INTERMUX-KVMDUAIP

DVI USB KVM over IP

User's Manual

Table of Contents

1. Introduction

INTERMUX-KVMDUAIP is the next generation of IP-based KVM Link Extender for remote server management. It allows virtual management of server(s) or KVM(s) over the Internet. In addition to support for secured access via 1024-bit PKI authentication, 256-bit SSL data encryption, LDAP, RADIUS, and Active Directory authentication; it has virtualization of ISO file that allowed accessing of remote drive to help manage server.

The INTERMUX-KVMDUAIP (INTERMUX) provides a solid, reliable, and physical extension of keyboard, mouse, and video to nearly unlimited distance. Video supports for both analog and digital video through the DVI-I connector. Using two passive DVI to VGA adapters will provide VGA connection at both the console and system ends.

Device options give user total control from the pre-boot stage such as BIOS-level CMOS setting with USB interface, power cycling, and audio feedback. Along with the virtual media, you can rebuild the operating system of any server that INTERMUX connecting on. With properly plan KVM infrastructure, you can truly feel confident in your access to your systems.

1.1. Features

- Full-featured IP-based Remote Control Solution for server management
- DVI/VGA video, USB keyboard, and mouse extension over the Internet
- 2048x1152 resolution for clear and sharp video output
- Supports virtual media/ISO
- Supports audio and power management interface
- Build-in 2-Port Ethernet Hub
- Total transparent control

1.2. Package contents

- INTERMUX-KVMDUAIP unit x1
- Power adapter x1
- AC power cord x 1
- User manual x1
- Support CD x1
- DVI-A to VGA Adapter x1
- WiFi dongle x1 (optional)

2. Product Overview

2.1. Front Panels
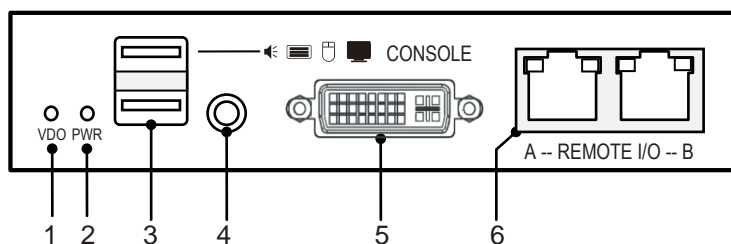
Figure 1: Front Panel

No.	Item	Description
1	Video LED	Video source in status.
2	Power LED	Power on status.
3	USB Device Ports	Plug in USB keyboard, USB mouse, or USB storage device.
4	Speaker Port	Plug in stereo analog speaker.
5	DVI-I Video Out	Connect to DVI-D monitor or with a passive converter, connect to analog monitor
6	2-Ports Ethernet Hub	Connect to a network.

2.2. Back Panels
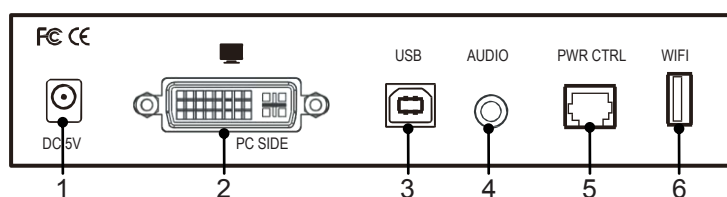
Figure 3 Back Panel

No.	Item	Description
1	Power Jack	Connect to the 5V/2A power adapter
2	DVI-I Video In	Connect to the DVI or VGA port of the Server/PC. The VGA connection needs a VGA to DVI-I cable or adaptor.
3	USB Port	Connect to PC/server
4	Audio In	Connect to PC system/ audio source
5	PDU Control Port	Connect to external PDU if any
6	WiFi Port	To get WiFi access, plug an EDIMAX Wireless nano USB adapter, model EW-7811, to this USB extension port

2.3. Hardware Specifications

Server Video Connector	1 x DVI-I Female
Server/KVM USB Connector	1 x USB Type B Female
Server Audio Connector	1 x 3.5mm Stereo Earphone Jack Female
Console Video Connector	1 x DVI-I Female
Console Audio Connector	2 x RJ45 Female, 10/100 Base-T with internal switch
Console USB Connectors	2 x USB 2.0 Type A Female Connector
Ethernet Connector	2 x RJ45 Female, 10/100 Base-T with internal switch
USB WiFi Port	USB 2.0 for Wireless USB Adapter

LED Indicators	Power Good, Video
External PDU Control Port	1 x RJ11
Video Resolution	1600x1200 in VGA or 2048x1152 in DVI
Operation Temperature	0° ~40° C
Storage Temperature	-20° ~60° C
Humidity	0 ~90% RH, Non-condensing
Housing	Metal
Dimensions	120 x 135 x 26 mm
Certifications	CE, FCC

3. Quick Start

3.1. Front Panel Typical Connections

The diagrams in this chapter are examples, the actual application may vary. All accessories and devices may not be included in the package. They are illustrated for reference only.
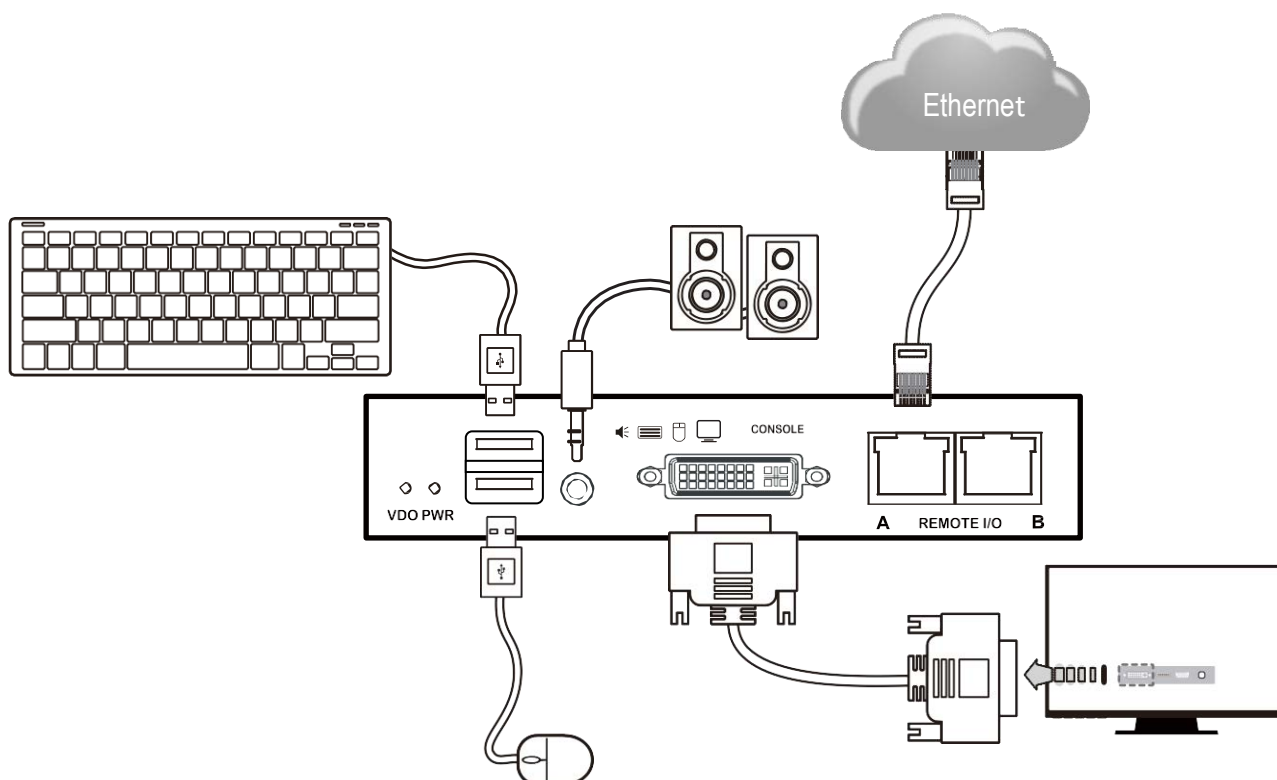

Figure 5: Front Panel Typical Connections

- Connect a USB keyboard to one of the USB Type A connectors
- Connect a USB mouse to the second USB Type A connector
- Connect a speaker to the audio jack
- Connect a DVI or VGA monitor to the DVI-I connector. Connecting a VGA monitor would require a passive DVI-A to VGA converter
- Connect to your local Ethernet network using Cat5/6 cable
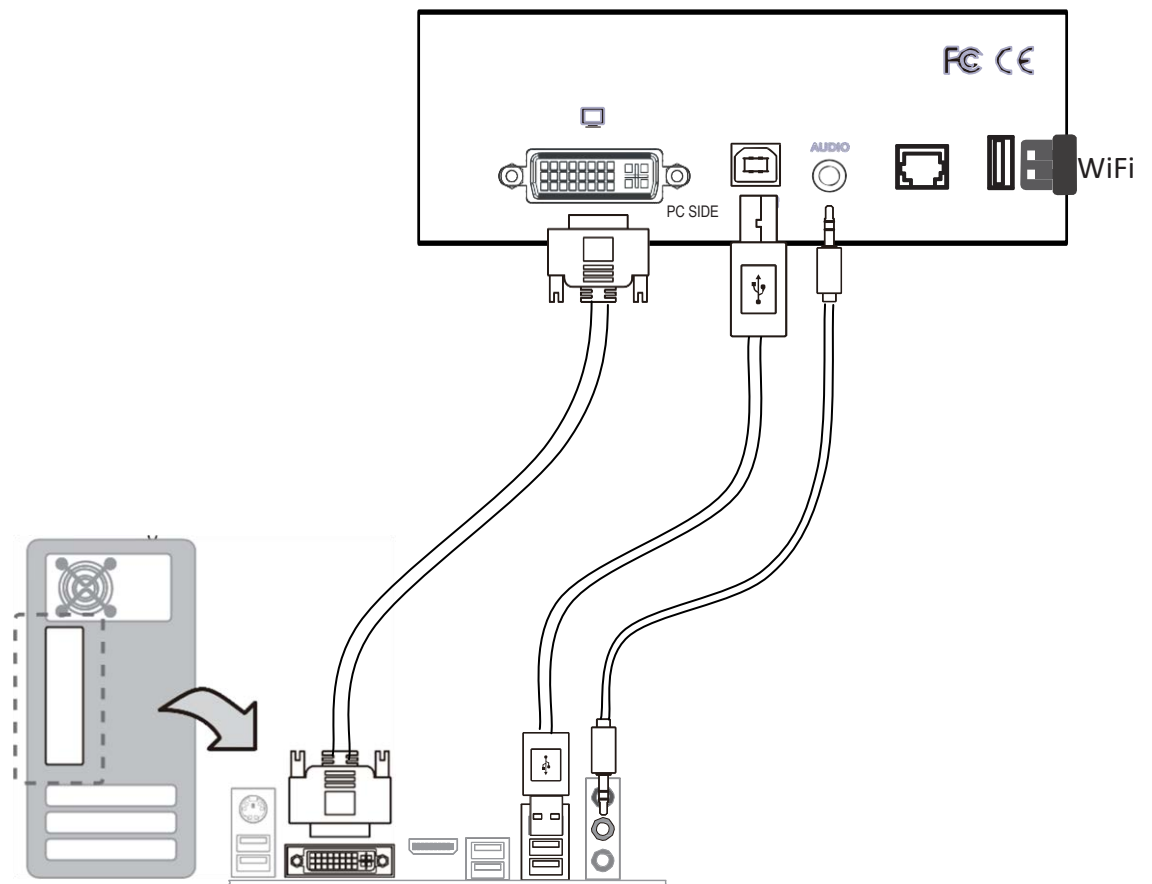
3.2. Back Panel Typical Connection

Figure 6: Back Panel Typical Connections

- Plug the USB type B port to one of the USB ports of the PC/server.
- Connect the PC Side DVI to the DVI Video output of the server. Connecting using VGA would require passive DVI-A to VGA converter.
- Plug the PC Side Audio input to the Speaker output of the Server.
- Connect to a wireless network by plugging a WiFi dongle into the WiFi port (optional).

- Plug the power adapter to the DC 5V input.

3.3. Operation

Due to the topological data flow requirement, please follow the previous chapter to connect power, PC, monitors and peripherals. Start from the console devices, press the power button to turn it on, and then plug the power cord/adapter to the power socket.
Turn on the connected computer, the image will be outputted to DVI monitor.
The keyboard and mouse will be detected after turning on the computer.

* Some older computers with USB interface might need to manually enable the USB option in the BIOS settings before you can use any USB devices. If your USB interface does not work, please check the USB option in the BIOS.

* If you see Windows 95/98/SE or Mac OS and has not yet installed a USB mouse on your computer, there might be an error message telling you that mouse is not detected and prompting you to decide whether to ignore the same message in the future, and yet you will find there is no mouse movement to disable this message. So it is suggested that you should install your USB mouse on your computer first before connecting to this KVM switch.

3.4. Configuring the Attached PC/Server for Better Performance

There are several aspects that have to be taken into consideration when configuring your PC/ server for the best performance:

Refrain from selecting too peculiar video resolution modes. Choose a resolution that is within INTERMUX standard support.
Turn off special transition effects on your operating system such as fade.
Adjust the server desktop background with preferably plain solid colors with simple designs.

Concerning digital DVI video, INTERMUX is able to capture any resolution up to 2048x1152@60Hz. The video resolution is discovered automatically.

Concerning analog VGA video, not all resolutions are possible. The video resolution discovery is made by comparison with an internal table of VESA standards. Please refer to the table of supported VGA video resolutions.

Please note that RB means reduced blanking. Resolutions with RB are not intended for older CRT monitors. There are newer VESA standards for digital devices, which INTERMUX is. However, not all computers can generate reduced blanking VGA video.

In a general way, you will get much better results by using digital video: better video quality, better video speed, higher compression, faster mouse, etc. Use HDMI or DVI each time possible.

Resolution	Refresh rate (Hz)	Resolution	Refresh rate (Hz)
640x480	60	1280x768	60
720x400	70	1024x768	60
720x400	72	1024x768	70
720x400	75	1024x768	75
720x400	85	1024x768	85
640x480	60	1152x864	60
640x480	72	1152x864	75
640x480	75	1440X900	60
640x480	85	1280x1024	60
800x600	60	1280x1024	75
800x600	72	1680x1050	60
800x600	75	1400x1050	75
800x600	85	1920x1080RB	60
1280x720	60	2048x1152RB	60
1360x768	60	1920x1200RB	60

Table 1: Supported VGA resolutions

3.5.   Default Setting

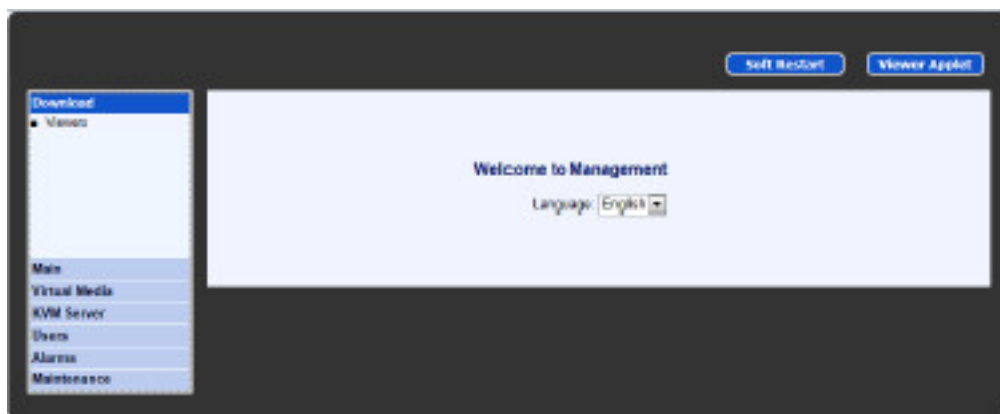The factory default network settings for the INTERMUX are as follows:

IPv4 Address: 192.168.1.200
Subnet Mask: 255.255.255.0
Default Gateway: 192.168.1.254
DNS Servers: 192.168.1.254

The default access Web Browser Management Interface: https://192.168.1.200:5908

The default administrator account name and password:

> **User name: superuser**
> **Password: superu**

3.6.   First Access to the Web Management

The first access to the HTTP server can be a little bit tricky if the default settings, i.e., HTTPS://192.168.1.200:5908 are not compatible with your LAN, or if another machine already occupies this address. In this case preferably use KCenter or getipdev (http://www.prosum.net/download/GETIPDEVInstall.exe) to set up a temporary IP address. Then open the web management to confirm this IP address or to change the IP settings.

* You could also create an isolated network, not connected to the local or company network, between INTERMUX and a computer with a simple cross connect cable. Then set up the IP address of the computer to something like 192.168.1.xxx , and then with a browser, open INTERMUX management at default address HTTPS://192.168.1.200:5908

* When accessing to the Web Management, your browser may provide a security warning. Please choose **"Continue to this website"** since there is no risk of pirate website here. These warnings are not relevant for HTTPS servers of hardware devices such as INTERMUX. You can also install the Root certificate of INTERMUX in the list of trusted CA if you want to remove this warning. You will also have to authorize the usage of certificates that do not contain the name of the HTTPS server.

3.7.   Setting Up the Network Interfaces

Using a browser, login to the Web Management. Expand **Main** on the left menu and click **Networks.**

Specify the port base for viewer connections in **TCP Port Base**. You can choose any available port base, starting from 5900 with an increment of 10 right up to 6400. TCP port base + 8 is the port number you will use for https web management.

Specify the host name, i.e., the name that INTERMUX will assume on your Local Area Network. Click **Set Default** to load the default unique host name composed of the product name and the hardware MAC address of the Ethernet port.

Ethernet IP Settings
The Ethernet 10/100 is the default network interface. It is faster than the Wireless Interface. Fill in the form. Please refer to the help page if you need more information.

Wireless Interface IP Settings
This subsection is hidden if you do not have a compatible wireless 802.11 USB adapter plugged in the USB extension port of your INTERMUX. The supported USB adapter is the EW-7811 from Edimax.

Figure 8: Wireless nano 802.11 USB Adapter

Preferably use a WPA/WPA2 wireless connection. Older protocols such as WEP are unsecure.

Check **Enable Wireless Interface** to put the wireless interface in service. Wait until the service is started and the wireless part of this form is displayed.

In **Network Name (SSID)**, select the name of the wireless network (SSID) you want to connect to. If you do not know, please get this information from your network administrator. If the wanted SSID does not appear in the list, try to click on **Scan**. Eventually, if you cannot get the desired SSID, this is likely because the access point is out of reach.

Please refer to the help page to fill in the wireless interface parameters. We recommend you leave the wireless router or access point configure the INTERMUX by checking **Use DHCP**

Store Settings
Click the **Store Settings** button to save the new network setting. Then press the **Soft Restart** to put them in service. Once it restarted, all accesses to INTERMUX will need to use the new network information. The new Web Management address will be:

> https://<IP_address>:<TCP Port Base + 8>

For example let's suppose that the new IP Address is 192.168.1.192 and that the TCP Port Base is set to 5920, then the Web Management new URL is: https://192.168.1.192:5928

Important Note
The Ethernet port and the Wireless port can work simultaneously provided they belong to different IP networks. In the case that both ports are set to conflicting IP addresses, the Ethernet port will work, and the wireless port will not work whether or not the Ethernet cable is connected.

So, if you plan you use the wireless alone, i.e., without Ethernet cable, please give to the Ethernet port a fake IP address in a different network. For example, if the IP address of the wireless port belongs to 192.168.1.xxx, you could set the Ethernet Port to 192.168.2.xxx (netmask = 255.255.255.0).

> * Make sure you pass all information about INTERMUX to your Network Administrator so that he can make the needed adjustments to the firewalls, network configuration, and DMZ of routers for the INTERMUX to function properly and to allow it to be accessed from remote locations across the Internet.
> *

3.8. Downloading the Viewers

There are three different programs called viewers allowing to access the KVM server of INTERMUX. The KVM server captures and sends the video of the attached computer. In the other direction it receives the events of your keyboard and mouse and transmits them to the attached computer by simulating a USB keyboard and mouse.

Two viewers can be downloaded from the Web Management: **Download** --> **Viewers**. You have the choice between the viewer for Windows® and the OS-independent viewer for Java™. Note that the viewer for Java runs on Windows as well.

The third viewer for Android™ must be bought on the Google Play Store: PrimaView.

Figure 9 : Downloading the viewers

Download and install the preferred viewer on your computer.

 * To run the Java viewer your computer must have a recent Java installed >= 7.

3.9. Accessing the KVM Server of INTERMUX

Viewer for Windows

Under Windows, click the viewer link icon to launch the Windows viewer. If insufficient rights are granted to the viewer, the User Access Control will pop up for authorization.
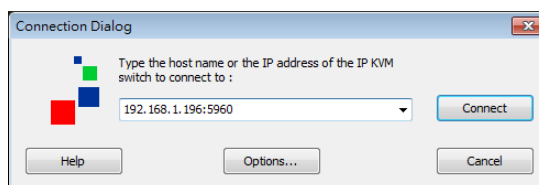
Figure 10: Windows Viewer Connection Dialog

In the **Connection Dialog**, key-in the network information to access INTERMUX, then press **Connect**.

If the INTERMUX is found, the viewer will come back and ask for User Authentication. Key-in the User ID and Password for access.
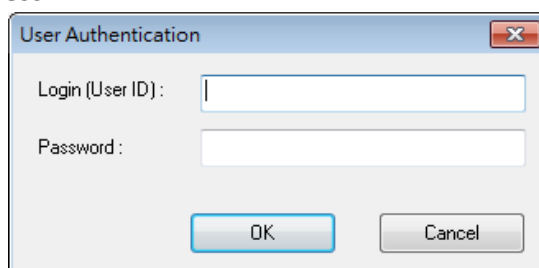
Figure 11: Viewer User Authentication Dialog

Viewer for Java

This viewer can be used on any system that supports a recent version of Java, including Windows. Run or double click the jar file and it will pop up the **Connection Dialog** similar to the Windows viewer.

If the system is not intelligent enough to associate the Java virtual machine to the .jar file, open a text console and type "java -jar mkview-dist.jar"
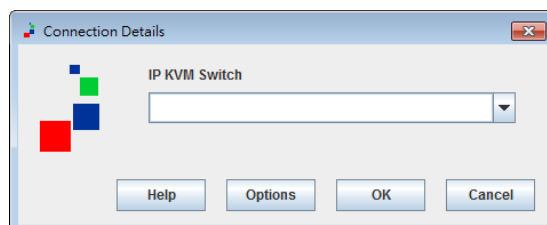
Figure 12: Jave Viewer, Connection Dialog

Viewer Title Bar

The viewer title bar provides some basic information about the connection. These data are important for the technician when requested. Changing the viewer basic settings will be introduced later on in this manual. The format is like this:

Server Name - Computer Name - Capture Time - Transmission Time - User Session Mode - Encryption

Server Name - The name given to the current video server
**Computer Name** - The name given to the connected computer
Capture Time - The time in ms it takes to capture a screen image
Transmission Time - The time needed to transmit the video screen image
**User Session Mode** - Current user session mode, shared, private, see only.
256-bit encryption - Currently used encryption mode

The below information is a capture example: "KVMonIP" server, with "unnamed" computer, 43 ms to capture video screens, 2 ms to send the screens, user shared mode, with 256-bit encryption.
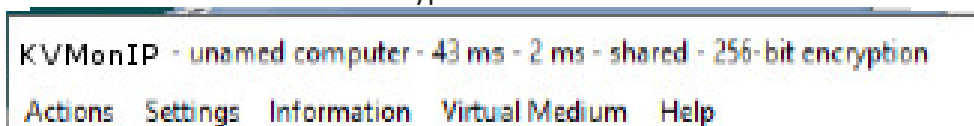
Similar information can be found in the viewer menu: **Information**--> **Connection Information**
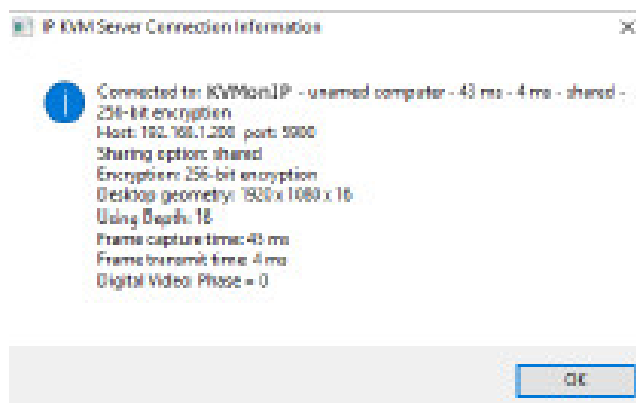
Viewer Performance

The video can be slow when connecting across the Internet. The image quality is depending on the global bandwidth of the network. If the bandwidth is too small, choose the appropriate compression mode in the viewer connection options (Slow Internet,) and if not enough, use 7-bit video depth. With the maximum compression and 7-bit video quality, it is possible to work with bandwidths as low as 100 Kbps.

4. Web Management

The Web Management is the main administrative user interface of INTERMUX. This chapter provides a short description of the form pages of the Web Management in same order as the left side menu. More detailed information is available by clicking the **Help icon in the title bar of each page**.

4.1. Download

Get the Viewers. Refer to section 3.8.

4.2. Main

Date and Time

Specify the locale and time settings. It is recommended that INTERMUX gets its time from an NTP server.

Figure 13: Date and Time

Security
In this page you will specify the encryption level of connections, the certificates, and the password policy: No Password, Global Password, or User Password.

Networks
Set up all Ethernet and Wireless networking settings. See section 3.5.

DDNS
In this page you can enable and configure a Dynamic DNS client allowing to access INTERMUX with a fixed alias name when the public Internet IP address provided by the ISP is not fixed.

4.3. Virtual Media

Remote Virtual Media

When running a viewer, you can share a DVD/CDROM, USB key, or ISO file with the computer attached to INTERMUX. For example, a CDROM in the drive of the computer running the viewer can appear like a removable mass storage to the INTERMUX-attached computer. Thus, from your remote location, you can transfer files, install new programs or even install a complete OS into the attached computer. Note that the transfer speed is limited by the network bandwidth, so it cannot be as fast as a direct attachment.

If you share one of your hard drives, the attached computer can also write to your disk, provided you did not check the option **Disable Writes**.

This page shows the current status of the connected Virtual Media and allows to forcefully disconnect it. Specify whether the attached computer can or cannot write to the Virtual Media.
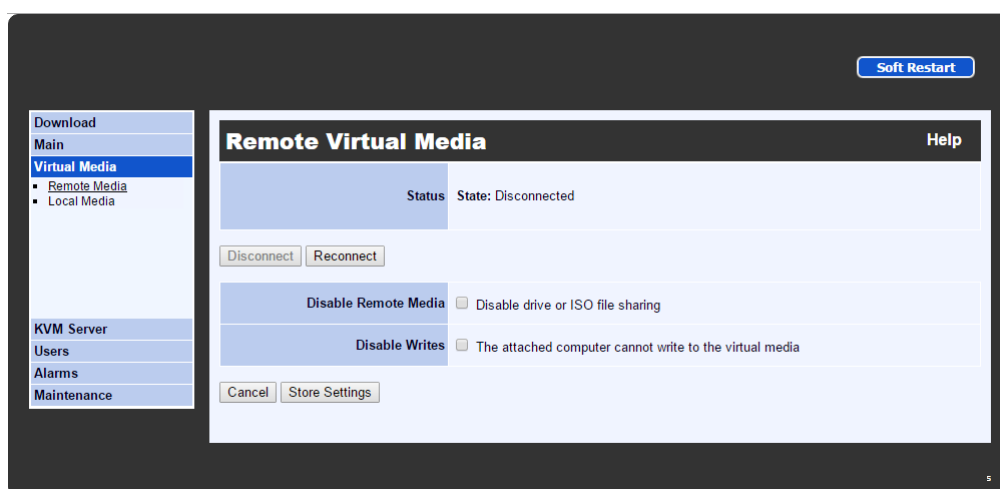

Figure 14: Remote Virtual Media

Local Virtual Media

INTERMUX can get local access over the LAN to an ISO file shared by a Windows computer, or by another machine emulating a Windows share (For example Linux with Samba server). Similarly to the Remote Virtual Media feature, INTERMUX will emulate for the attached computer a removable mass storage reflecting the ISO file. By nature this is a read-only storage. With this feature you can install programs or boot the attached computer on the Virtual Media, provided the ISO file is the image of a bootable disk.

Compared to the Remote Virtual Media, the Local Virtual Media is faster but limited to ISO files on machines connected to the same LAN as INTERMUX. The connection to the share does not involve the viewer.

This page shows the current status of the connected ISO shared file. It allows you to set up the access to the ISO file and to forcefully disconnect it.

Figure 15: Local Virtual Media

4.4. KVM Server

Server Log

The Server Log keeps detailed record of events, errors, user logins and logouts, video modes, etc. It also records each login attempt, even when the attempt is not successful. It provides certain technical details such as compression ratio, encoding scheme, and bytes transmitted in each viewer session. This is the place where you should go first to know the usage and state of your INTERMUX.

This page is the place where you can see the log content, clear the log content, refresh the display of the log, enable/disable the recording of statistical information about user connections.

Once the log file reaches its maximum size, oldest data is erase to give room to new data.
Each log entry is composed of the date plus time stamp, and the description of the event. The first letter "K", "H" or "U" indicates whether the message is coming from the KVM server, the HTTP server, or the USB server.
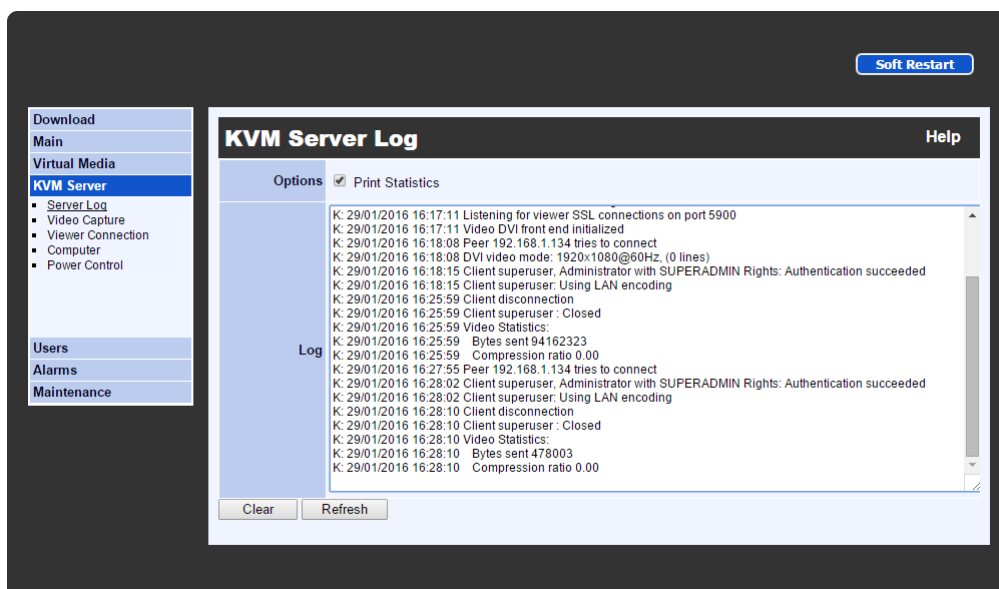

Figure 16: Server Log

Video Capture

Please note that the digital video capture is always set to optimal quality and speed. **This page is not relevant for digital video.**

If the video is **VGA**, this page is the place where you can set up the level of quality and speed of the video capture.
The setting here is use to balance the Video Quality against the Data Volume. Higher video quality will generate larger data volume which will slow down the video transmission, especially across slow Internet connections. Try to find a tradeoff between quality and speed.

Viewer Connection

This page allows adjustment of settings related to the viewer usage:

- INTERMUX name as it is displayed on the title bar of the viewer window
- keyboard layout that should be consistent with the keyboard you use on your computer and that is setup in the attached computer
- mouse re-synchronization hot keys,
- mouse shortcuts
- special feature for anyone who uses a double-byte language such as Chinese, Japanese or Korean (the CJK languages) and some other languages

If INTERMUX is connected to a KVM, you can also setup the KVM hot keys that will allow selecting the active port in a mouse click.
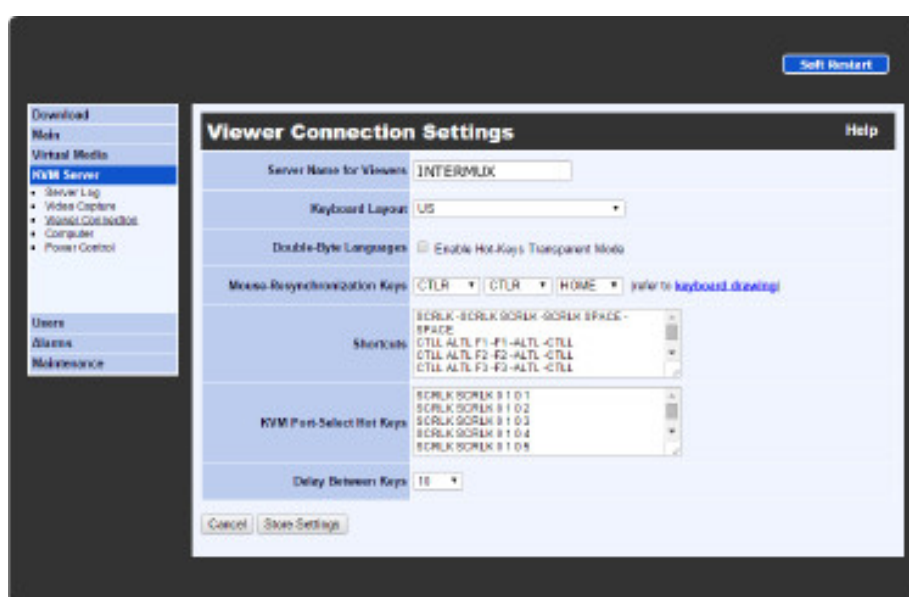

Figure 17: Viewer Connection Settings

Computer

In this page you must provide some information concerning the attached computer:

- Computer Name to be used
- Type of Operating System
- Digital or Analog Video Type
- USB Mouse Relative of Absolute.

Power Control

Allow or forbid the control or power by viewers. INTERMUX integrates a one-port PDU. The control of power can also be made by an external PDU. External PDUs use the Power Control RS232 serial port. Contact an NTI product consultant for information on the compatible PDU.
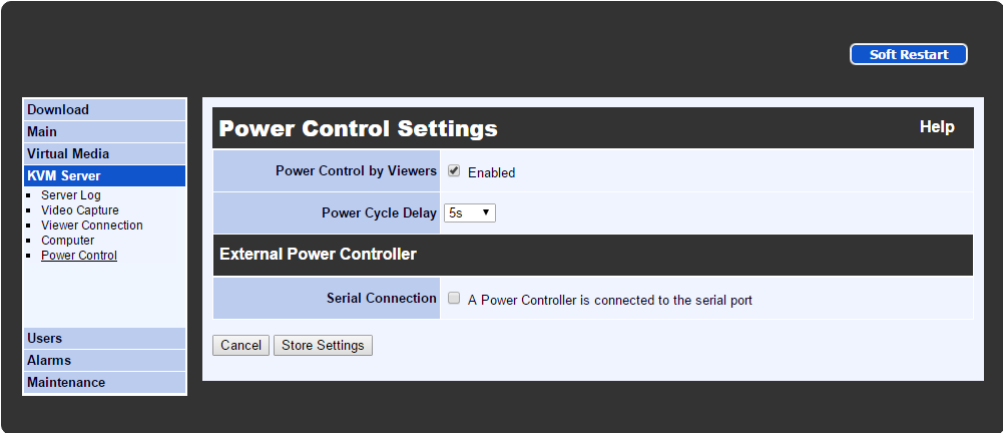

Figure 18: Power Control

4.5. Users

Local Database

In this page you can list, edit, add, or remove user accounts that can access the product. These users are stored in the local database of the INTERMUX. They need no external access to an authentication server. In case of conflict, the information in the local database has higher priority than the information provided by the possible authentication server.
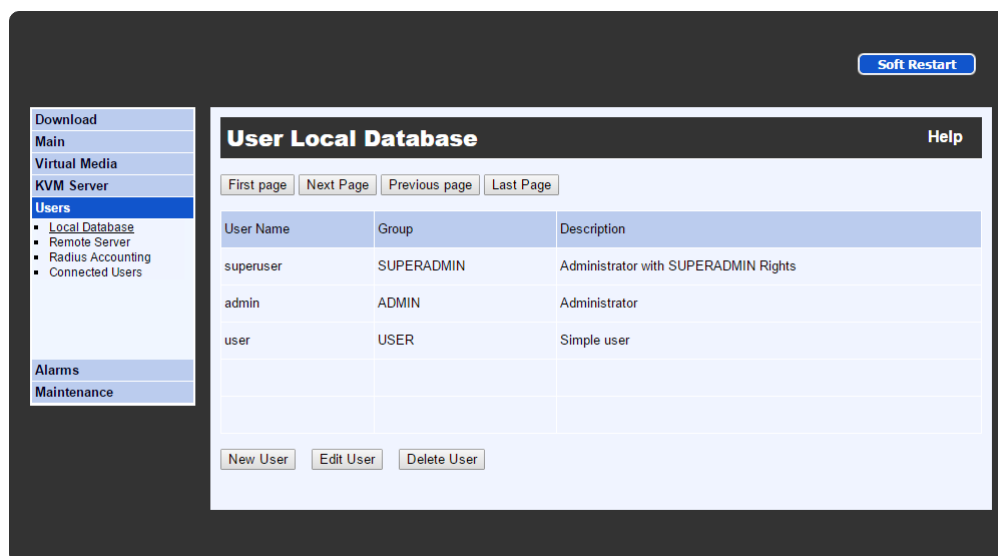

Figure 19: User Local Database

Remote Server

In this page you will enable or disable the usage of a centralized server running a Radius service or hosting a directory that can be accessed through the LDAP protocol (Active Directory for example). This server can be interrogated each time a user tries to connect to the INTERMUX. Its responses grant or reject the connection attempts. This feature allows integrating INTERMUX into a more global enterprise management of users.

By default, the Remote Authentication is configured as None, i.e., all remote authentications are disabled. In this case, the authentication is all done locally by using the User database on INTERMUX.

Radius Accounting

The Radius Accounting allows INTERMUX to record all user connection and disconnection events on a remote Radius Accounting server. The Radius Accounting is not related to the RADIUS or LDAP server features that can be used to authenticate users.

The RADIUS Accounting is disabled by default.

Connected Users

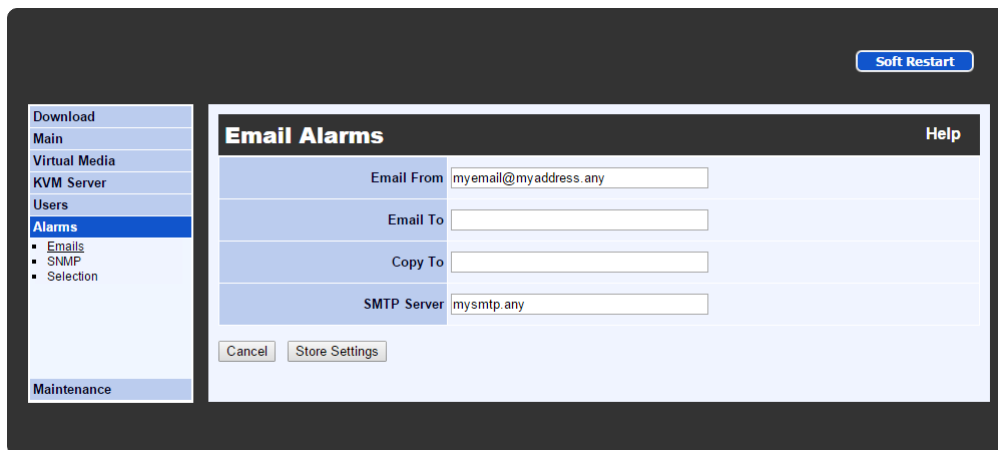This page shows a list of all users that are connected with a viewer to the computer via INTERMUX.

Note: This list of connected users is not generated when the password policy **is No Password** or **Global Password** since by adopting these policies you imply that the distinction of user identities is not necessary. Please refer to the **Security** page for more information about password policies.

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4.6. Alarms

Emails

Settings to send out Email alarm notifications.

Figure 20: Email Alarms

SNMP

Settings concerning the SNMP manager that will get the SNMP traps sent by INTERMUX.

Selection

In this page select which events will generate an alarm and the type of alarm that must be sent.

4.7. Maintenance

Software Version
Basic information on the software.
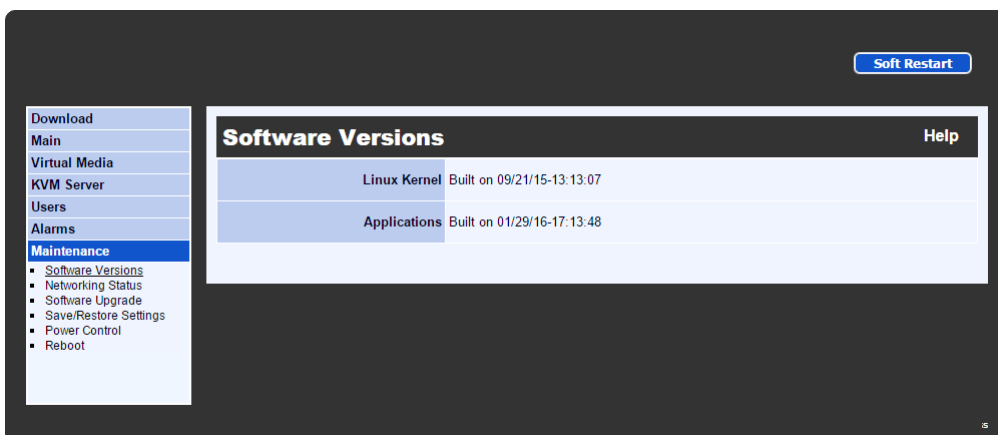
Figure 21: Software Versions

Networking Status
View current Ethernet and Wireless networking information.
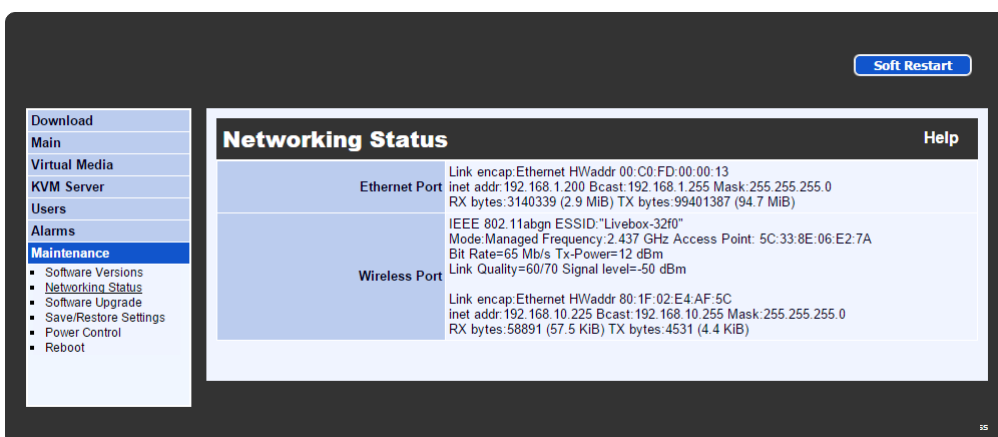
Figure 22: Networking Status

Software Upgrade
You can upgrade the software of the INTERMUX from this page across the LAN or the Internet.

Save/ Restore Settings
Save the current configuration for future usage or upload a previously saved configuration file.

Reboot
This page allows restarting INTERMUX from the boot loader. Note that this is generally useless. Most of times a Soft Restart is enough.

5. Viewers

This chapter provides some information, tricks and tips about the Windows and Java viewers. The Android viewer is not described here but its features are very similar and it provides a detailed help. The three viewers provide similar performances.

Refer to section 3.7 to log in to the Windows or Java Viewer.

5.1. Menu Bar

KVMonIP - unamed computer - 43 ms - 2 ms - shared - 256-bit encryption

Actions   Settings   Information   Virtual Medium   Help

The menu bar can be hidden in Windows viewer.
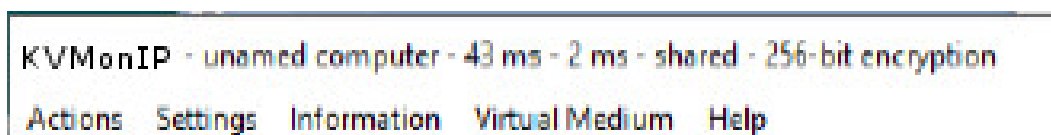
Actions
- **Select Computer:** Relevant when INTERMUX is driving a KVM and the KVM command have been set up in the Web Management (Refer to Viewer Connection in section 4.4).
- **Send Shortcut:** This menu item provides the list of mouse shortcuts previously defined in the Web Management (Refer to Viewer Connection in section 4.4). Click on one of the shortcuts and it will be sent to the attached computer.
- **Refresh Screen:** Forces total update of the viewer screen.
- **Send Cntl-Alt-Del:** Fixed shortcut to make INTERMUX send Control-Alt-Delete to the attached computer. This sequence cannot be sent by normal strikes on the keyboard because it is captured by the Windows operating system.
- **Power off Current Computer:** No effect with INTERMUX.
- **Power on Current Computer:** No effect with INTERMUX.
- **New Connection** (Windows viewer only)**:** Open another Connection Dialog to login to other remote server.
- **Disconnect:** Release access to the remote system. It will automatically close the viewer application.

Settings
- **Connection Options:** This menu item opens the Connection Options dialog box allowing to change some options such as Scaling Factor, etc. Not all options can be changed on the fly. Some options can only be set up at connection time.
- **Adjust Screen:** Change the window centering (VGA only) and adjust the brightness and contrast. Note that with digital video the screen is always perfectly centered.
- **Full Display** (Windows viewer only): Hides all menu bars of the viewer to give the maximum space to the display of the remote screen. It opens a small floating box with a single button "Quit Full Screen". Click this button to come back to normal display.
- **Show Menu Bar** (Windows viewer only): Enable or disable the menu bar. To get the menu bar back, right click on the viewer top title bar and select **Show Menu Bar** in the menu.
- **Save Settings/ Store Connection Options:** Store User ID/Password and connection options.
- **Device Management** (Windows viewer only)**:** Link to the Web Management.

Virtual Medium
- **Manage Virtual Medium/ Drive Redirection:** Opens the Virtual Medium dialog box. Select the Hard Disk, DVD/CDROM drive or ISO file and click **Connect**. See details below.

    - **Status:** Show current Virtual Media connection status
    - **Hard Disk or CD ROM Drive** (Windows viewer only)**:** Redirect and map a local drive onto the attached computer. Check **Enable Write Accesses i**f you want to allow the computer to write on the Virtual Media.
    - **ISO Image File:** File in ISO format that can be mapped onto the attached computer. This file will appear as a removable mass storage device.
    - **Disconnect Button:** Release the Virtual Media connection and mapping.
    - **Connect:** Click to establish the Virtual Media connection and mapping. We recommend mapping small file or drive because the time to link the file depends on its size.
    - **Close:** Close the dialog box. Note: Closing the dialog box does not release the mapping of the Virtual Medium

Information
- **Connection information:** Displays information concerning the INTERMUX, the video type, the capturing and transmitting times, and the connection options.
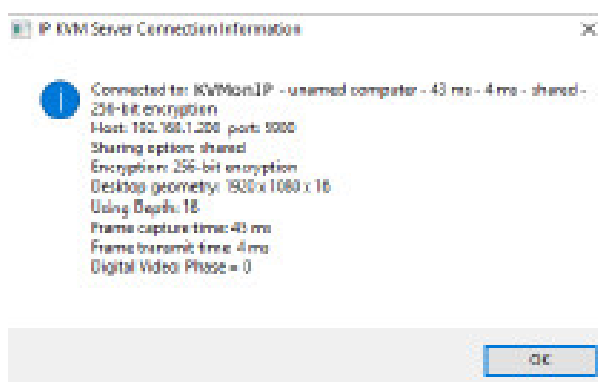

  - **About (Java):** Viewer copyright and version information.

5.2.   Connection Dialog

Compression

Specify the compression type that will be used to transmit the video from INTERMUX to viewer. The compressions are listed from the lowest to the highest data volume. Note that high compressions need more work and thus longer INTERMUX and viewer processing times. High compressions are efficient when the network bandwidth is low. Note that all compressions are with NO loss.

The volume of data depends on the video type. It is lower with digital than with analog video. With analog video, it depends on the video quality setting (refer to Video Capture in section 4.4)
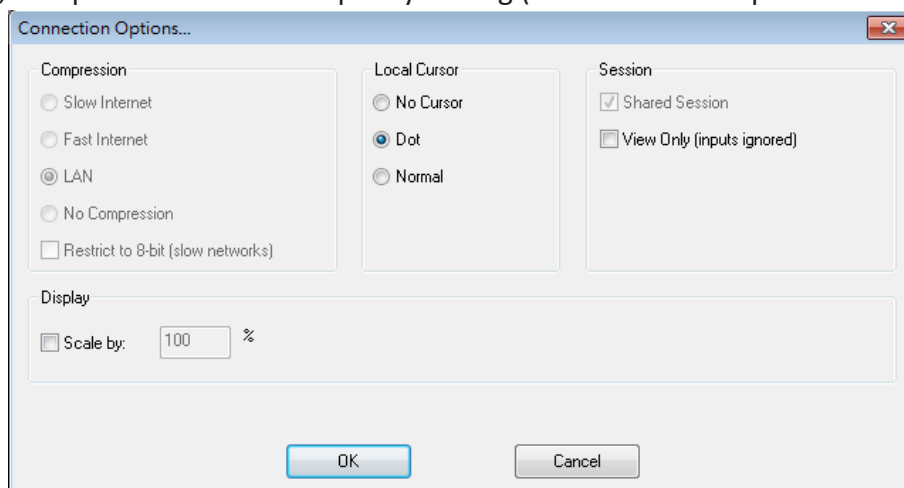
- **Slow Internet:** Video compression optimized for Internet bandwidth lower than 2Mbps.
- **Fast Internet:** Video compression optimized for High Speed Internet.
- **LAN:** Video compression optimized for 100BaseT. Note that INTERMUX rarely uses more than 10Mbps.
- **No Compression:** However this option is only useful for testing purposes. It does not provide better performance than the **LAN** option. Note that "No Compression" is a misnaming because there is still a video compression that can be high. Just a second level of data compression is not applied.
- **Restrict to 8-bit:** In worst cases, when the available bandwidth is below 1Mbps or even 500 Kbps, do not hesitate to check this box to limit the color depth of the video to 8 bits. Most often you can still work with an 8-bit color video, provided you don't look at HD movie or try to do artistic painting!

5.3. Local Cursor

You see two cursors when accessing a remote system with a viewer, the local cursor and the remote cursor. Normally, except during movements, the two cursors should be superimposed. If this is not the case, please refer to section 5.3.

- No Cursor: Due to personal preference, some may find confusing having two mouse cursors.
- Dot: Having a dot as local cursor can help identifying which cursor is local and which one is remote.
- Normal: Having a big local cursor accelerates the mouse utilization. The reason is that you can click on an element in the screen without worrying whether the remote cursor has already reached this element or not. Only the local cursor is relevant. We recommend this option.

Session

A user session can be shared or private. If your connection is **Shared**, other users can connect simultaneously. They will see the same video as you and compete for mouse and keyboard access. If your connection is **not shared** (private), other users cannot get access to the computer as long as you don't close your session. Note that by clicking on **Software Restart** in the Web Management, a user with "superuser" privileges can kick off any user that does not want, or that forgot to close his session. All viewer connections are immediately closed.

Concerning the keyboard and mouse, the behavior will depend on the **View Only** option. When this box is checked, you can only see the computer video. Your keyboard and mouse have no action.

- **Shared Session:** Authorize other users to simultaneously connect. This is the recommended mode. If you forget closing your session, other users will not be penalized. Don't rely too much on the pseudo security provided by private sessions. Anybody close to the computer can see what you do with a local monitor and you will have no knowledge of this.
- **View Only:** Use this option to survey without interfering.

Display
Scale by: Shrink or magnify the video display. to the non-full screen local display window.

5.4. Mouse Troubleshooting.

If the remote and the local cursors are out of synchronization, and if the Ctrl-Ctrl-Home action cannot get them resynchronized, please check the VGA and mouse settings.

If the computer is sending VGA video
Make sure the video sent by the computer corresponds to one the resolutions supported by INTERMUX (Refer to Table 1). Check the video resolution detected by INTERMUX in the KVM Server Log (Section 4.4).
Check whether the remote screen is well centered in the viewer window, without black borders. If not, use the viewer screen adjustment to remove the black borders. Note that the Centering can be Automatic.

If the mouse is set to relative in computer settings (Refer to Computer in section 4.4)
Make sure to turn off the mouse acceleration on the attached computer. If the acceleration is not removed, the remote and local cursor cannot be synchronized. This is the most frequent cause of desynchronization.
Unfortunately, some operating systems do not allow removing the mouse acceleration (Mac OS X). On Linux you can quickly check this point by typing "xset m 1 1" in a console. This should turn off the mouse acceleration temporarily. For permanent settings, use the configuration tools of your distribution.

There is no mouse loss of synchronization possible when using digital video and when the INTERMUX mouse is set to Absolute, whatever the operating system of the computer.

6. Frequently Asked Questions

I am able to login with the Application Viewers using the IP and Port Number but unable to login to the browser viewer or Vice versa.

The browser viewer port and the application port number is different. Usually the application port is lower and the viewer port is 8 greater. i.e. 192.168.1.192:5920 for Application Viewer and 192.168.1.192:5928 for Browser Viewer

I have changed the setting but no change has been made.

Any change made to the settings need to be save first. Then a **Software Restart** must be performed before the setting takes effect.

What is the difference between a Software Restart and Reboot?

For most cases, a **Software Restart** is all that is needed. **Reboot** is a cold start, and should only be needed if **Software Restart** fails or having hardware issue.

My viewer's menu bar disappears.

Please put the mouse cursor on the title of the windows and right click to open the mouse menu. Then select **Show Menu Bar**.

My remote system's mouse is not synchronizing.

Change the remote system display resolution to a more common resolution. refer to section 5.4

There are video artifacts on my screen or video response seems slow.

There are several solutions: a. Change the remote system display resolution to a more common resolution. b. Select a compression that matches better with your current network in the Connection Options when your login. c. Change the color depth of the display.

Where do I find information on...

Recommend you read the manual on the specific sections to get a general overview and click the "HELP" in all pages of the Web Management to get further details along with the latest updated information.

If you have forgotten the username or password...

Please contact NTI for help.

7. Technical support

Please contact NTI for more information or technical support.

8. FCC / CE Statements

FCC Statement : This equipment has been tested and found to comply with the regulations for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this User Guide, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case, the user will be required to correct the interference at his/her own expense.

CE Statement : This is a Class B product in a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

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