates that all rows are being polled at every 1500ms through the *Poll* button. The return values are than inserted into the *Value* column.

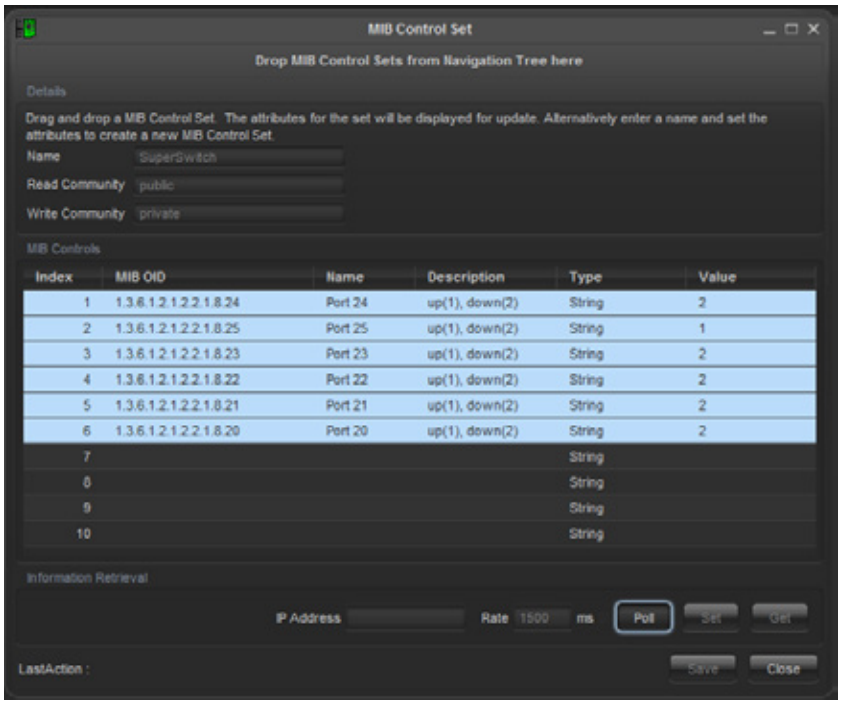



**Figure 6-23: Super Switch MIB Control Set in Action**

# 7. CLIENT, SERVER AND HARDWARE MAINTENANCE

## 7.1. FIRMWARE UPGRADES

It is possible to manage firmware upgrades from VistaLINK® PRO for 7700, 500 and standalone equipment. Firmware upgrades for the 7700 and 500 frame controllers are managed separately from the modular card upgrade process. Firmware upgrading over TCP/IP involves using the FTP transfer protocol. VistaLINK® PRO does not do any serial transferring of the device firmware upgrade. Since VistaLINK® PRO uses TCP/IP to upgrade the device firmware, VLPRO will need full network connectivity to the device. During the device firmware upgrade, it is important that the card is not used for live services. The process will put the device in a temporary mode that prohibits its normal functionality. It is important to check the products documentation if the device supports VistaLINK® remote upgrading.

### 7.1.1. Upgrading Frame Controllers

VistaLINK® PRO can facilitate frame controller upgrades. This process is handled differently than standard module upgrade. The below steps outline how to upgrade the 7700 Frame Controller.

1. Start a VistaLINK® PRO client and login using the Administrator user account (VLPRO-C does not use login accounts).

2. Expose the 7700FC in the hardware tree using 'Add/Update Frame' and collapsing the nodes in the tree appropriately.

3. Use the right-click mouse button on the '7700FC' in the tree and select 'View configuration', as shown in Figure 7-1.

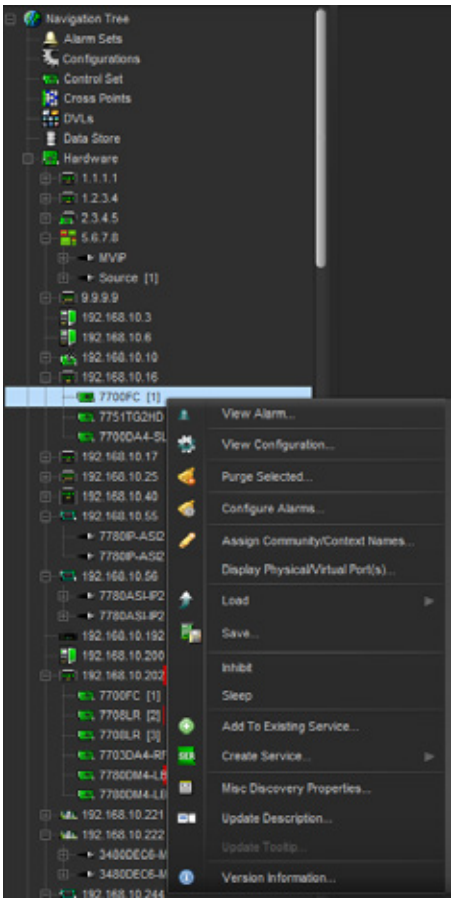



**Figure 7-1: Navigation Tree**

4. Select the 'Control' tab in the configuration view. Figure 7-2 shows the Control tab in full.

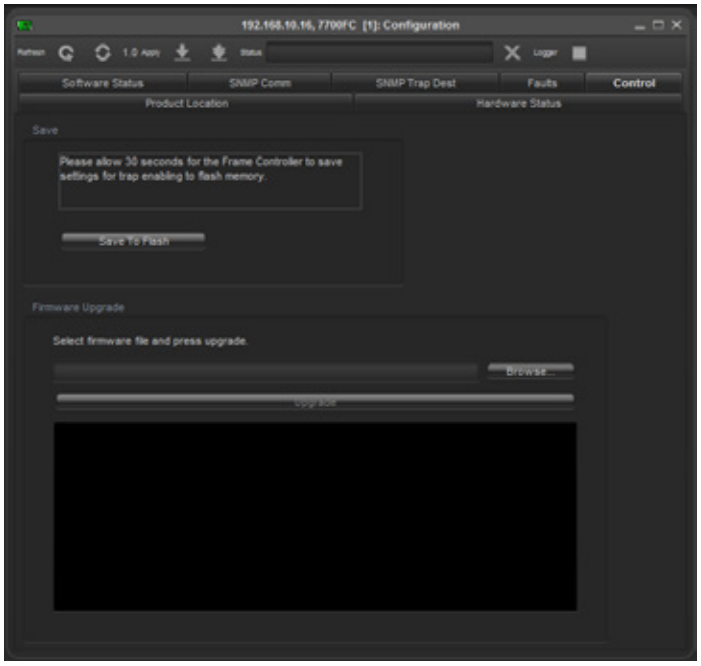



**Figure 7-2: Control Tab**

5. Click the 'Browse' button to select the unzipped 7700FC Image file downloaded.

6. Click the Upgrade button and wait for the upload to complete. This will take approximately 5 to10 minutes depending on network traffic.

Upon completion, the 7700FC module will reboot automatically and return online in normal "run" mode. If for any reason the upload is interrupted, you must execute the recovery procedures described in the frame control manual. To upgrade the 500FC, the exact steps shown for the 7700FC can be used.

### 7.1.2. Module Firmware Management

To bring up the version information dialog go to *Tools->Products->Version Info.* VistaLINK® PRO supports module and standalone firmware monitoring and upgrading. This process is handled through the *Version Information* Dialog. The *Version Information* provides a great way for inventorying hardware. It can display firmware information, device IP information and provide an upgrade system for the module and standalone devices.

To access the version information dialog, use the below steps.

1. From the VistaLINK® PRO client select *Tools ->Products->Version Information.*
2. Once the dialog opens, adjust the *List* control at the bottom left from *Supported* to *Active.*

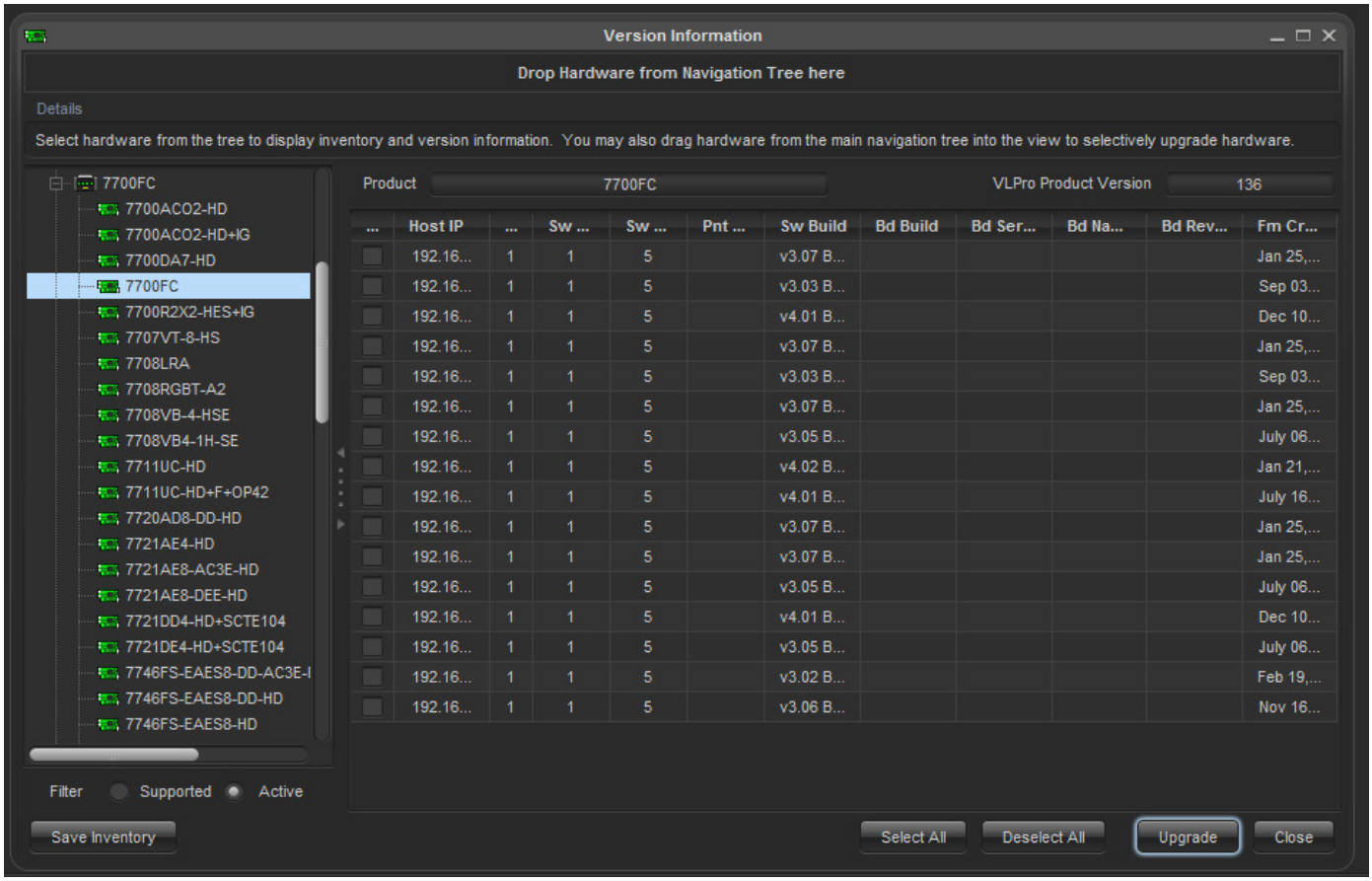



**Figure 7-3: Version Information**

When the *Active List* mode is used, the tree on the left resembles the available hardware on the network. Selecting a device from the tree will update the table view on the right. The table view provides the following information:

**Host IP:** IP address used to access the device.
**Slot:** If the device is a modular card, the slot location will be reported.
**Sw Major:** The firmware major number release.
**Sw Minor:** The firmware minor number release.
**Sw Build:** The firmware build number.
**Hw Build:** Hardware revision information.

It is important to note that if the table does not display any information about the firmware version, it is because it is a limitation of the module not supporting it.

To upgrade modules or standalone devices, first select a device from the left tree of the *Version Information* dialog, then click the *Upgrade* button. The Upgrade Firmware dialog is shown in Figure 7-4.

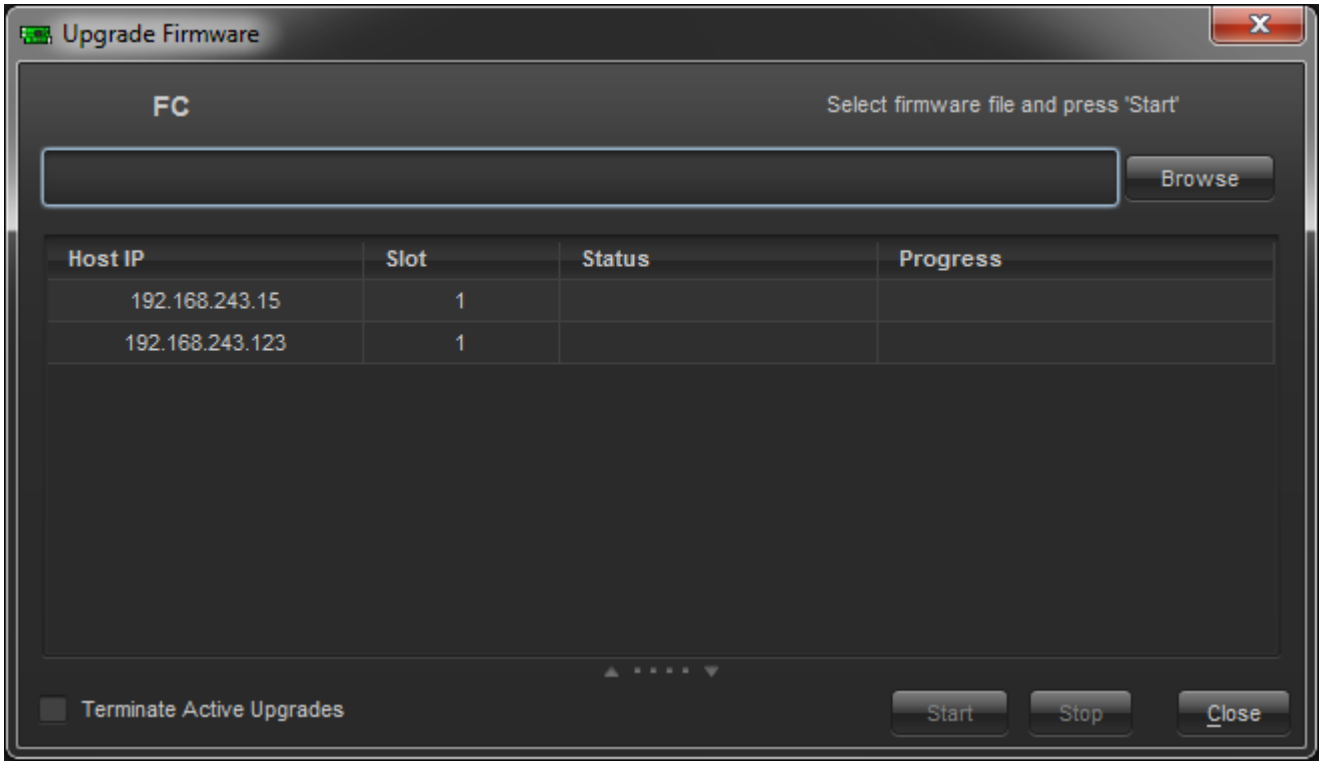



**Figure 7-4: Upgrade Firmware Screen**

It is possible to upgrade more than one module at a time. The Upgrade checkboxes allow the exclusion and inclusion of modules or devices to be included in the upgrade process. The *Browse* button allows for the firmware file to be selected from the file system. Once the file is selected, the *Start* button can be pressed to start the upgrade process.

**It is important to note that if the upgrade process does not start correctly, it might be that the module or standalone device does not support a remote upgrade method. Please consult the product documentation if the feature is implemented on the device.**

## 7.2. PRODUCT JAR UPGRADES

VistaLINK® PRO supports the addition of new product support through a method known as JAR upgrading. Product support is centralized around a JAR file system built into the application. Each product support has its on JAR file. Adding or Removing JAR files from VistaLINK® modifies how VLPRO supports products. Often products are released or enhanced which require updates to the software. Applying a newer jar file to VistaLINK®, will update the software to make it aware of the changes.

The JAR update system in VLPRO is managed centrally from the VistaLINK® Server. To update VLPRO for new or modified product support, only the VLPRO Server will receive the manual update. The VistaLINK® Server will negotiate product support with the connected clients and will push any new updates downstream to the software clients. This makes managing product support very easy and cost effective.

To apply a product JAR file to the VistaLINK® Server, select *Help -> Apply Update -> Product.* Once the VistaLINK® Server receives the updated JAR file, it will instruct for a manual restart. Product updates can be monitored from the VistaLINK® Server using the *Product Update* tab from the VistaLINK® Server

To expose the tab, select *Tools -> View -> Show/Hide Product Update*. Figure 7-5 shows the *Product Update* Tab from the VistaLINK® Server.

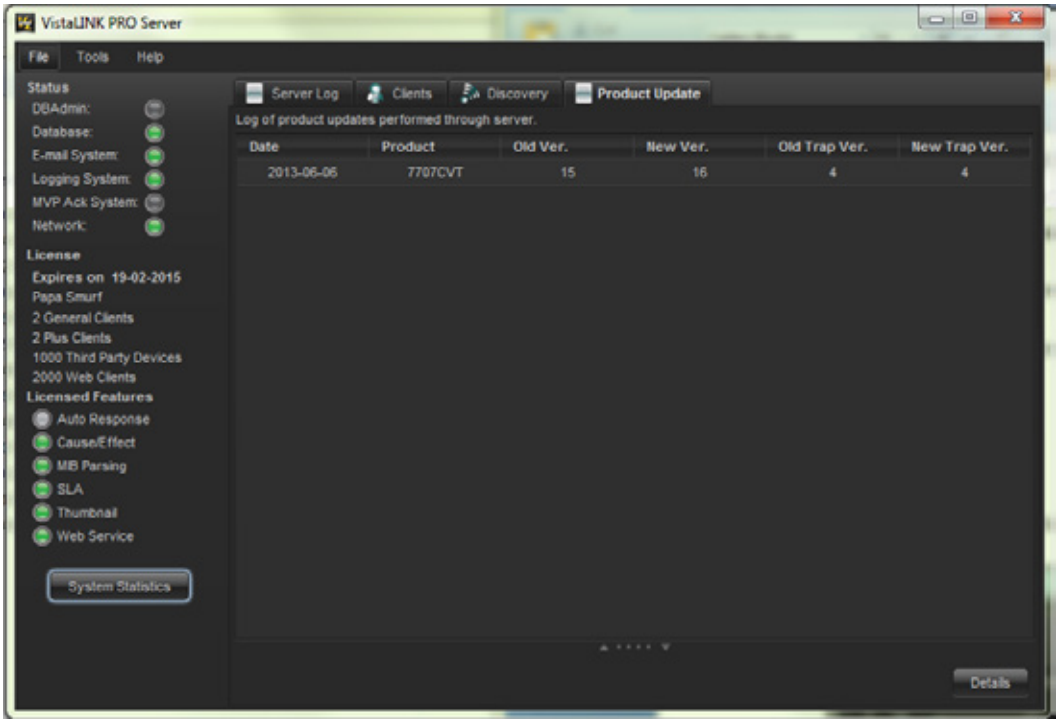



**Figure 7-5: Product Update Tab**

The Product Update table provides information about the product support. The information is listed below.

**Date:** The date when the product support was modified
**Product:** The type of product that was modified
**Old Ver.:** The old version number of the previous product JAR file
**New Ver.:** The new version number of new product JAR file
**Old Trap Ver.:** The old trap revision for the product trap support
**New Trap Ver.:** The new trap revision, which changes with the product support update

### 7.2.1. Client Product JAR Support

When product support is applied to the VistaLINK® Server, the support is pushed to the clients when they first reconnect back to the server. The *Product Update Alert* message appears to signify that the product update procedure was successful. Figure 7-6 displays the appearance of the *Product Update Alert message* from a client.

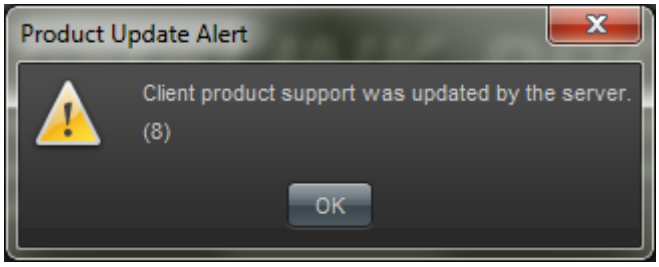



**Figure 7-6: Product Update Alert Message**

Product support can also be monitored from the VistaLINK® PRO Client through the *Version Information* program. To access the *Version Information* from a VistaLINK® Client first select *Help -> Version Information*. The below image resembles the *Version Information* dialog when it firsts starts up.

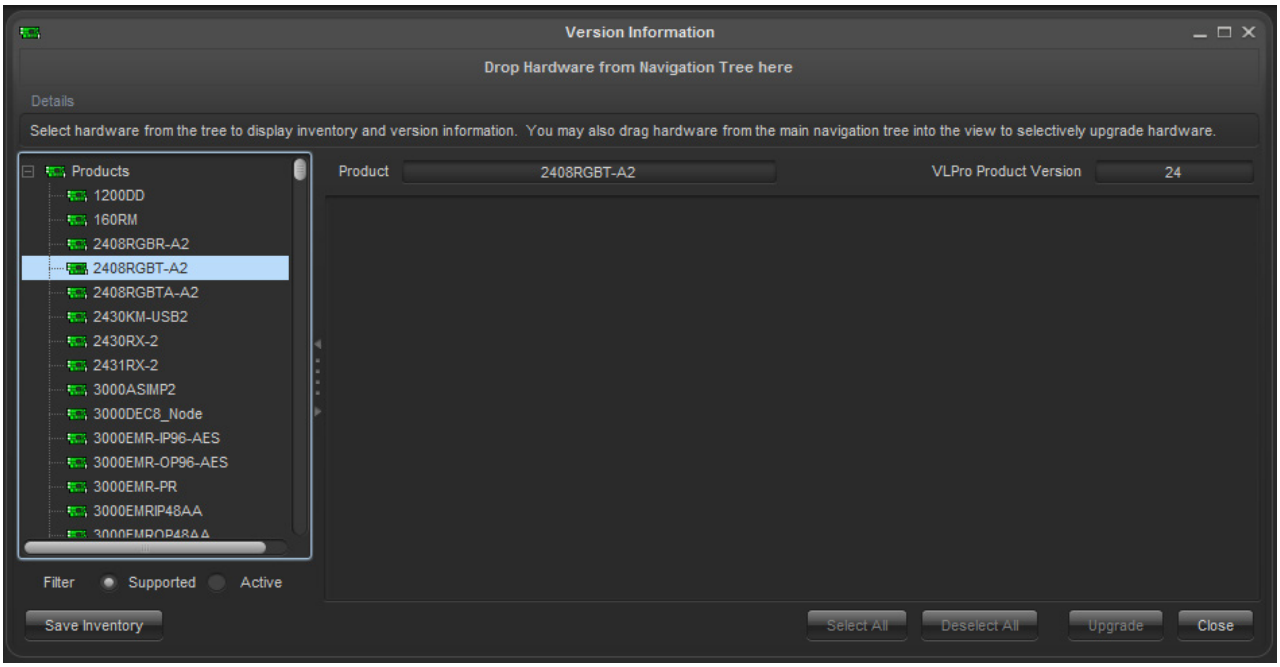



**Figure 7-7: Version Information**

The hardware list on the left of Figure 7-7 displays the product support at the VistaLINK® Client. Selecting the products from the list on the left will update the *VLPRO Product Version* field in the upper right. This number denotes the JAR version currently installed in the VistaLINK® Client.

## 7.3. SERVER RESTORE MANAGER

The restore manager provides an easy way to backup and restore VistaLINK® PRO Databases. The system can create backups without having to shutdown the mySQL server process. The *Restore Manager* is a valuable tool when making significant or large changes to the system. The restore databases is an automatic process performed by the VistaLINK® PRO Server after the user selects a previously made restore point.

Follow the steps below to create a restore point:

1. From the VistaLINK® PRO Server, select *Tools -> Restore Manager.* See Figure 7-8.

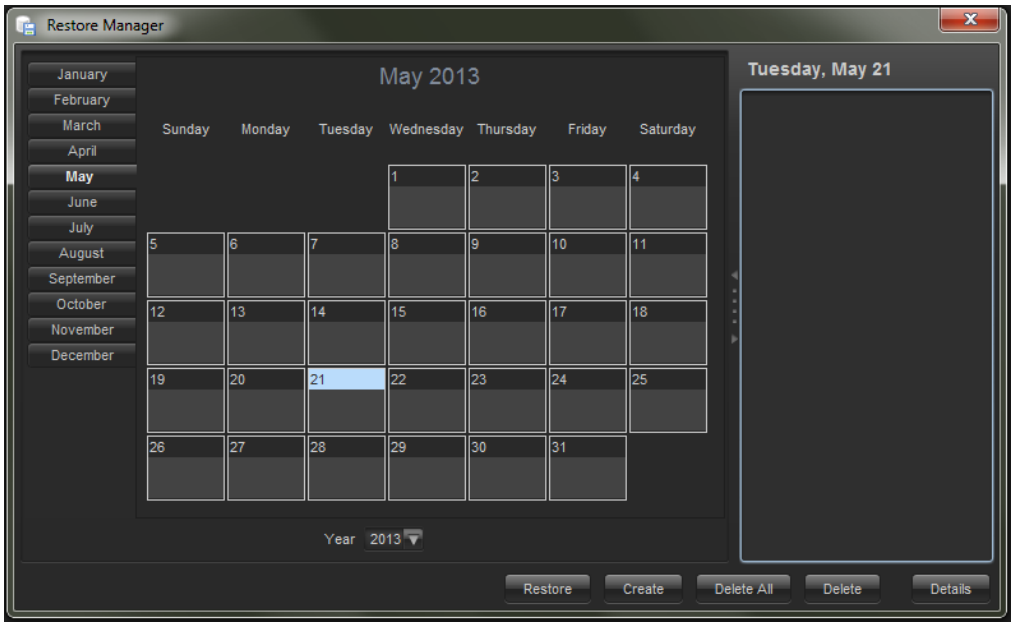



**Figure 7-8: Calendar**

2. Click the *Create* button to create a restore point.
3. It is possible to include details about the restore point (ie. who is creating it and for what reason). Once the restore point is made, it will be available from the calendar. Clicking on each date will update the list on the right to indicate which restore points are available.

### 7.3.1. Restoring Databases

Restoring databases is a method of loading a previously made restore point back into the system. This step is valuable when design mistakes or accidental deletions of important settings have been made.

The steps to restore a previously created restore point are outlined below:

1. From the VistaLINK® PRO Server, select *Tools -> Restore Manager.*

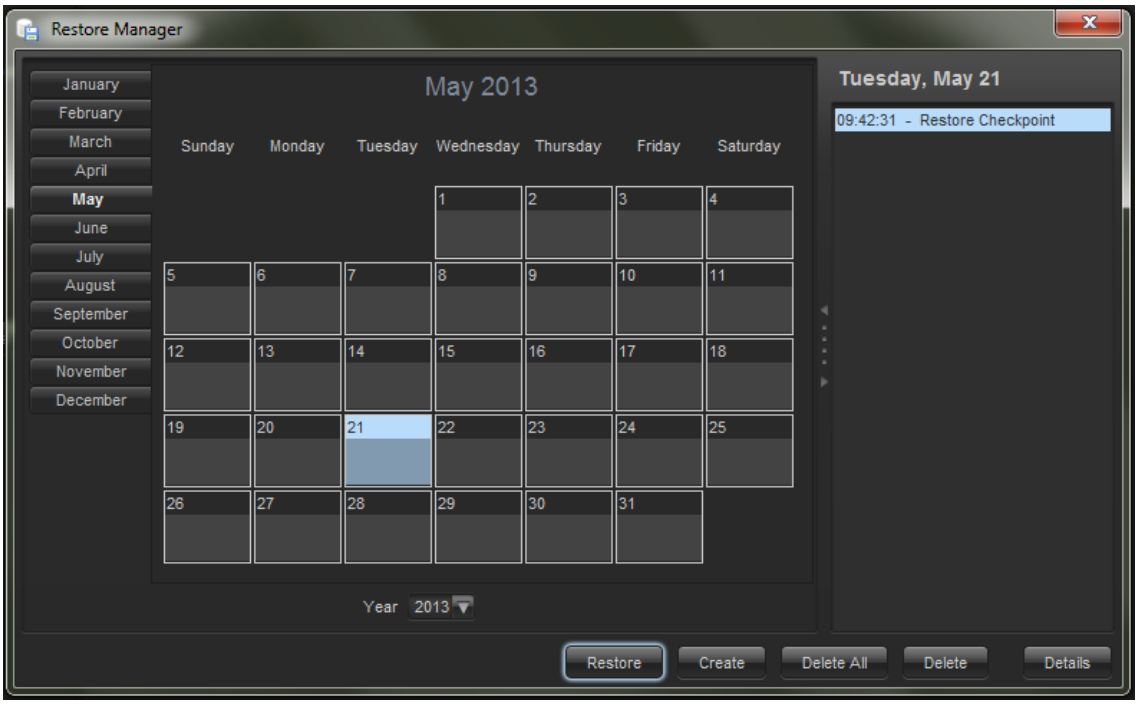



**Figure 7-9: Restore Manager Calendar**

2. Select a calendar date that contains previously created restore points.
3. Select a restore point from the list on the right in Figure 7-9. Clicking the *Details* button will show any details that have been made.
4. Click *Restore* to start the restore process. Once the restore process has finished, the VistaLINK® PRO Server will need to be restart for the changes to take effect.

The restore points are stored locally on the VistaLINK® PRO Server. These restore points can be accessed for offline storage incase of computer hardware failure. The restore point files can be found in the following directory: C:\Program Files\VistaLinkProServer\dbadmin\backup\

## 7.4. USER ADMINISTRATION

### 7.4.1. User Permissions

VistaLINK® PRO provides audit tracking and restricts access to features by requiring operators to *Logon* with an appropriate user account before gaining access to the software. Each user that requires access to VistaLINK® PRO should have a unique logon. Doing so ensures that a user will only have access to areas defined by the account privileges and allow for an audit trail indicating which users handled certain events.

#### 7.4.1.1. Adding or Modifying a User Account

1. In order to add or modify user accounts you must be logged onto VistaLINK® PRO with an account that has access to the *Configure Users* option. The *Administrator* account has this ability by default.

2. User accounts can be added, edited or removed through the *User Manager* dialog. Select *Tools -> Users* from the main menu. The *User Manager* dialog box will open displaying all current users accounts for the system.

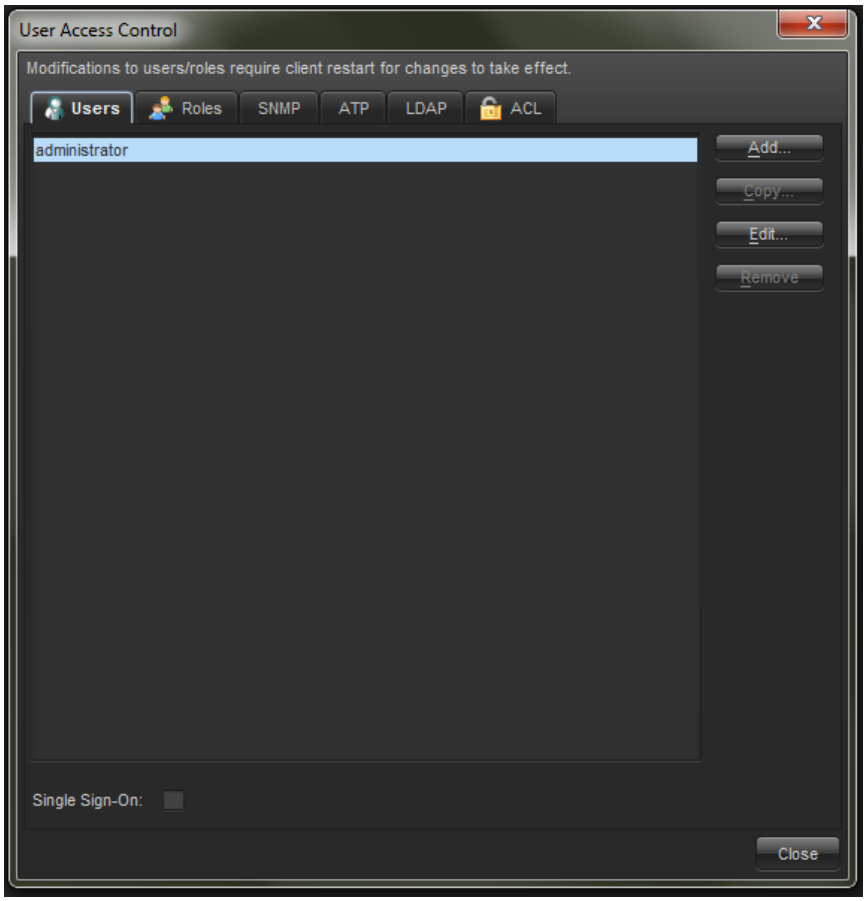



**Figure 7-10: User Manager**

3. If adding a new user, select the *Add* button. If modifying an existing user, highlight the user in the list and select the *Edit* button. The *Add New/Edit User* dialog box will open allowing configuration of the user account username, password and privileges.

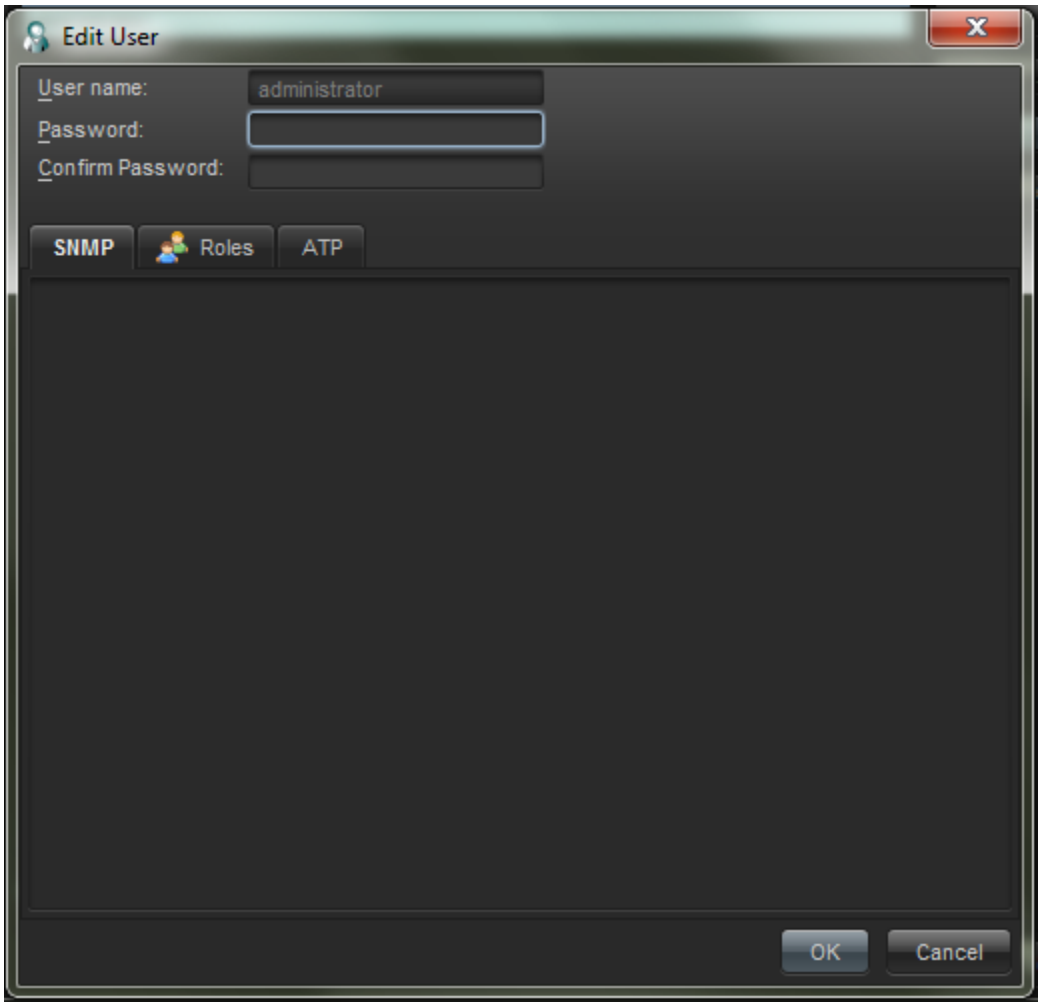


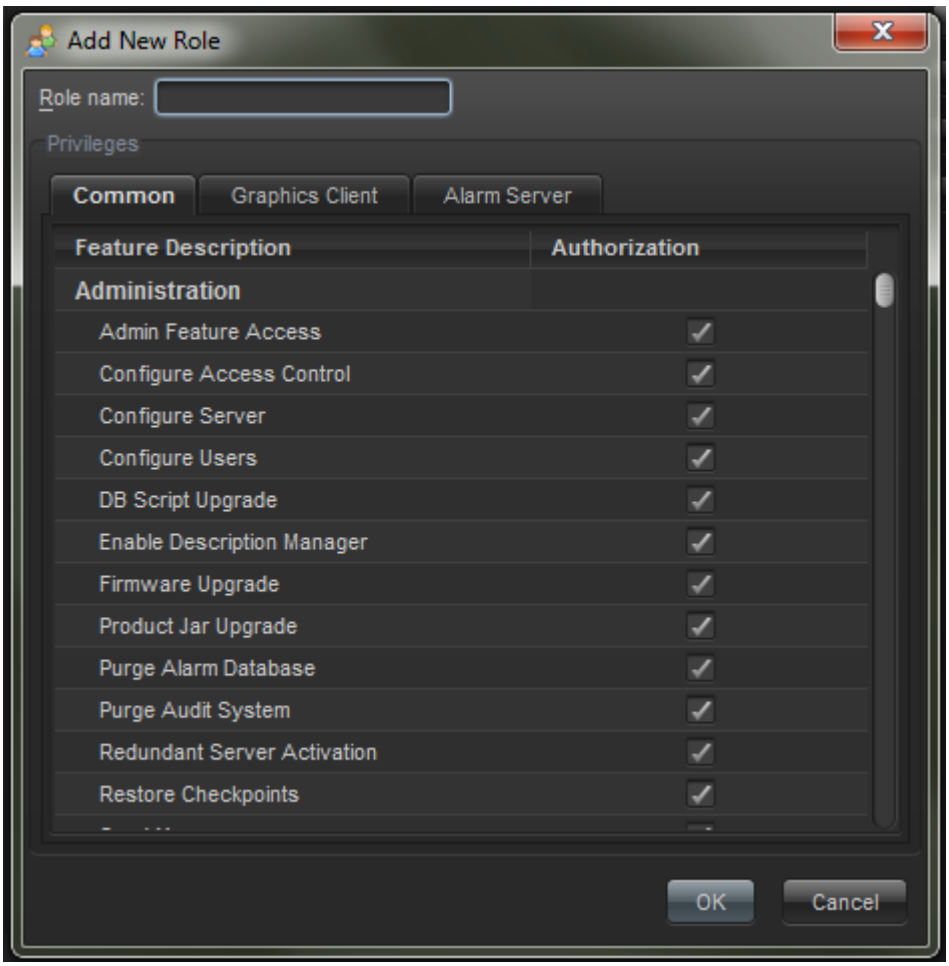

**Figure 7-11: Edit User Window**

4. The user account dialog contains the following fields that can be changed when adding a new user or editing an existing user account:

   ***User name:*** The name of the account being created/edited. This is the name the user will use to logon to the VistaLINK® PRO system. All audit log entries will reference this account's actions by the name entered in this field.

   ***Password:*** The password this account will use to logon to the system with the appropriate account privileges.

   ***Add Roles (Privilege Class):*** This dropdown menu will change the privilege authorization screen to allow privileges to be assigned for any feature type in VistaLINK® PRO. The available options are: Common Privileges, Monitoring Privileges, Scheduling Privileges and Server Privileges. Change this selection and then use the Authorization area to select specific access rights. In the User Access Control, click on the *Roles* tab and click the *Add* button.




**Note: The *Privilege Class* is not a user account type; it simply changes what options are displayed in the *Authorization* area.**

***Authorization*:** This area presents all features for a *Privilege Class* with an Authorization check box for each. Access per feature can be enabled or disabled for the current account by checking or un-checking the Authorization check box for the feature that is selected.

5. After setting up a user account, click *OK* to add the user (or update if editing) to the User Manager list. Continue steps 2 - 3 for additional users or click the *OK* button to close the *User Manager* and save changes. Click the *Cancel* button to abort all changes.

### 7.4.1.2. Deleting a User Account

Deleting a user will remove the ability for that user to *Logon* to the VistaLINK® PRO software. Deleting a user will not delete any actions the user has performed prior to the delete. All audit entries, acknowledged or corrected alarms, etc. remain as-is with the user's name attached to the operation.

To delete a user:

1. Selecting *Tools -> Users* from the main menu. The *User Manager* dialog box will open displaying all current users of the system.

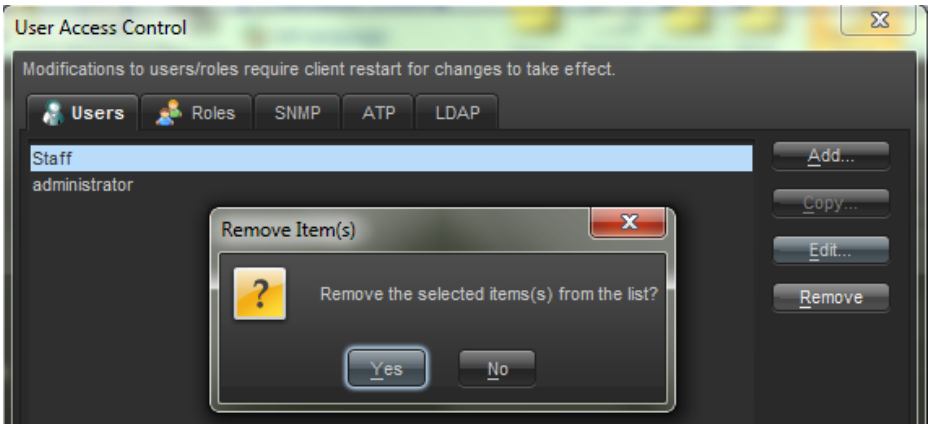



**Figure 7-12: Remove User(s) Dialog Box**

2. Highlight the user you wish to delete from the list of users and select the *Remove* button. You will be prompted to confirm the action. Select *Yes* to delete the user or *No* to abort the operation.

### 7.4.2. Audit Logging

#### 7.4.2.1. About the Audit View Window

The Audit View window provides a means of viewing activity that has occurred in the VistaLINK® PRO system. Each audit entry is stamped with the user logon name, date and time of the action, a description of the activity and a detailed breakdown of data that was changed. The audit system also allows operators to add custom audit entries so that operator issues can also be tracked through the audit system. For more information on custom audit entries, see section 7.4.2.2.

To view the *Audit Log* select *Audit -> View Audit Log*.

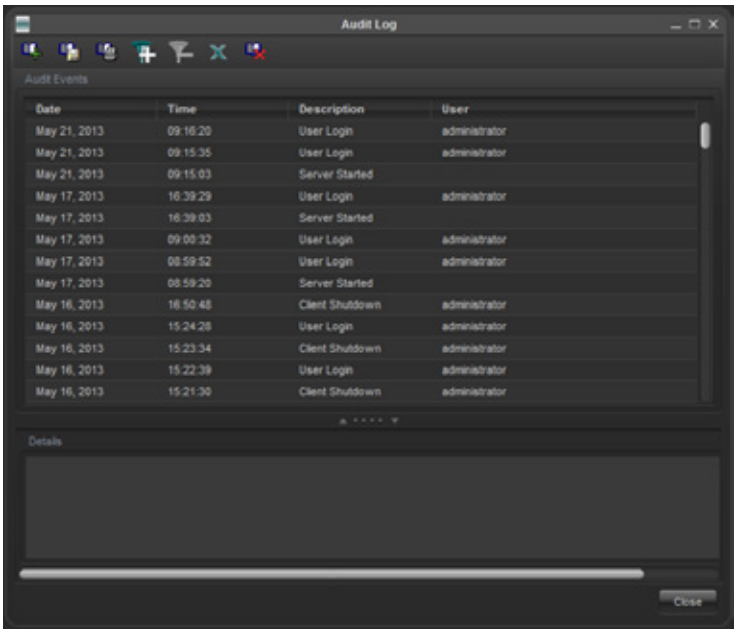



**Figure 7-13: Audit Log**

### 7.4.2.2. Manually Adding an Audit Entry

The Audit system in VistaLINK® PRO allows an operator to add a custom audit entry. In addition to adding the audit entry into the audit database, the audit entry can be addressed to a specific operator of the system, notifying that operator immediately if logged on, or prompting the operator the next time he/she logs into the VistaLINK® PRO system. To add a custom audit entry:

1. Select  *Add/edit Audit Entry* (the Audit Log must be visible). The audit entry dialog will appear allowing you to enter an audit heading and detailed description.

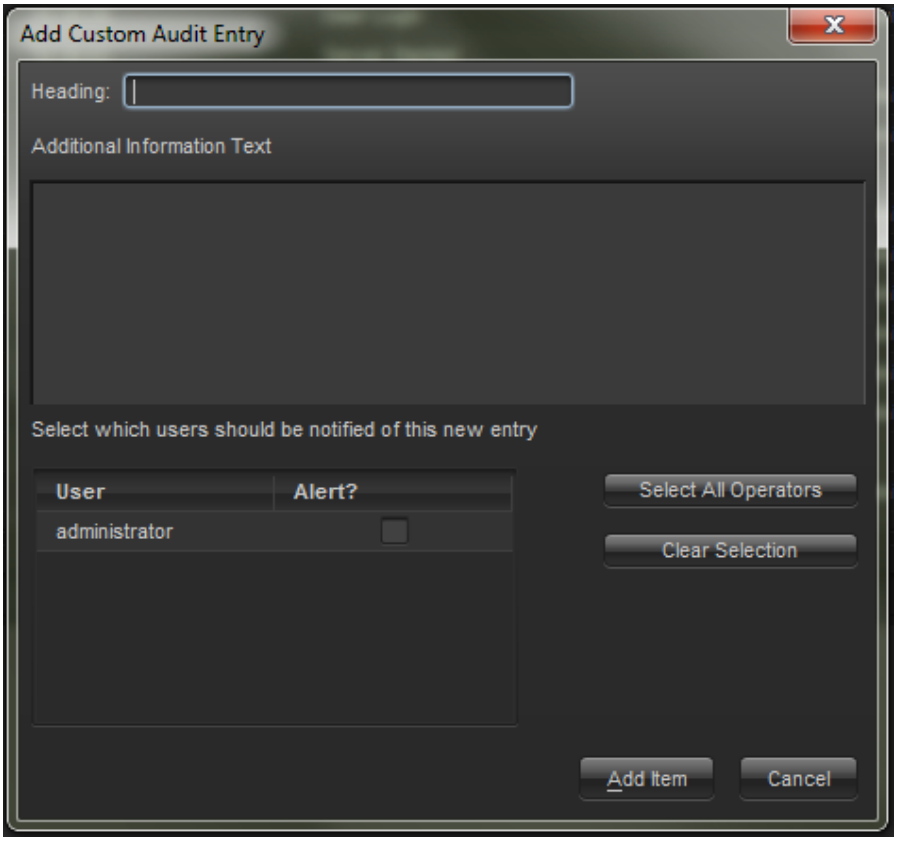



**Figure 7-14: Add Custom Audit Entry**

2. Enter a heading and additional information description.

3. Optionally, select the users that you want to notify of this entry by placing a check mark in the *alert* column next to the user name.

4. Click on the *Add Item* button to save your changes or click on the *Cancel* button to abort the operation.

If you selected to notify a user in the above operation the user will be immediately notified of the audit entry if they are presently logged onto VistaLINK® PRO. If the user is not logged on, he/she will be notified of the entry the next time he/she logs onto VistaLINK® PRO.

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