



 ***Luxriot***



Manual

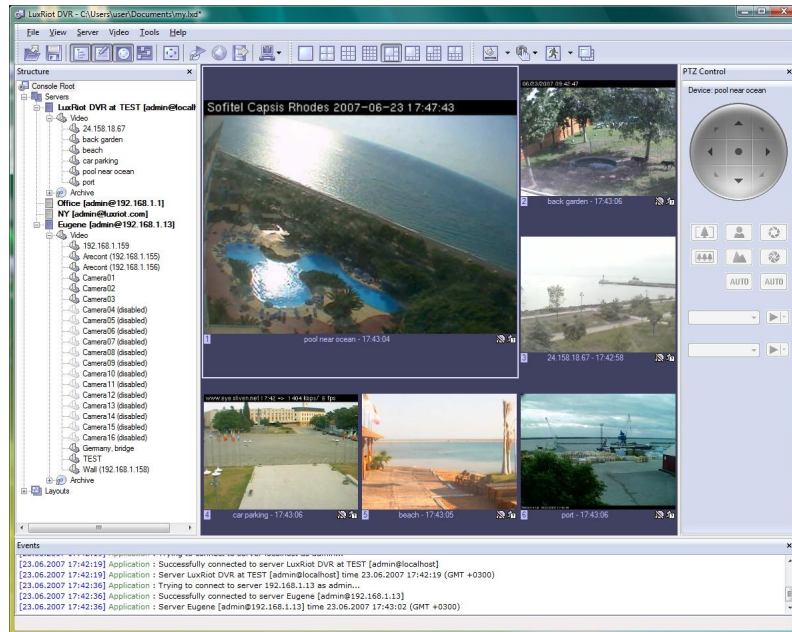
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Overview



Luxriot is a digital video recording and remote surveillance software package for Windows. Luxriot accepts video streams from all major Network (IP) cameras and servers, Frame Grabbers and any Direct Show compatible devices including Webcams and USB cameras. This along with the Luxriot client-server architecture allows you to build fully scalable solution sizing from a single camera up to thousands of cameras.

Luxriot was designed to primarily be used to:

1. View live video streams from multiple sources locally and remotely, over the Internet.
2. Record video from multiple sources and play them back later locally or remotely
3. Export previously recorded video to preserve it and to present it as evidence.

Luxriot offers a principally new concept for VMS solutions – “One Software/Choice of Hardware”. Luxriot VMS software can be either integrated with supported hardware or acquired from a Luxriot reseller as a part of a complete digital video recording and remote surveillance solution.

Luxriot consists of two major components: VMS Server and VMS Client. The VMS Server is a behind-the-scenes application that captures, processes and records video and then serves it to a local or remote VMS Client software. The VMS Client is the application that shows live and recorded video streams from a single VMS Server or multiple VMS Servers; it also allows users to configure and control VMS Server(s).

In order to better suit our customer needs and budget, Luxriot has 5 editions. These editions range from Personal to Enterprise and each edition varies in the number of allowed cameras, the number of simultaneous remote VMS Client connections as well as other limitations, or lack thereof. However, all of the Luxriot editions have the same user-friendly interface and functionality.

Luxriot VMS Personal Edition is a shareware product, which means you can try it first, and then buy it if you like it.

	Personal	Basic	Professional	Advanced	Enterprise
Maximum Number of Cameras	1	4	9	16	Unlimited
Maximum number of concurrent remote VMS Client connections	1	1	3	5	Unlimited

Chapter 1

Frame Grabbers



What is Frame Grabber? Frame Grabber is a PCI board that is installed into the PC and **CCTV cameras** (Cameras with BNC or RCA connectors) are attached thereto. These boards come in various configurations - 4 camera inputs, 8 inputs, 16 inputs, etc. and are made by various manufacturers. Also, depending on the Frame Grabber certain criteria is expected from the PC. Some frame grabbers require a minimum amount of PC power as where others require more. Frame Grabbers have the following terminology:

Inputs = The amount of cameras the board can handle (4, 8, 16, 24, 32)

Frame Rate = Frame Grabbers supported by Luxriot (HP4000EX) can proceed up to 480 frames per second. These frames however, are the entire frame rate numbers divided by the amount of inputs; therefore if you have a 480FPS (Frame Per Second) board with 16 inputs, that means 16 divided by 480FPS = 30FPS per camera.

Luxriot support the HP4000EX board which is a real time 16 channels board with 480FPS, H.264 compression and 16 channels Audio (max 2 boards per server for 960FPS, 32 channels of Video and Audio)

More on image quality on **page 31**

You can purchase these boards from any Luxriot authorized reseller. If you already own any of the above cards, you only need to purchase the appropriate Luxriot edition.

Luxriot works with any and all CCTV cameras. CCTV cameras are analog cameras, and even though some of these cameras might have the word Digital written on them, it only means that a DSP (Digital Signal Processor) chip is used - Frame Grabber is what makes the signal truly digital. Therefore, if you decided to retrofit existing installation or make a new one based on analog CCTV cameras, make sure that you choose a Luxriot supported frame grabber card or acquire a complete system from a Luxriot reseller. You can check the perpetually growing list of supported Frame Grabber cards on the Luxriot website.

Network (IP) Cameras



What is Network (IP) Camera? Network camera, IP addressable camera, IP Camera, all referring to the same type of cameras, is a digital camera that can be directly connected to the Internet through a cable (CAT5 ethernet) or WiFi connection. Network cameras send already digitized and compressed video streams. Network Cameras are the fastest growing trend in the Surveillance industry. Here are some of the benefits of IP cameras:

Existing local network infrastructure could be used for the installation.

Less cabling is required comparing to an analog CCTV installation.

Network cameras have built-in motion detection and stream compression engines, which allows the VMS Server to use a minimum of its computer resources; therefore, the same computer can also be used for other tasks.

There are no requirements on CPU or chipset manufacturers, since Network Cameras do not require any additional hardware to be installed in to the computer.

There are Network (IP) cameras with very high resolution (1.3 Mega pixels and more). Analog cameras are incapable of achieving such resolution.

Network (IP) camera installations are highly scalable and upgradeable. There is no need to buy and install additional video capture boards for the VMS system in the event you want to add a camera or increase performance of the system.

Any analog camera can be converted to a network camera by using a Network (IP) server.

There is no geographical limitation for the installation.

Effective off site recording (either by itself or in addition to onside recording) eliminates the possibility of destruction of the video medium due to deliberate actions or an accident (fire, flooding, etc.).

Some of the network cameras also can be used as a webcam to serve as an advertising engine for a business.

Review for MPEG4/H.264 cameras:

Without compromising image quality, an H.264 encoder can reduce the size of a digital video file by more than 75% compared with the Motion JPEG format . This means that much less network bandwidth and storage space are required for a video frame. A higher video quality can be achieved with less bit rate.

- Better Average Bandwidth and Storage Reduction over MJPEG
- High-quality 3 megapixel video stream at 20fps can be as low as 2 Mbps
- High resolution and bandwidth efficiency

Luxriot supports Network Cameras from all major manufacturers. Please visit the Luxriot website for the perpetually growing list of supported Network cameras.

PTZ Cameras



What are PTZ Cameras? PTZ camera is the camera with the mechanical assembly for Panning, Tilting and Zooming the camera. There are many types of PTZ cameras available and their cost varies based on Speed, Zoom capacity, Manufacturer, etc. Analog CCTV PTZ cameras require additional set of wires compliant with RS422/485 protocol standard to control PTZ movements. Therefore, usually it is necessary to put a RS232 to RS422/485 converter to a VMS system. Luxriot currently supports the most popular Analog CCTV PTZ command protocols, including Pelco-D, Bosch and MeritLilin. Network PTZ cameras do not require any additional wiring or devices, since PTZ commands are being send over TCP/IP network; therefore, making installation process much simpler and eliminating a lot of compatibility and configuration issues.

USB and Web Cameras



Can I use my USB or Web Cameras? Yes, Luxriot is the world's leader in the best, most economic, versatile and powerful VMS. We want everyone to be able to use our software and if you have a USB Cam or a Web Cam, you are welcome to try our software for free and purchase as many licenses as you wish. However, keep in mind that you are limited to USB ports amount with this option but for small users, Luxriot is for you.

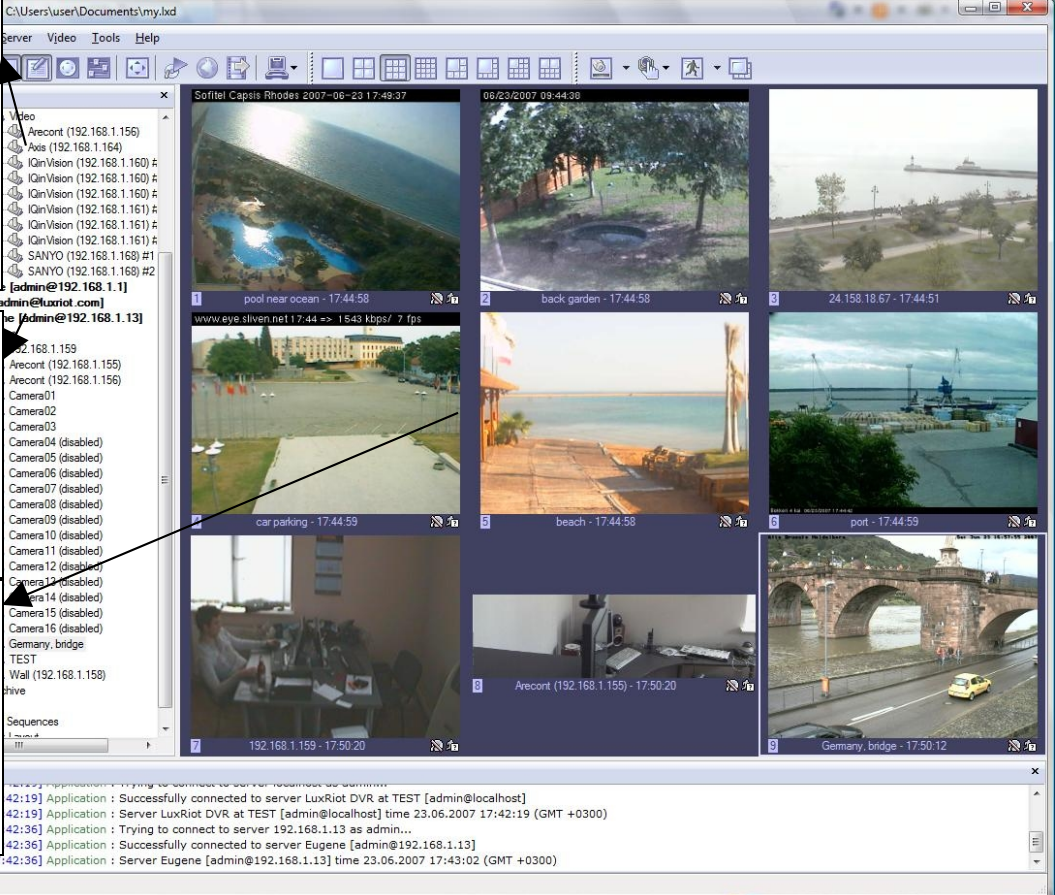
Server

What is Luxriot Server? Luxriot server is the Windows application, which can run as Windows service or Windows tray-application. Luxriot Server grabs video streams from the configured sources, analyzes it for motion, broadcasts it to local (running on the same computer) and remote clients and records it to a local hard drives. Luxriot server is the only application in the Luxriot suite, which requires licensing, which can be activated via software key.

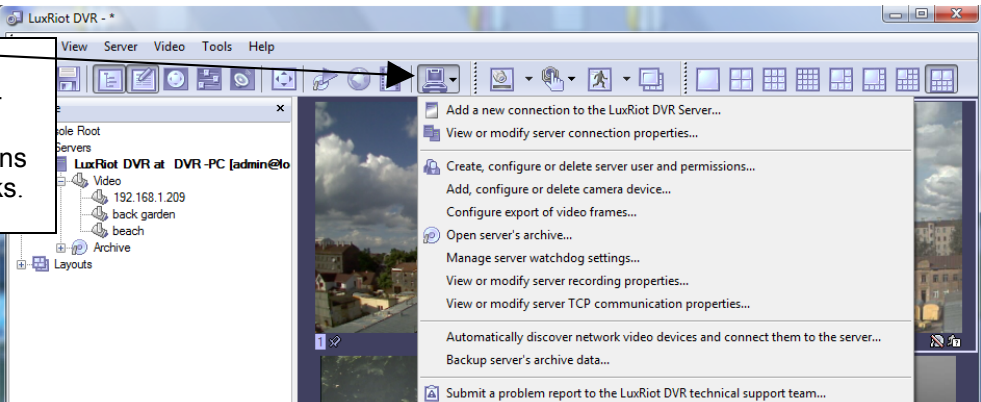
Through Console Root an unlimited number of cameras and servers can be managed, configured and adjusted, without the need to be at the server site.

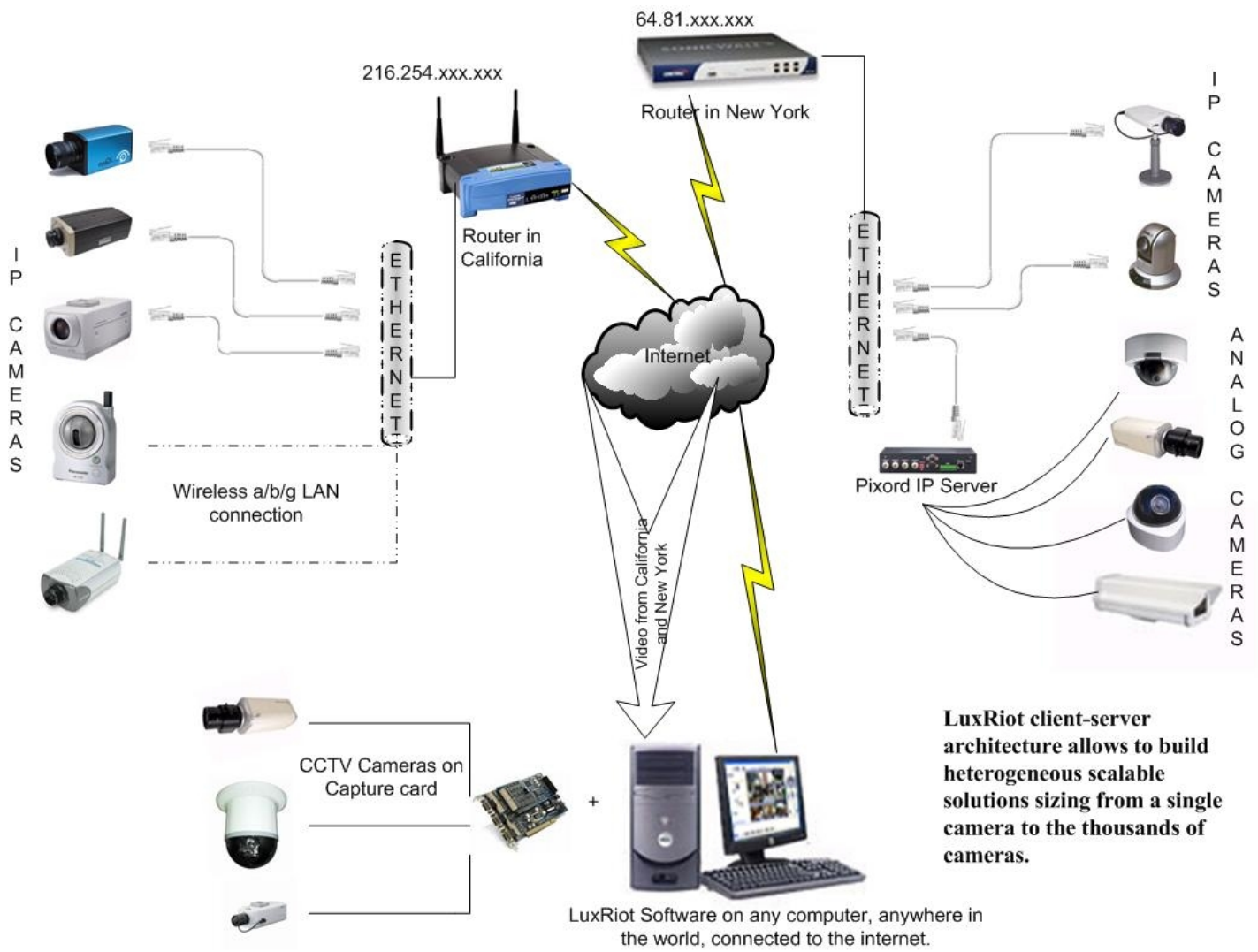
Right mouse click on any camera or server to drop down a list of various options like camera setup, recording settings, user management, ... etc

Right mouse click on any camera to access Archive playback, freeze function, digital PTZ, screen arrangement, Video transfer options and more.



Wizards for easy navigation and step-by-step setup to perform configurations and other setup tasks.

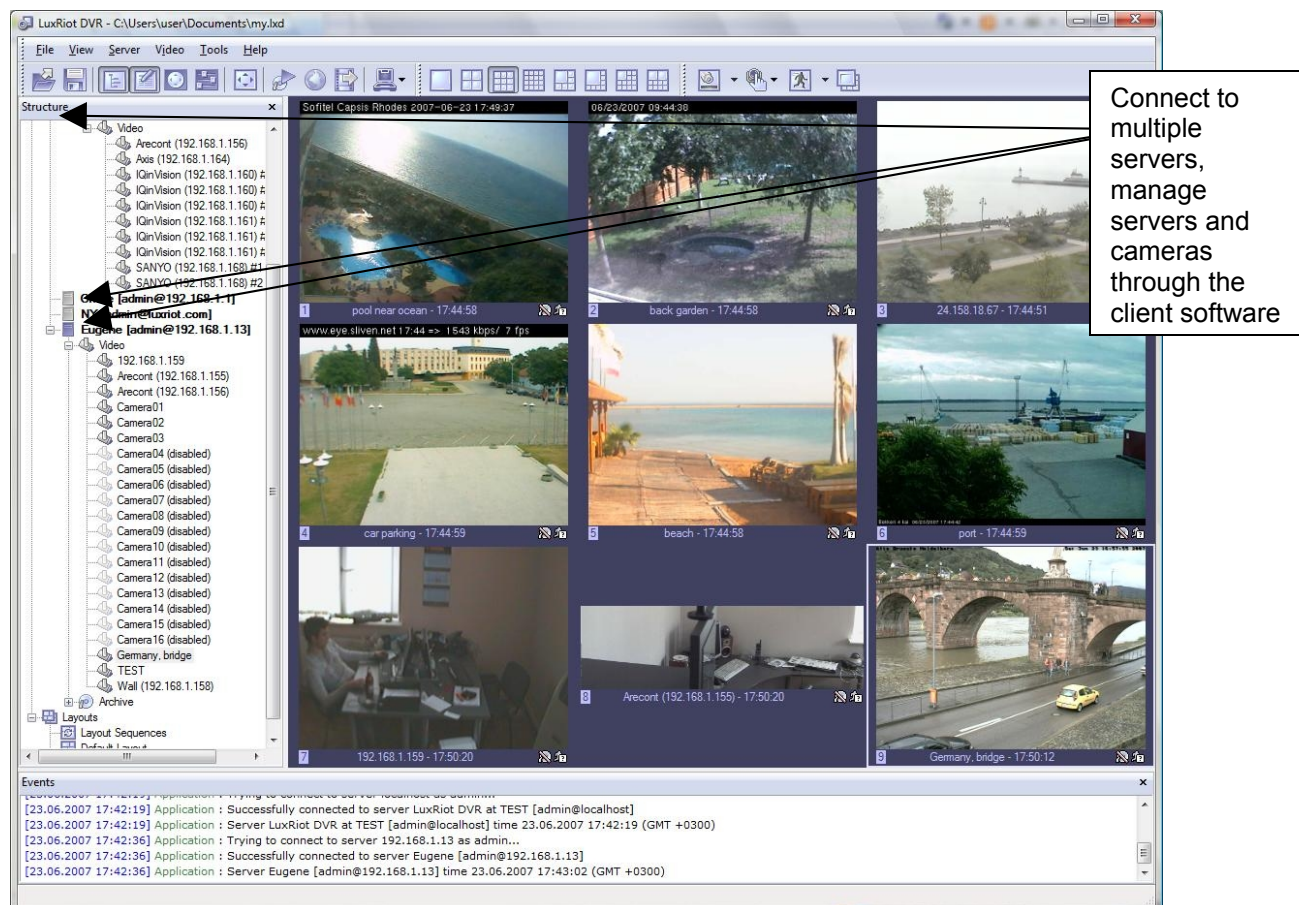




Client

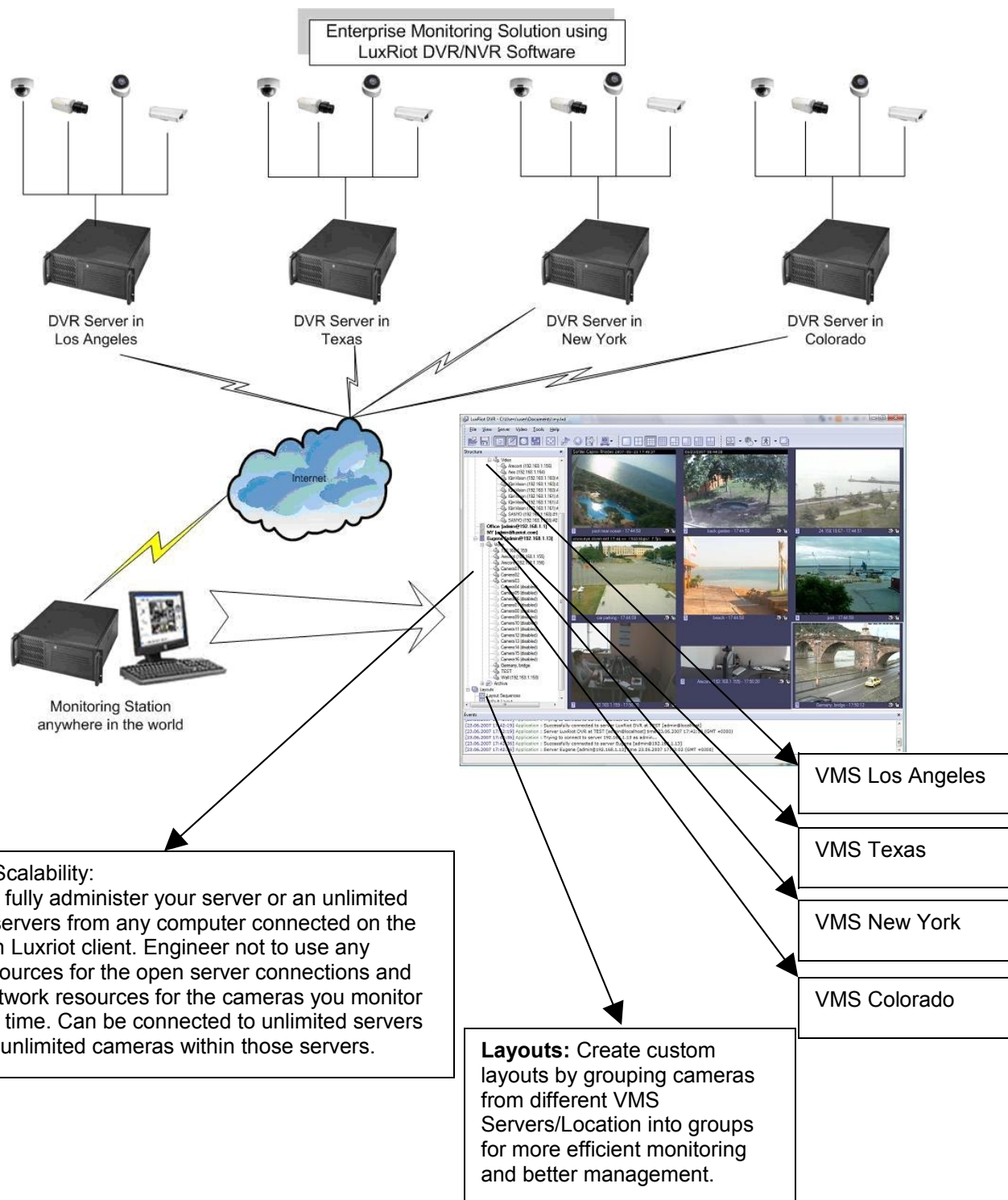
What is Luxriot Client? Luxriot Client Application is the component to monitor live and recorded video from several Luxriot servers. Also Luxriot Client is the main tool to manage and configure local and remote Luxriot servers.

The Client component of your Luxriot Software is the Interface to control your Luxriot surveillance system. The client is the piece of software that controls every aspect of your server. This software can be installed on the main machine running the server or on any machine that can access the server via TCP/IP. The client application can be used to control and fully administer your server or an unlimited number of servers from any computer connected on the Internet. You never need to go on-site again to make changes to your VMS.



Benefits – By not having to ever be on-site to administer your VMS is a tremendous advantage and one that Luxriot offers. We have revolutionized the VMS world with this application feature enabling full flexibility to the VMS operator. Another advantage to not installing the Client on the Server Site is your VMS is now **Tamper Proof**. Since Luxriot server can run as a Windows service, The server/computer running the software can be logged out of Windows and have login password protected.

ENTERPRISE SCALABILITY AND MONITORING.



Chapter 2

Server Installation

Lets Begin Installing- begin the installation process by double clicking the Luxriot setup file.

1st Screen- **“Welcome to the Luxriot Digital Video Recorder Setup Wizard”**

[Click next](#)

2nd Screen- **“Software License Agreement”**

Please read and choose accept.

[Click next](#)

3rd Screen- **“Select installation Destination”**

Changing the location is optional, but not recommended.

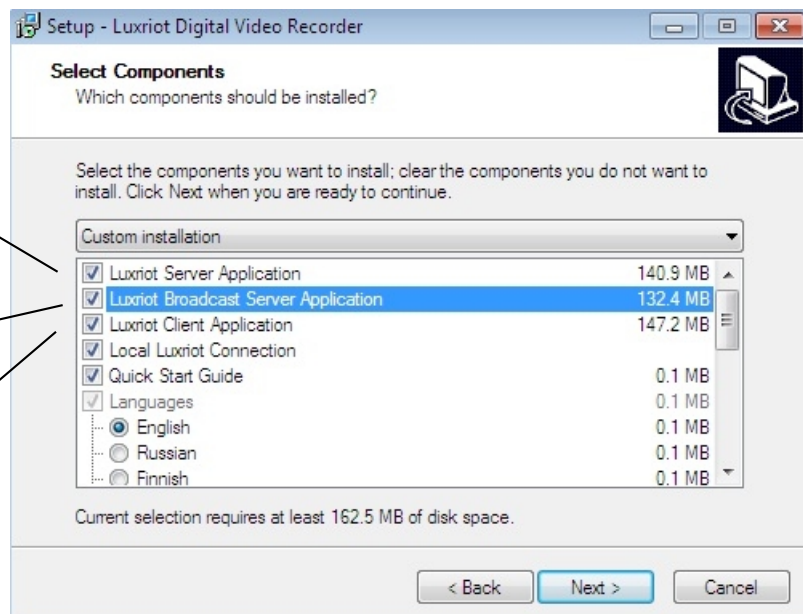
[Click next](#)

4th Screen- **“Select Components”**

Here you will need to check the top Unchecked option “Luxriot SERVER APPLICATION” This option needs to be checked now, since we are now Installing The Server portion of the Luxriot package. If you would also like to install the GUI (Graphic User Interface) or the CLIENT put a checkmark next to Luxriot client application. Then leave the rest of the boxes unchecked. If you would like to have the server run without the client, please uncheck the remaining Boxes.

Luxriot Broadcast Server will resample and recompress video stream for web or mobile client depending on connection speed and viewing capabilities.

If you want to be able to view and manage the server from the same machine check both Luxriot Client & Server Application.



[Click next](#)

5th Screen- **“Select Start Menu Folder”**

Changing the location is optional, but not recommended.

[Click next](#)

6th Screen- **“Additional Icons”**

These are shortcuts and are recommended, but optional.

[Click next](#)

7th Screen- **“Ready to Install”**

Luxriot Server and options will now be installed.

[Click Install](#)

8th Screen- **“Completing the Luxriot Recorded Setup Wizard”**

Here you have an option to run “Server Setup Wizard”. Leave it checked and lets continue.

[Click Finish](#)

Software Activation

1st Screen- “**Wizard explanation**”

[Click Next](#)

2nd Screen- “**Product Activation Method**”

IF YOU HAVE DOWNLOADED Luxriot THE SHAREWARE VERSION, click cancel and skip down to page eight of your manual - Server Configuration.

For those who have purchased Luxriot or wish to purchase Luxriot at this time.



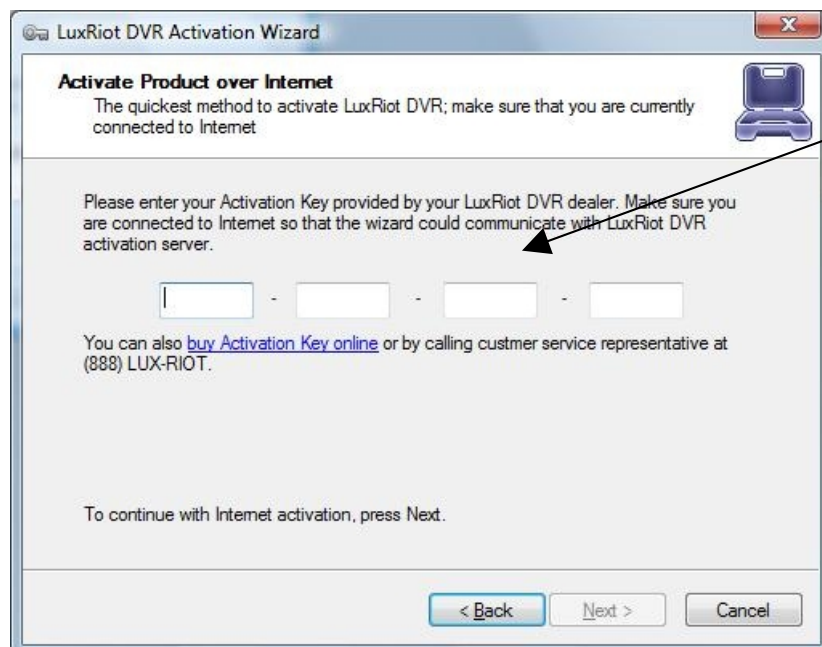
Select Internet Activation method if you have your machine connected to the Internet.

Select Phone Activation if your machine isn't connected to the Internet.

[Click Next](#)

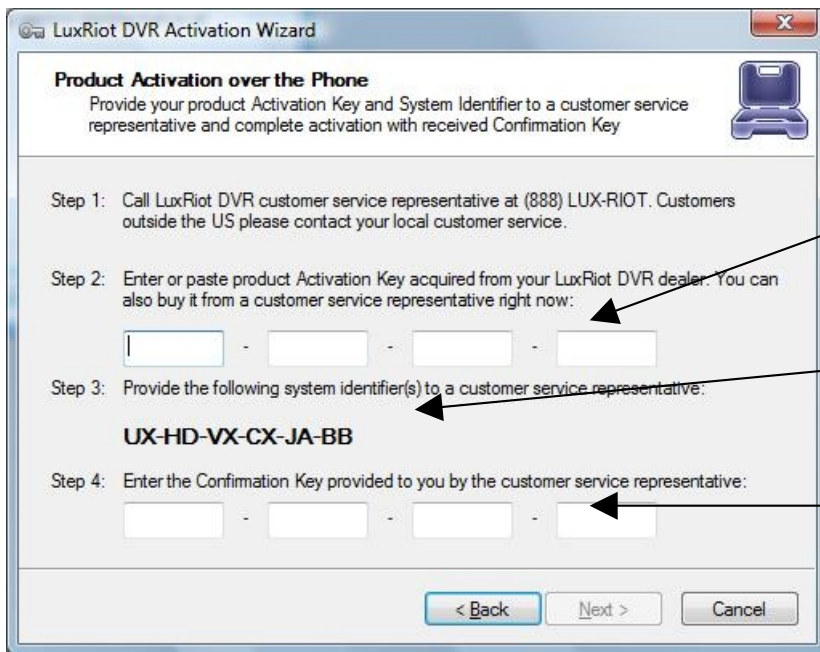
3rd Screen- “**Activate Product over Internet**” or “**Activate Product over the Phone**”

Activate Product over Internet



Enter Activation Key, acquired from your Luxriot VMS dealer, here. You can also buy it from a customer service representative.

Activate Product over the Phone



LuxRiot DVR Activation Wizard

Product Activation over the Phone
Provide your product Activation Key and System Identifier to a customer service representative and complete activation with received Confirmation Key

Step 1: Call LuxRiot DVR customer service representative at (888) LUX-RIOT. Customers outside the US please contact your local customer service.

Step 2: Enter or paste product Activation Key acquired from your LuxRiot DVR dealer. You can also buy it from a customer service representative right now:

- - -

Step 3: Provide the following system identifier(s) to a customer service representative:

UX-HD-VX-CX-JA-BB

Step 4: Enter the Confirmation Key provided to you by the customer service representative:

- - -

< Back Next > Cancel

Enter Activation Key, acquired from your Luxriot VMS dealer, here. You can also buy it from a customer service representative.

This is your system ID which will be required when contacting customer service representative.

Enter Confirmation Key, acquired from a customer service representative, here.

[Click Next](#)

5th Screen- **"Product has been successfully activated"**

You will also see the description of your edition and your access limitations.

[Click Finish](#)

End of software activation

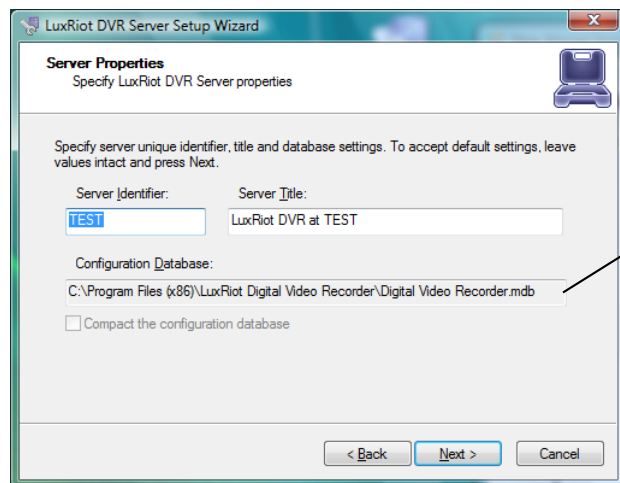
Server Configuration

1st Screen- **“Wizard explanation”**

[Click Next](#)

2nd Screen- **“Server Properties”**

Here is where you will enter your machines unique Identifying name and server title. Underneath you will see an option that is by default UNCHECKED “Compact the configuration database” it is a good choice to check this option for it will help optimize our configuration database in the future.



Default Install Directory
of Database

[Click Next](#)

3rd Screen- **“Server Administrator Settings”**

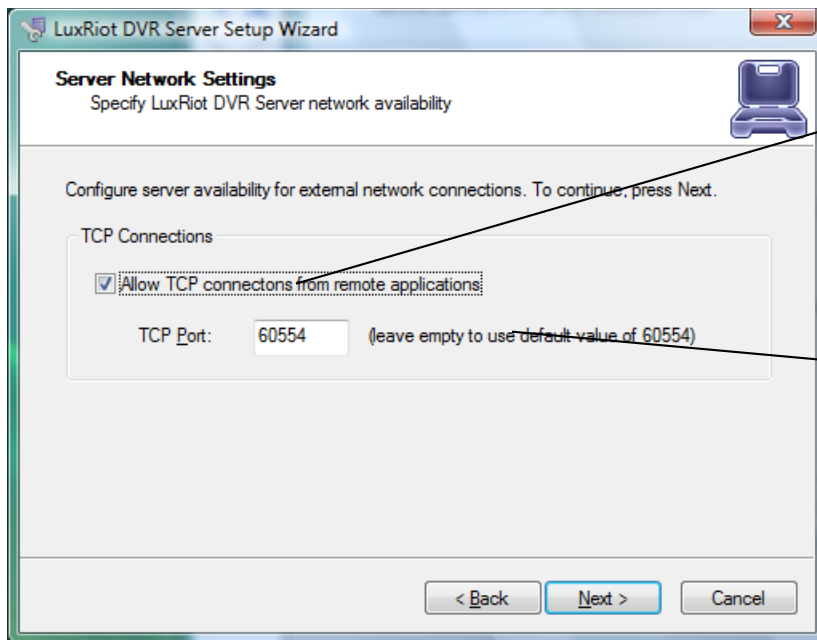
Here you are setting up the settings for the Administrator. Leave the default user name to “admin” and enter a unique password in both lines. You will have the chance to add additional users at a later time.

[Click Next](#)

4th Screen- **“Server Network Settings and Port settings”**

The default TCP port that Luxriot uses is 60554 but you can change that to any port that you would like as long as it is open on your firewall. Please check with your network administrator or internet service provider about your firewall settings.

[Click Next](#)



Allows remote connections to VMS Server. This setting can be changed at any time from the Luxriot server settings menu.

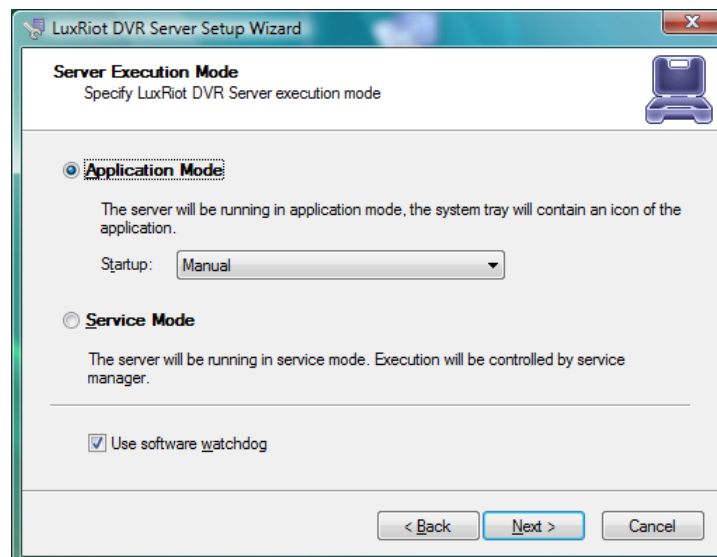
This is the default Port and it can be changed to your preference.

5th Screen- “Server Execution Mode”

Here you have two options

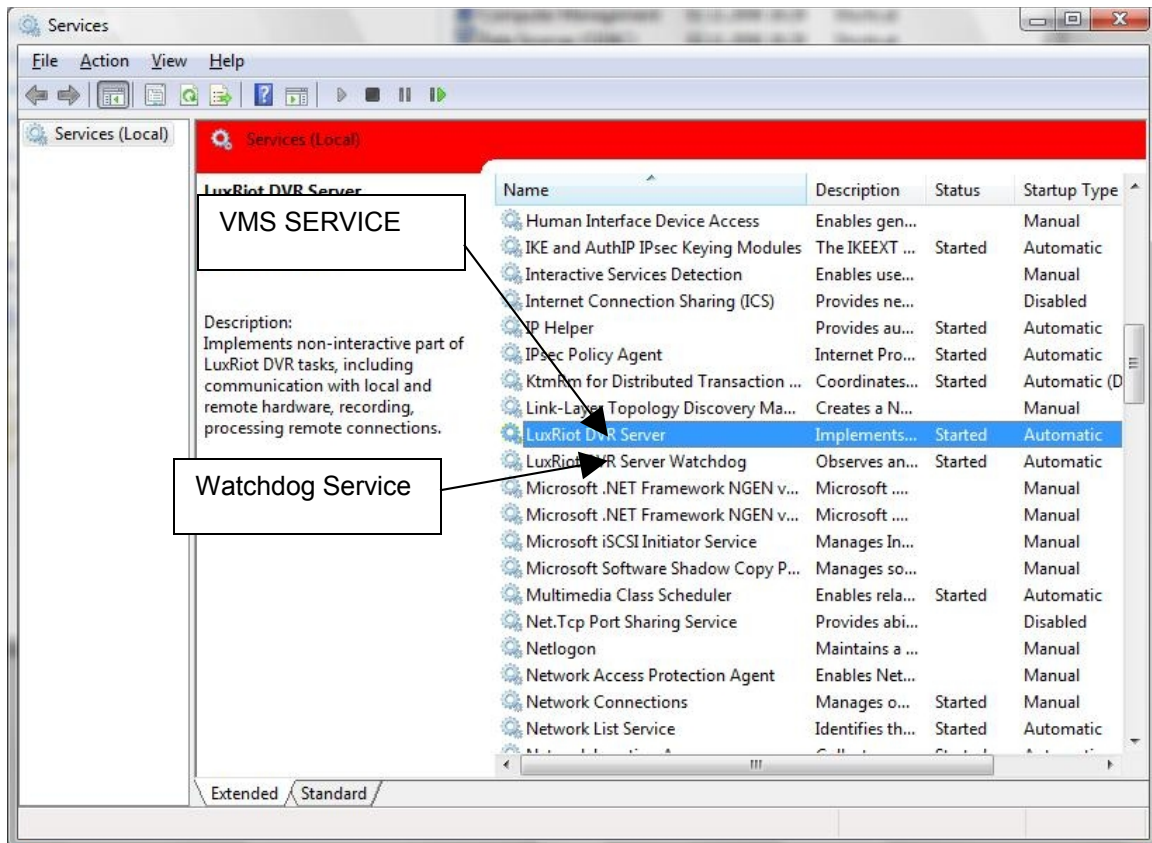
Application Mode.

This means that the program (Luxriot) will need to somehow be manually started. It then gives you a drop down list with options on how that can happen. “**Manually**” is one option. That means you will physically have to double click the program to get it started. “**Automatically with any user logon**” is another option. This option will turn the software on when any user logs into Windows on that machine. “**Automatically with current user logon**” is the last option. This means that the user currently logged into Windows, will be the user that activates Luxriot upon Windows login.



Service Mode.

This option is RECOMMENDED. This option is an amazing feature offered exclusively through Luxriot. With Service Mode checked, the software will always be running in the background even though nobody has yet logged into Windows. This means you can lock everyone out of windows and never have to worry about any of your data. Also, if your power ever goes out, upon power recovery your system will turn on and nobody needs to physically log into windows or turn your Luxriot program on, in order to keep your data flowing both locally and remotely.



[Click Next](#)

6th Screen- **“Server Execution Control”**

Here, depending on which option you chose in the previous screen, will show you your options. Again your options will be limited to your previous selection. Choose to either “Start Server Application” or “Start Server Service”

[Click Next](#)

7th Screen- **“Stop Server Application” or “Stop Server Service”**

Just showing you how you can now stop the Server if desired.

[Click Next](#)

8th Screen- **“Wizard Complete”**

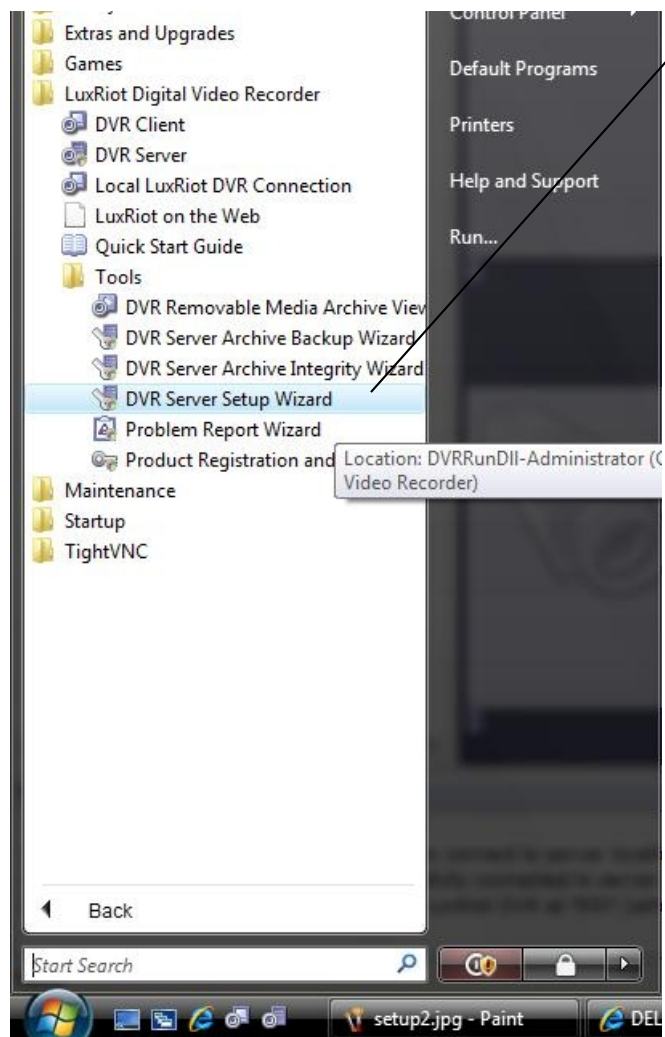
[Click Finish](#)

Your Server Application is now complete.

End of Server Installation

How to start and stop VMS services

The Luxriot Software if it is setup on service Mode can be stopped by browsing the windows services (see Page 17). Or by using the VMS SERVER WIZARD



Luxriot Terminology

Pane - Panel, window.

Toggle- To alternate between two or more electronic, mechanical, or computer-related options, usually by the operation of a single switch or keystroke.



Toolbar- The toolbar that you see at the top of your screen gives you various options such as open, save and various screen manipulations, at the click of a button.



Open Configuration- This button on the toolbar allows you to open previous Luxriot configurations. It is most useful if you are exporting configurations from one machine to another.



Save Configuration- This button on the toolbar allows you to save any changes that you have just made to your VMS, it will continue to save to the same file unless you click on *File* and *Save As* then you can save to a different file or even to a floppy.



Structure Pane - This button toggles whether you see or don't see the *structure pane* on the left side of your Luxriot window. The *structure pane* is most useful when you are looking at cameras from multiple locations and multiple Luxriot servers. We will discuss the *structure pane* later on in this chapter.



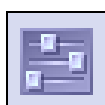
Toggle Structure Filter Pane - This button toggles *structure filter pane* under regular structure pane. This filter will allow you to quickly locate necessary camera from the list of cameras you currently have, or several set of cameras with similar name.



Events - This button toggles the events window. The events window gives you important notifications such as, when you are connecting to a server successfully. It lets you know if you have input improper user names and passwords and gives you error codes when needed.



PTZ Control - This button toggles the PTZ control pane. If you do not have a pan-tilt-zoom camera connected to your system then this button does no need to be pressed.



Video amplification- This button toggles the video amplification pane. When this button is pressed a pane will come up from which you will be able to adjust the brightness, contrast, saturation, sharpness, and hue for any camera.



Audio- This button toggles Audio pane control. Audio pane enables you to listen to Audio from different cameras.



Full Screen - This button toggles full screen mode. In full screen, none of the panes will be seen and the cameras will be expanded to their maximum size to fill the full screen of your monitor.



Open Archive – This button opens archive viewer window. You will be able to view archived data of your connected VMS.



Emergency Recording – On activation of emergency recording mode for a device, the footage is recorded at full frame rate during specific period of time and then is automatically returned to regular recording settings.



Archives Investigation – This button toggles map *Media Archive Investigation* pane, where you can observe as many video archives as you required in the same time.



Manage Maps – This button toggles map module window for managing and viewing cameras on Google or previously added maps.



Save Current Frame as – This button allows you to save currently rendered video frame into file. Frame from selected screen will be saved only.



Wizards- The wizard's icon on the toolbar gives you a shortcut to various server, and camera options and configurations. You can also access these features through the right click menus in the software.



Views- These buttons on the toolbar allow you to manipulate your views and camera layouts to your own preference.



Screen Footer- The screen footer button on the toolbar allows you to display various information underneath each camera window. It can display frame rate, time, picture quality, recording, motion detection, and image size. The screen footer is the text below each camera



Stream Selection- The stream selection button allows you to pick which camera you would like to view in the selected camera window. This can also be done through the right click menus and by dragging the desired camera from the structure pane to the desired display window, or right click on any camera window and select stream.

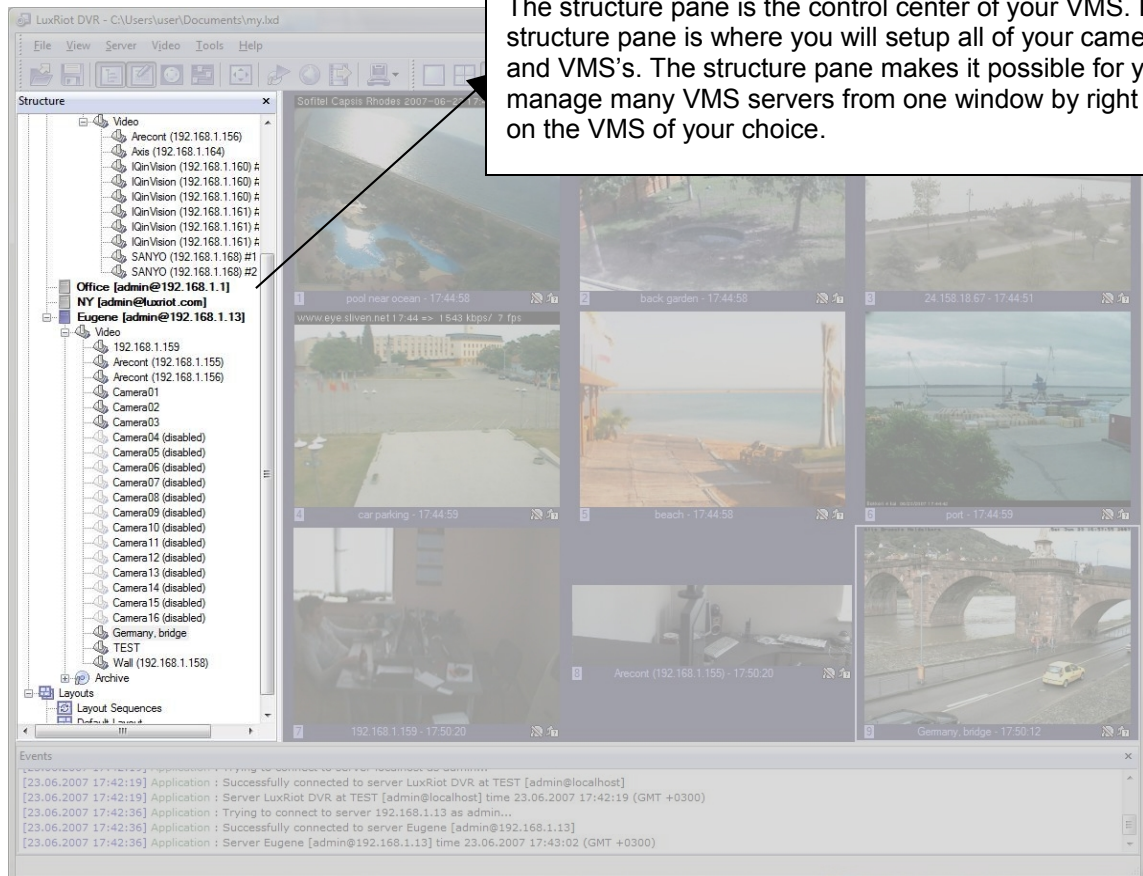


Show Motion- The show motion toolbar button toggles whether or not you want the motion outlined on the selected camera screen. Note: Motion detection must be setup before this feature can be activated.



Maximize- When pressed the maximize button puts the selected camera into a single view, if pressed again it will return to the previous view. This can also be accomplished by double clicking on the camera of choice.

Structure Pane



The screenshot displays the LuxRiot DVR software interface. On the left, the 'Structure' pane shows a hierarchical tree of devices. Under the 'Office [admin@192.168.1.1]' and 'NY [admin@luxriot.com]' sections, there are several 'Video' entries. A right-click context menu is visible over the 'Sofitel Capris Rhodes 2007-06-23' entry. The main area shows a grid of camera feeds, including 'pool near ocean', 'back garden', '24.158.18.67', 'www.eyevision.net', 'car parking', 'beach', 'port', 'Germany, bridge', and 'Wall'. The bottom pane shows a log of events, including connection attempts and successful connections to the server.

The structure pane is the control center of your VMS. In the structure pane is where you will setup all of your cameras, and VMS's. The structure pane makes it possible for you to manage many VMS servers from one window by right click on the VMS of your choice.

Client Server Connections

Lets Begin Installing- begin the installation process by double clicking the Luxriot setup file.

1st Screen- **“Welcome to the Luxriot Digital Video Recorder Setup Wizard”**

[Click next](#)

2nd Screen- **“Software License Agreement”**

Please read and choose accept

[Click next](#)

3rd Screen- **“Select installation Destination”**

Changing the location is optional but not recommended.

[Click next](#)

4th Screen- **“Select Components”**

Leave the **“Luxriot SERVER APPLICATION”** unchecked, since we are now installing only the Client or the GUI (Graphic User Interface) portion of the Luxriot package. The remaining options are for the Luxriot “Quick Guide” a quick guide to getting started (optional) and the Luxriot Demo connection, which will install a connection to our live Demo (optional). You can always remove our connection at a later time if you so choose.

[Click next](#)

5th Screen- **“Select Start Menu Folder”**

Changing the location is optional but not recommended.

[Click next](#)

6th Screen- **“Additional Icons”**

These are shortcuts and are recommended but optional.

[Click next](#)

7th Screen- **“Ready to Install”**

Luxriot Video Recorder and options will now be installed.

[Click Install](#)

8th Screen- **“Completing the Luxriot Digital Video Recorder Setup Wizard”**

[Click Finish](#)

Your Client Application Installation is now complete. Now let's configure your Luxriot Digital Video Recorder and get you viewing your cameras.

Control Server or Servers from your client application

Double click your Luxriot Client icon from your desktop.

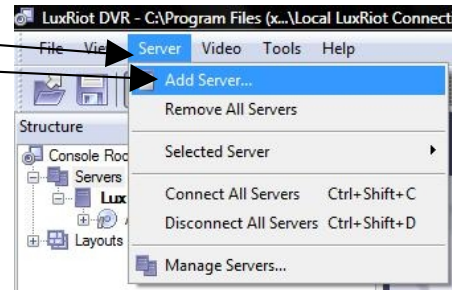
We will now add your Server information to your Client application.



- From the top bar menu
- Locate the word "Server"
- Choose "Add Server"

Add a new server.

- The Add Server Wizard will open
- Choose Next
- "Adding New Server" Screen is where you will enter



your data

The IP or the DNS of the server you want to connect. If the server is on the same Machine Type localhost

The port your server is running on

Remember Password: If you choose to leave this field unchecked every time you try to log on the server will request a password to let you in.

Auto Connect on start- this will auto connect to your server as soon as you open the Client.

Auto reconnect on disconnection- will automatically try to reconnect you in the event of disconnection.

Multicast mode – reduce network load when many remote client connected to the server and live view same video streams. Please refer Multicast connection topic.

[Click Next](#)

Now go to File – Save As- Find your Luxriot Client on your desktop – highlight it so the name appears in the save as portion- click save. It will tell you that Client already exists and if you want to override it, click yes or your new server will not be saved in your server list on the left and you will have to reenter your information when you reopen the program.

Wizard Complete. You should now have video feed of your cameras. The next two chapters will teach you how to configure your VMS to your specifications.

End of Client Installation

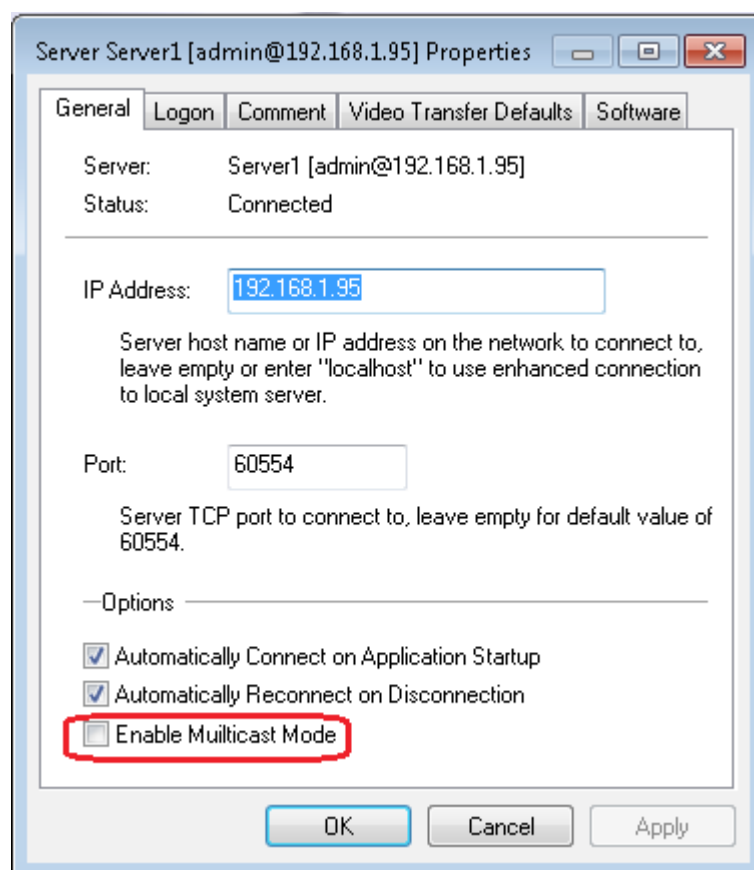
Multicast connection

Luxriot VMS multicast is one (*Luxriot Server*) to many (*Luxriot Client*) real-time communication over IP network. Multicast *Server* uses network efficiently as long as sends packet only once, even if that packet should be delivered to many receivers. The mechanism of packet loss control is implemented in multicast system (protocols).

Multicast deals with group addresses (interested receivers' group addresses), distribution tree (every receiver, who joined receiver group, will get multicast data) and receiver driven tree creation (it is not important for the sender, who the receiver is, but it is important, who enters receivers' group; receivers create tree themselves).

Multicast creates state information about multicast distribution tree in the network – typically on the network switches and routers. Based on that information network devices know, who will receive multicast data.

To enable multicast for your *Luxriot Server* open your *Luxriot Client*, go to *Structure pane* and click on the server name with mouse right button, go to *Properties* and on *General* tab mark *Enable multicast mode*.



Notes:

All network equipment (switches, routers, ...) between *Luxriot Server* and *Luxriot Clients* should support multicast.

Multicast feature is available for servers with **Enterprise license only**.

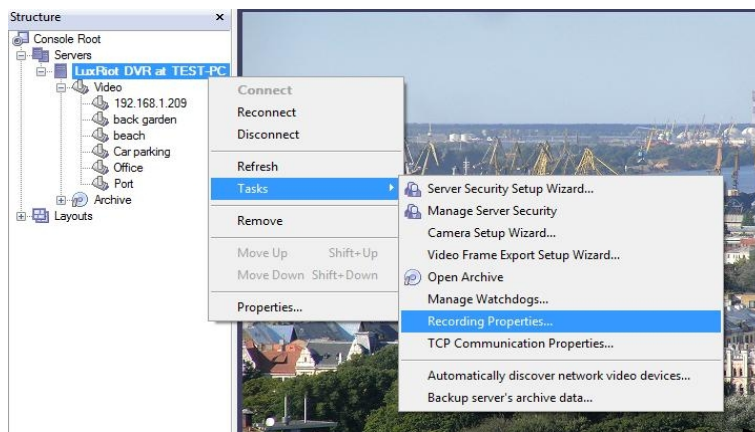
Multicast cannot be enabled on localhost servers.

End of Multicast connection

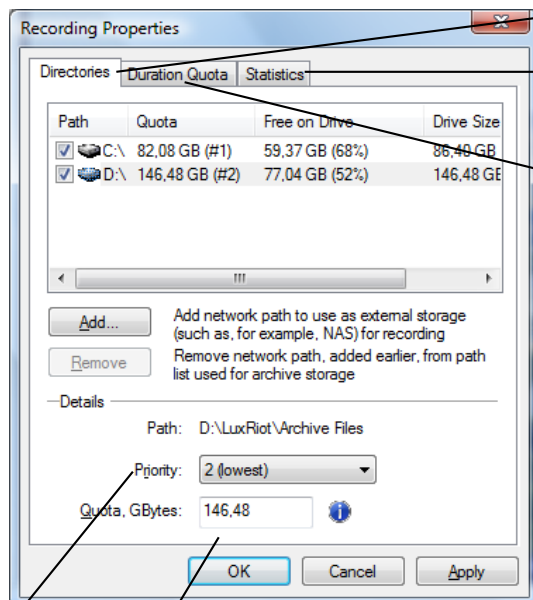
Chapter 3

Server Recording Properties

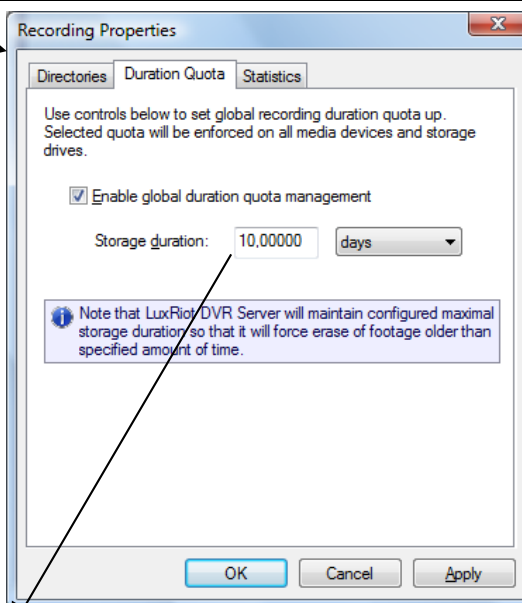
Right click on your server
Choose Tasks
Recording Properties



Directories- This is where you will see your available hard drive space. When you check and highlight either drive, the details option below will become available for further data entry. If you do not want your C drive to be used for storage, do not check it. If you do but only wish for a small portion to be used, below is where we will define that need.



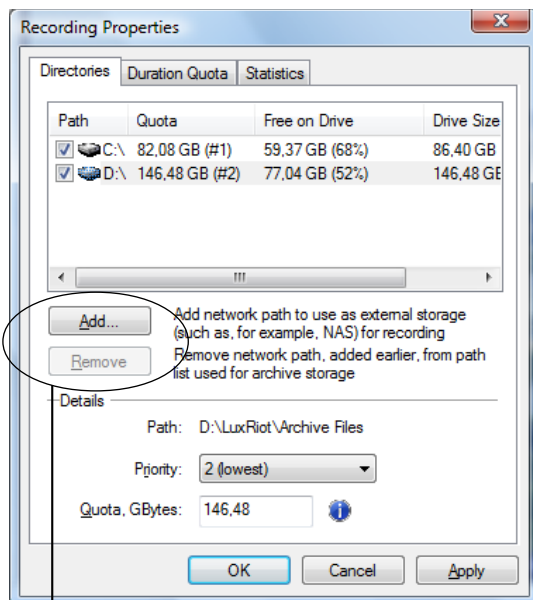
Statistics- Here you can check on used spaced and available space left on the hard drives being used by Luxriot.



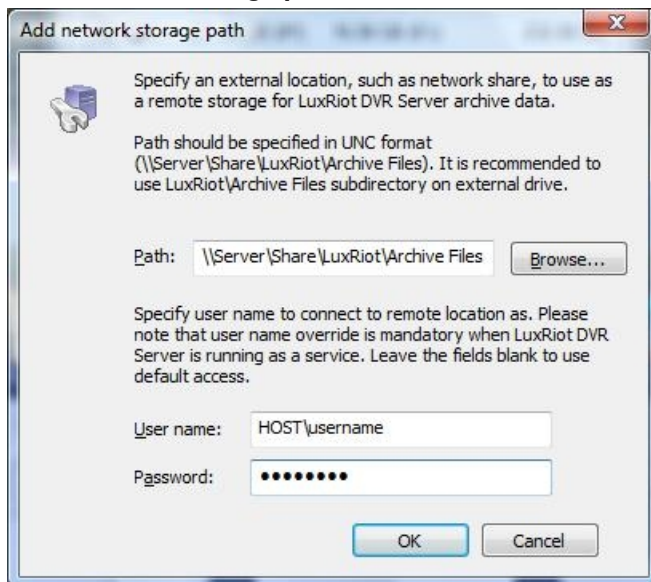
Priority- Your priority option, is for you to choose which of your drives records first. You must first check and then highlight (by clicking one time) the drive you wish to customize in this portion

Quota - Here you chose the amount of space you would like to designate for storage on that particular hard drive. NOTE: NEVER choose 100% for the C Drive. This may cause your machine to eventually crash due to not available virtual memory for page. The reasonable quota is 85-90% of the drive capacity to avoid affect of fragmentation issues and also to allow the highly loaded VMS to effectively enforce recording quotas

Storage Duration- Here you chose the numbers of days you would like to store.



Add network storage path



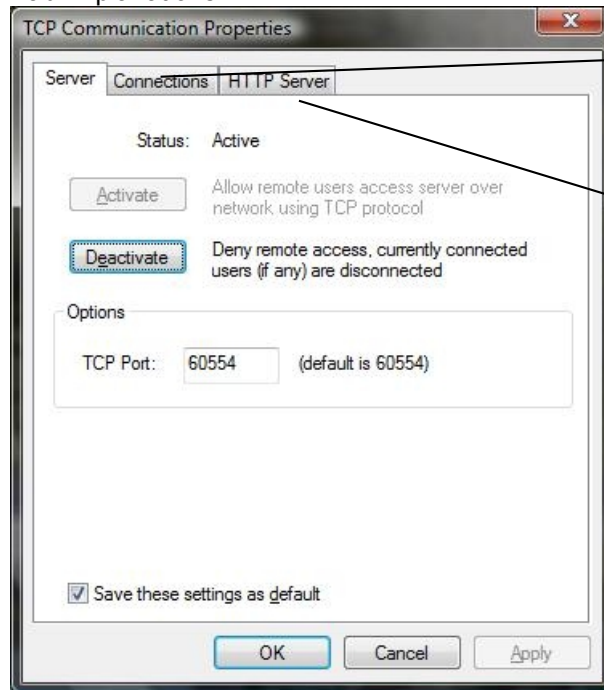
Add - Here you can add external storage address for recording such as sharing on the remote computer or NAS drive.

Remove – this button removes currently selected network storage path.

End of Server Recording Properties

Server Communication Properties

Right click on your server
Choose Tasks
TCP Communication Properties
Tab Explanations:



Connections- Here you can see at all times who is connected to your server. The IP address, user name and connection time can all be seen. Click refresh at any time for an updated list.

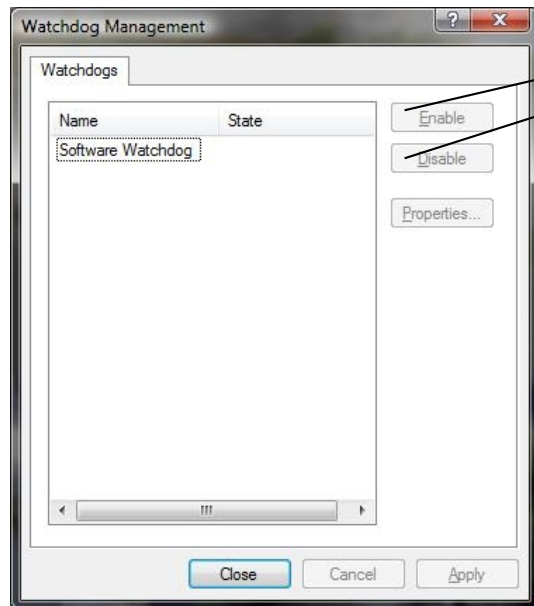
Settings for the HTTP Server for remote connections from a web-browser

End of Server Communication Properties

Server Watchdog

Server Watchdog performs an important operation, protecting your software from improperly working due to system problems. Configuring your watchdog is not necessary, if you chose to enable it during installation. The default settings will work well, however if you are having frequent restarts or for maintenance adjusting it may become vital.

- Right click on your server
- Choose Tasks
- Manage Watchdog



Watchdog- In order to use the Disable, Enable and Properties tabs, you must first highlight "Software Watchdog" by left clicking one time.

Click Properties

Server Watchdog Properties

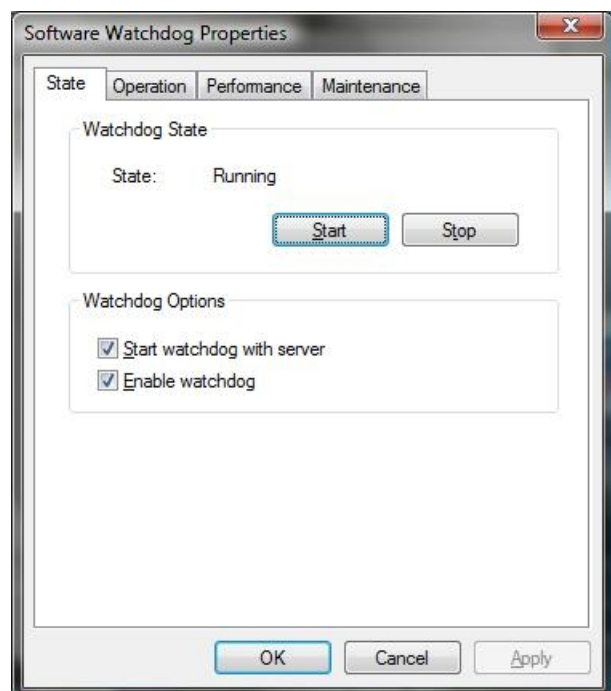
State- Start or Stop Running Watchdog.

Start Watchdog with Server-

Will begin the Watchdog application when server is started.

Enable Watchdog-

Will keep Watchdog running at all times.

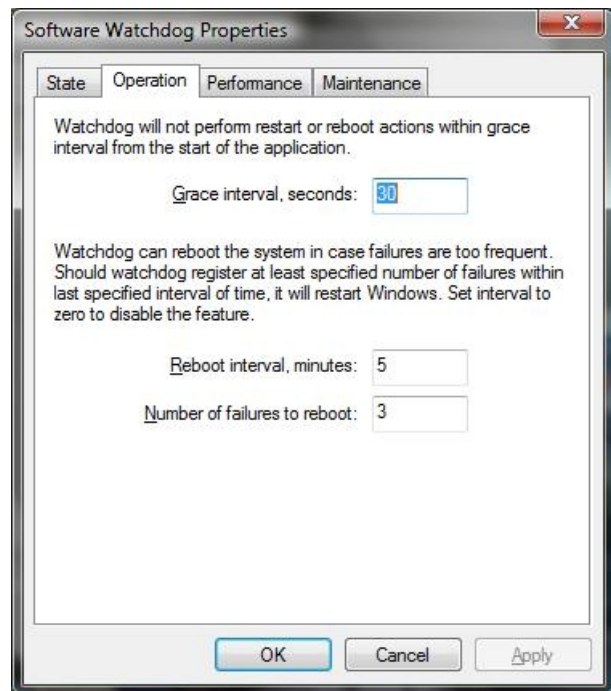


Watchdog Operation

Grace Interval Seconds- The grace period given when starting the application.

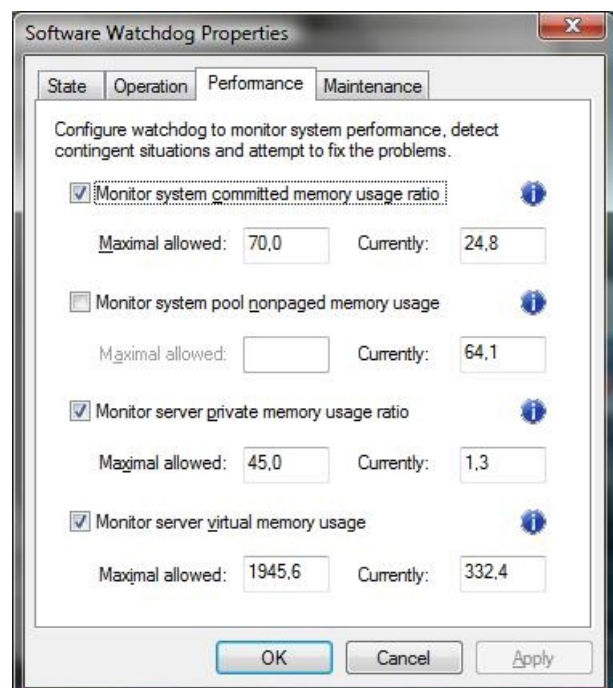
Reboot Interval Minutes- The amount of time Watchdog will allow between reboots.

Number of Failure to Reboot- The amount of failed attempts to fix, whatever problem has been detected, by restarting only the Luxriot application. Once this number has been reached, Watchdog will now reboot Windows and the Luxriot application.



Performance

This property tab allows you to configure which environment performance counters and variables will determine necessity of server or system restart. Watchdog will attempt to restart server or system after any specified threshold exceeding, There are also visible current values of the environment variables.



Maintenance-

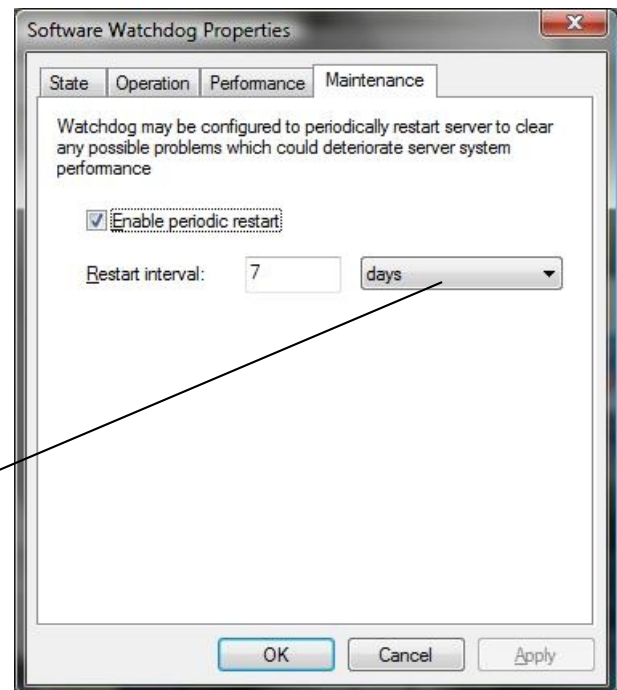
Enable Periodic Restart-

Enabling this feature will restart the Server Application at times specified. It is recommended to restart the Server Application to Refresh system resources.

The Watchdog Server-Restart will go Virtually unnoticed by the user.

If you made any changes click Apply then OK

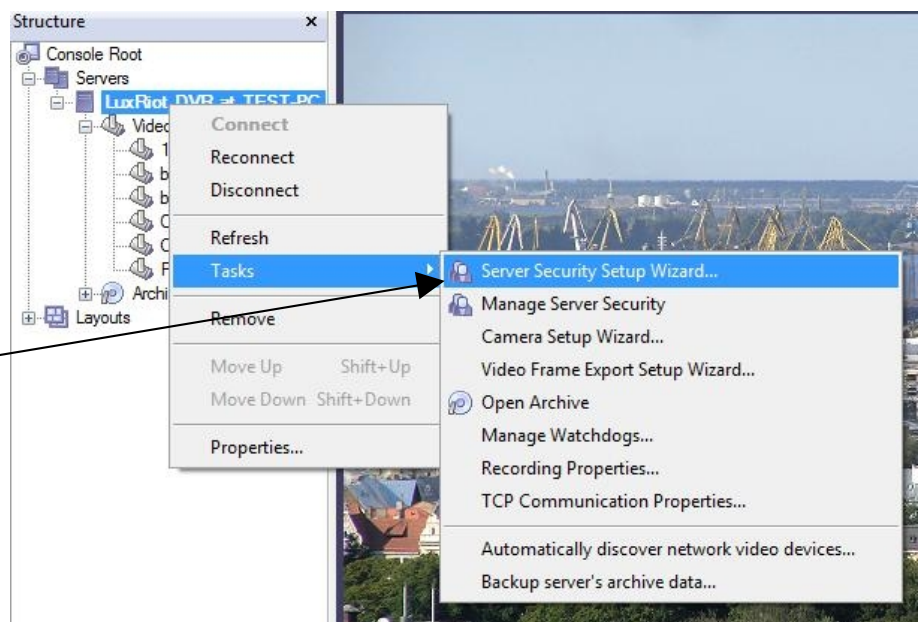
Days or
Hours



End of Watchdog

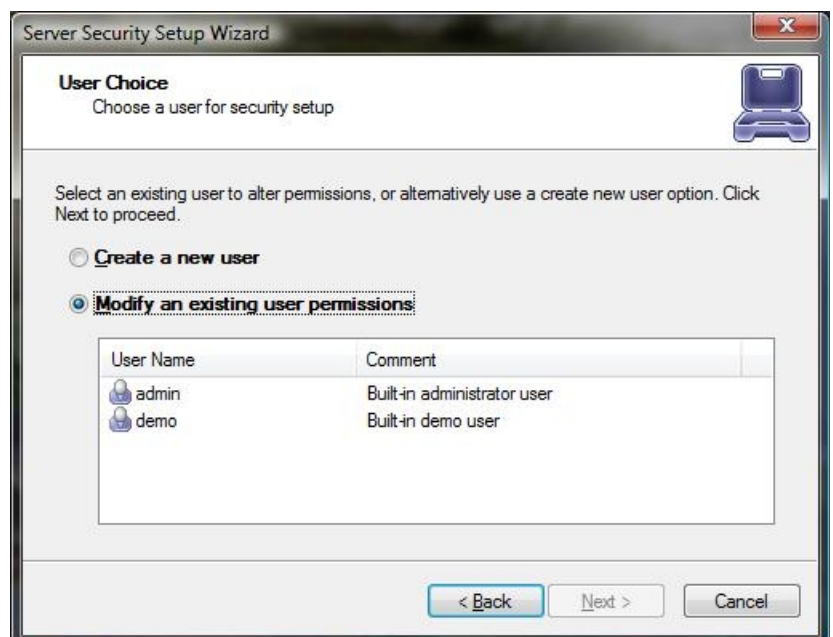
Server User Management

You can start the Server Security Wizard by right-click on the server within the Structure pane, then Tasks and then by choosing the "Server Security Wizard".



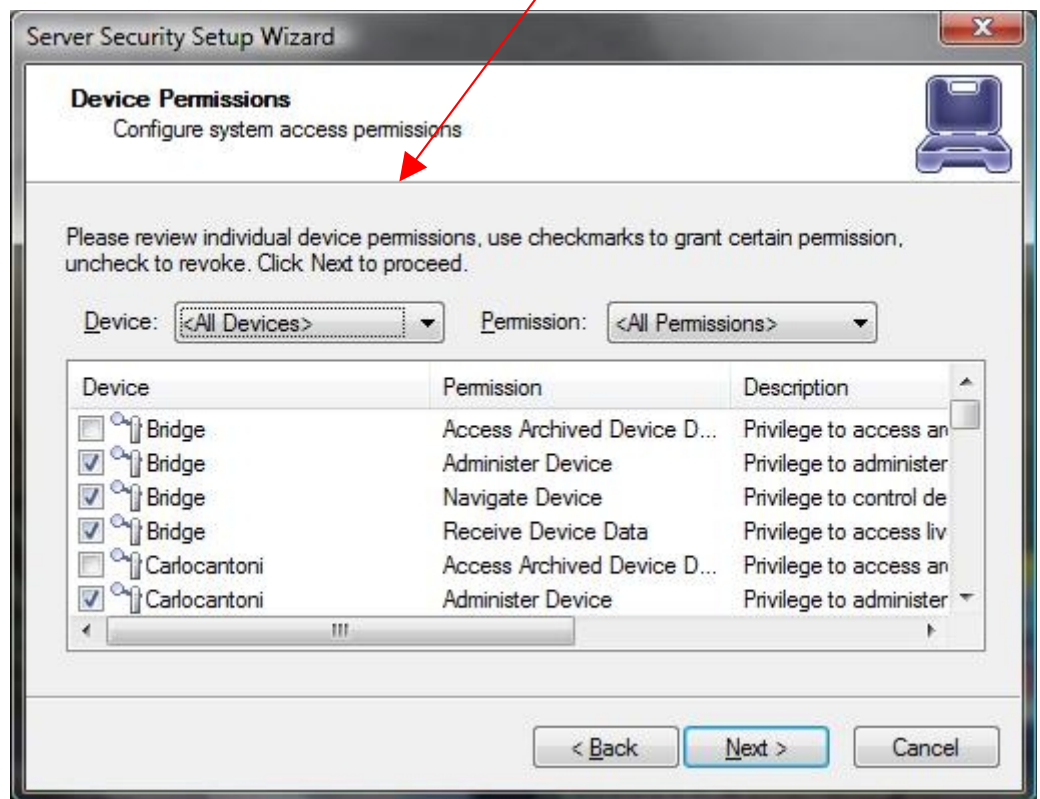
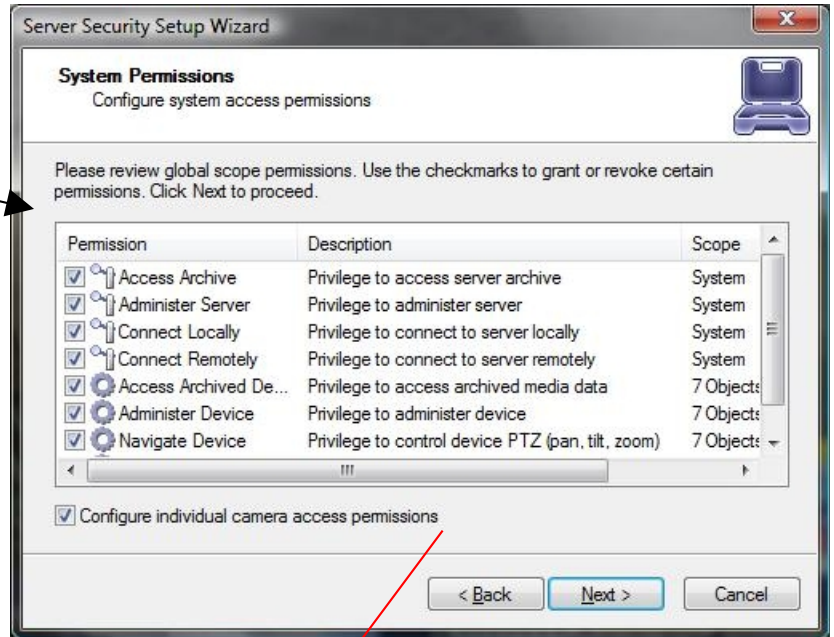
Create Users or modify existing user rights

This wizard guides you step by step to add, remove, or modify user permissions.



System/User Permissions-

As you see Luxriot User Permissions provides Global Scope permissions for better user management.



End of User Management

Active Directory

Active Directory feature in *Luxriot VMS* gives the possibility to connect to *Luxriot Server* with configured user domain name. The only thing that lefts is to change *Luxriot Server* specific permissions for every or individual user.

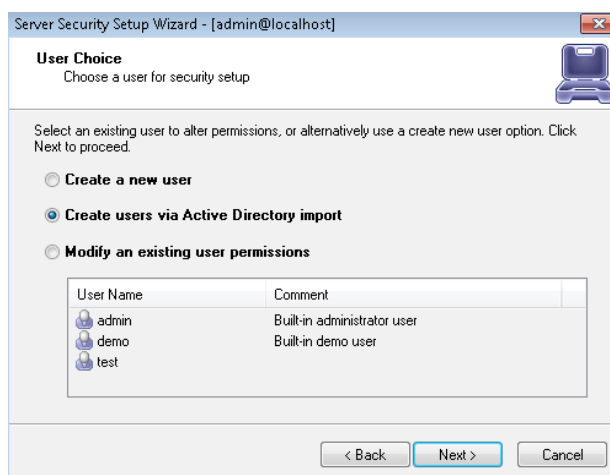
Notes:

Active Directory is supported for *Regular Client* application only (No support for broadcast server, API, LPR, ...)

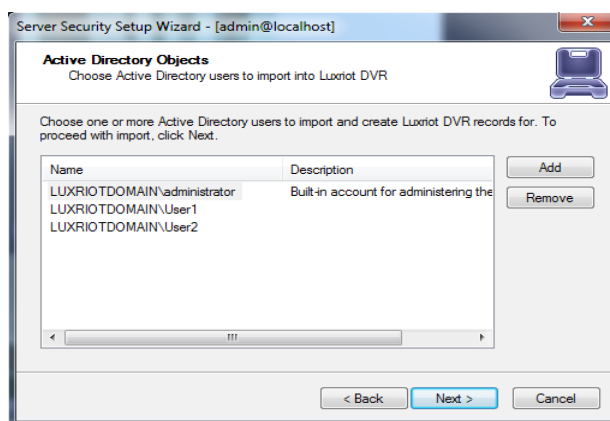
Active Directory feature at the moment is available for *Luxriot Server* Enterprise license only.

Active Directory feature is available for the following Windows versions: Windows Server 2003, 2008, 2012, Windows XP Professional, Windows Vista (except Home editions), Windows 7 (except Home editions), Windows 8 Professional

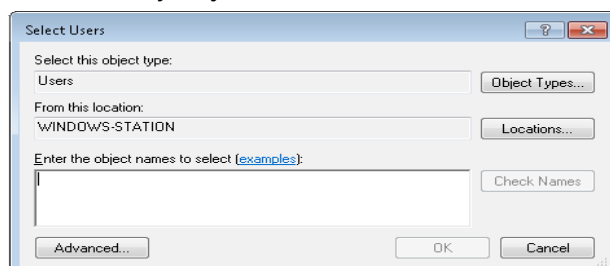
Adding Active Directory users to Luxriot Server



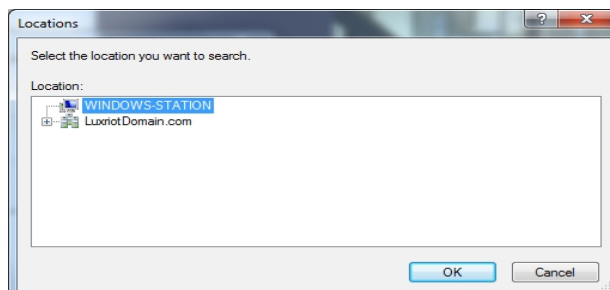
To import OS Windows Active Directory mark your *Luxriot Server* in the *Structure Pane*, go to *Wizards* icon (coffer icon) on the *Standard Toolbar* and select *Create, configure or delete server user and permissions*, select *Create users via Active Directory import* and click *Next*.



You will be forwarded to *Active Directory Objects*. Click on *Add* button.

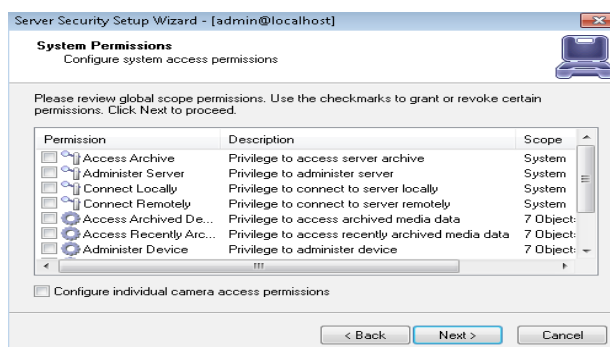


Click on *Locations* button and *Locations* window will open. Choose your domain (*Luxriot* domain is used as example), mark *Users* and click *OK* button.

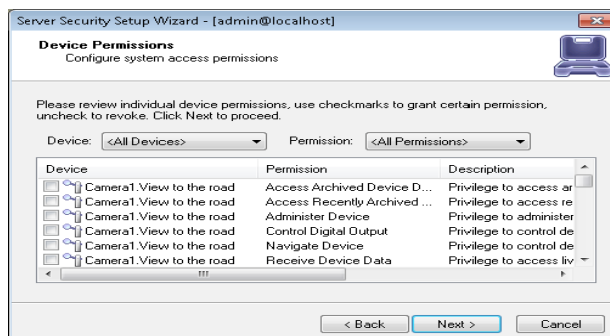


You will be returned to *Select Users* window. Enter user name and then click *Check Names* button. If you entered your user name correctly, then it will be given the name that consists of domain name and entered name. Click *OK* to add a user to the list. All newly added users will appear in *Active Directory Objects* window.

Select any user you want to give special permissions and click *Next*.

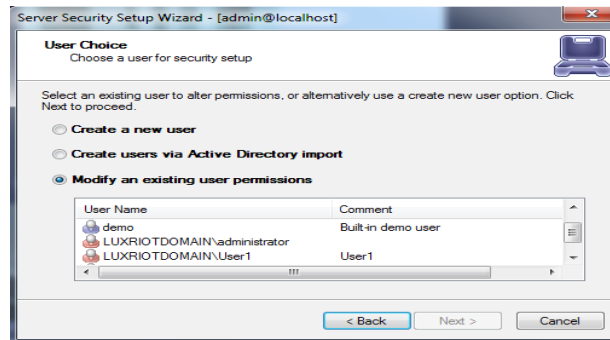


Add all the necessary permissions on *System Permissions* window and double click *Next* and *Finish*.



Select *Configure individual camera access permissions* on the *System Permissions* window. If you need to add individual permissions specific camera (-as) only. After you will be able to select permissions for required camera.

The final list of both *Luxriot Server* users and added Active Directory users has such form (Active Directory users are marked red):



Next time you connect to *Luxriot Server* just be sure while logging-in Windows that your domain name is displayed/selected, enter your configured password and click OK button.

End of User Management

Event and action management wizard

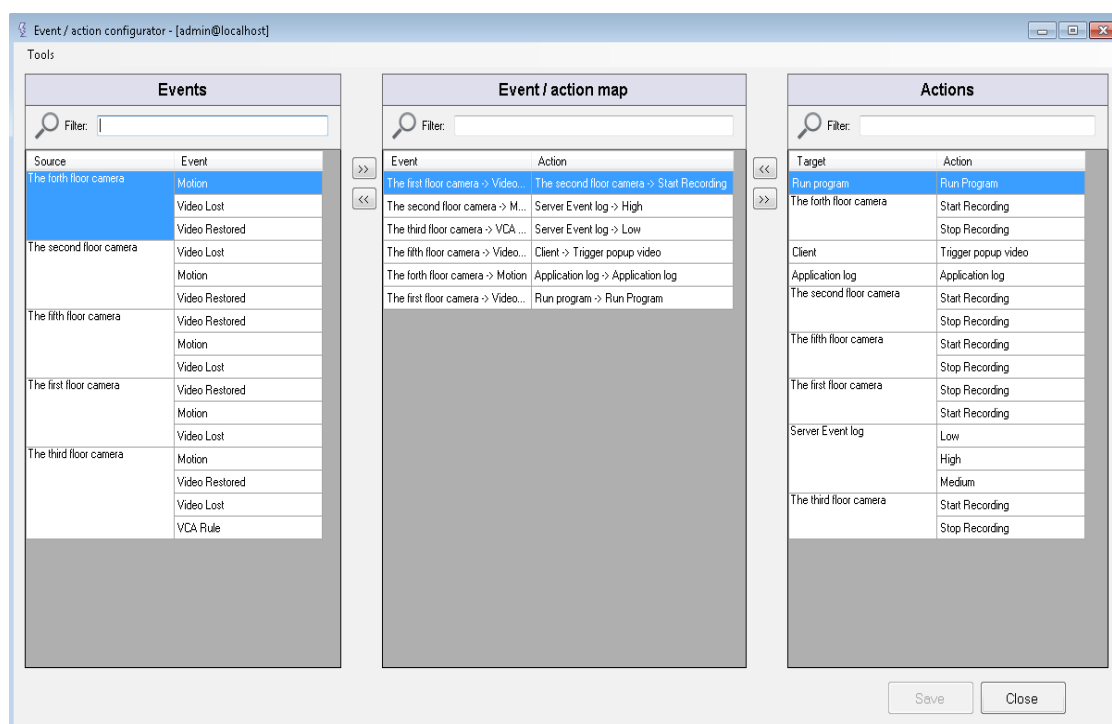
1. Common characteristics of functionality/description

Event and action management wizard is a part of Luxriot VMS that gives additional opportunities in handling cameras' work under definite conditions. The main task that was fulfilled with this part of software is to get definite camera reactions under user defined properties, i.e. sending alert through the server on camera event; starting or stopping to record a video; switching on the camera, if door sensors went; directing camera to the movement field, if another camera registered that movement etc.

2. Where to find

Event and action management wizard can be found in server tasks: right click on your server, go to *Tasks* and choose *Configure server's events*.

3. Description of the window and events/actions columns



Important! Before configuring target video actions for cameras enable video recording or motion detection through *Camera Setup Wizard* by clicking on your camera name in the Luxriot VMS main window with mouse right side button and choosing *Camera Setup Wizard* option from context menu.

3.1. Events

Configuration of the action starts in the left side of the window, where we choose the device on which the event took place. Default event sources are *Video Lost*, *Video Restored*, *Motion*. You can choose two more options through the only category on the main bar of the window called *Tools* (*Tools->Configure devices->/Device name/->button Add event*, where *Device name* is your camera name) and that event sources are *Digital Input* (relates to camera digital inputs) and *VCA event* (different types of analytics for the cameras that support them). The same is possible by right-clicking the event field and choosing from the context menu *Add Event*.

Description of event sources:

Video Lost: event on lost video stream. Can be edited by the time event took place. Default value is 60 sec.

Video Restored: event on video stream restoration. Not need to be edited (except event title).

Motion: by default event is taking into account if happening after every 15 sec.

Digital Input: allows Luxriot software to analyze changes on camera digital inputs. For example, short circuit event. Depends on the number of DI the camera has.

VCA event: allows to base an event on preconfigured analytics of video stream (analysis of human, vehicle and other object's behavior appropriate to the definite surveillance scene/zone). VCA should be supported by the camera.

3.2. Actions

In the right side of the Event/action configurator you can choose actions whether for the camera selected in events column or any camera you just have in the list. Default actions include *Start* and *Stop Recording*. You can expand them by using manual action configurator through window *Tool* menu (*Tools->Configure devices->/Device name/->Add action* button, where *Device name* is your camera name) or by right-clicking on the action field and choosing *Add Action* from the context menu. Two additional target options for actions are *Digital output* (related to the camera's digital outputs) and *PTZ Preset* (preset for PTZ cameras' only).

Both source events' and action targets' options can be modified by clicking on their name with mouse right side button and choosing *Edit event/action* in the context menu.

The outgoing result of event-action configuration is placed in the middle section of the window and is called *Event/Action map*. All the changes take place only after pressing *Save* button in the right-low part of the window.

In the case of many devices you can use filter option above every section of the window and search by any part of device name, IP-adress etc.

Description of action options:

Start Recording: you can change whether to record video stream for unlimited period of time or to record for some time only.

Stop Recording: stop recording video stream. No additional options for editing.

Digital Output: allows to trigger actions (in most cases for external devices as door relay, siren, intrusion system) on camera digital outputs.

PTZ Preset: allows you to fulfill action based on preconfigured preset (for PTZ cameras only).

Additional options regarding server are *Low*, *Medium* and *High* and correspond with log creation sensitivity.

Buttons

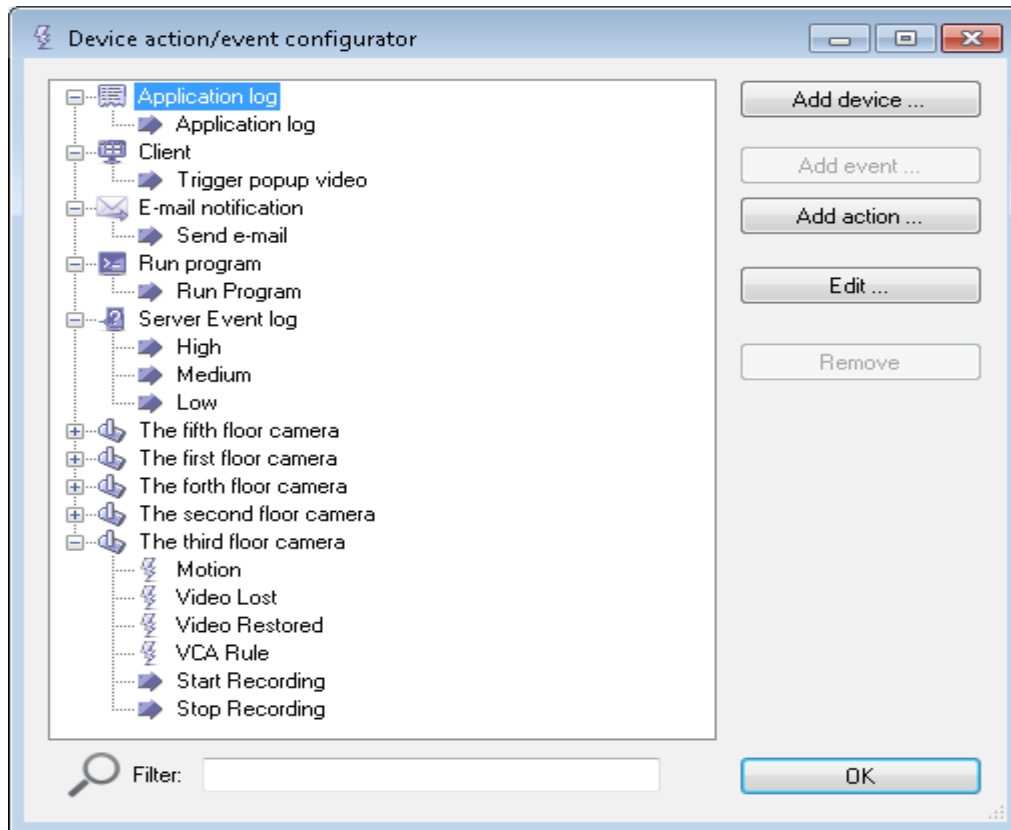


are used for adding/removing device with configured options to/from *Event/Action map* section.

For window closing press *Close* button in the right-low part of the window.

4. Device action/event configurator

All event/action options can be edited in one window of *Device action/event configurator* giving you also the possibility to define some other options that you haven't met before in the main window.

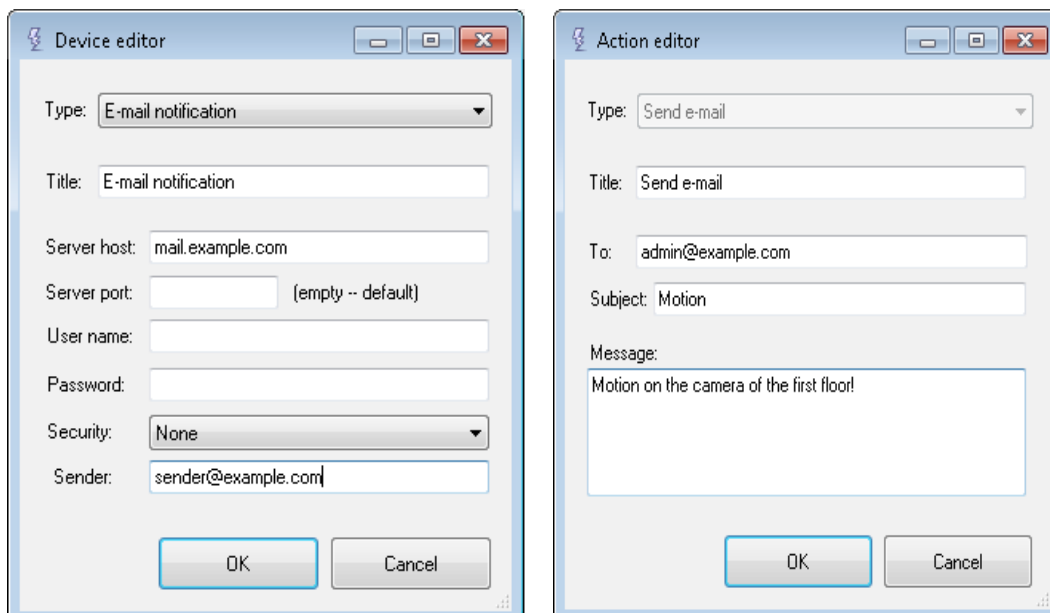


Every device event/action possibility is represented as a tree-like structure with all options in one place. Events are placed closer to the camera name and actions—after them. In such a way a logical structure of the main window is saved.

In the case of many cameras and for user convenience filter option is suggested in the list lowest part.

There are three more options for event/action configuration that were not represented on the main window: *Client*, *E-mail notification*, *Application log* and *Run program*.

Client option gives you the opportunity to display camera layout or popup video on all or chosen clients' computers, if event took place. For that you should add *Client* by clicking *Add device* button on *Device action/event configurator* window and define whether it will be all clients (default option) or specific only (in that case you should define clients' instance number. For more information about instance number go to the chapter, that describes work with two or more monitors). When *Client* is added, click on *Add action* button and specify action target—*Activate Layout* (in *Layout* field specify saved *Layout* name. How to save *Layout* go to chapter *Layouts*) or *Popup video* (in *Video source* popup menu choose the camera, which video will be displayed in red bordered window. If *Client* layout consisted from one camera stream, than on event *Popup video* will replace previous camera video stream. Later you can return to the previous layout manually). After choosing the action type, press OK button both on *Action editor* and *Device action/event configurator* window and add new *Client* action rule from *Actions* column to the *Event/action map*. Save changes you made.



E-mail notification option lets you to be notified by e-mail about the event that took place on the camera. For that you should add *E-mail notification* by clicking *Add device* button on *Device action/event configurator* window and choosing *E-mail notification*. *Server host* (any outgoing server name that supports SMTP) and *Sender* (e-mail account through which the mails are sent) fields are obligatory and they are marked pink. If outgoing mail-server port is different from 25, than you should enter its value in the field *Server port*. The same is for mail-server user authentication and security—if it is necessary, than fill in also *User name*, *Password* and connection security options (*None*, *TLS* or *SSL*). After configuring *E-mail notification*, mark it in the *Device action/event configurator* window and put on *Add action* button, where in *Send e-mail* action editor window define, who will get notification (field *To*), with what subject (field *Subject*) and what kind of *Message* text you want to send. Press OK buttons on *Action editor* and *Device action/event configurator* windows, add *Send e-mail* action rule from *Actions* column to the preconfigured camera in the *Event/action map*. Save changes you made.

Application log editing options are title and log text, which can be defined by the user. In the case of modifying this option log text will appear in the *Events panel* on the main window.

Run program option gives user the opportunity to define the side program that can react on definite camera events. User should put in the path to the executable file of side program, define parameters for this program and run mode.

Parameters for the program should be defined in such a form: {EVENT_ID} {EVENT_TITLE} {EVENT_SOURCE_ID} {EVENT_SOURCE_TITLE}.

{EVENT_ID}—stands for *Video Lost*, *Video Restored*, *Motion*, *Digital Input* or *VCA Event*

{EVENT_TITLE}—user given event name

{EVENT_SOURCE_ID}—unique camera identifier (exact manufacturer name and model)

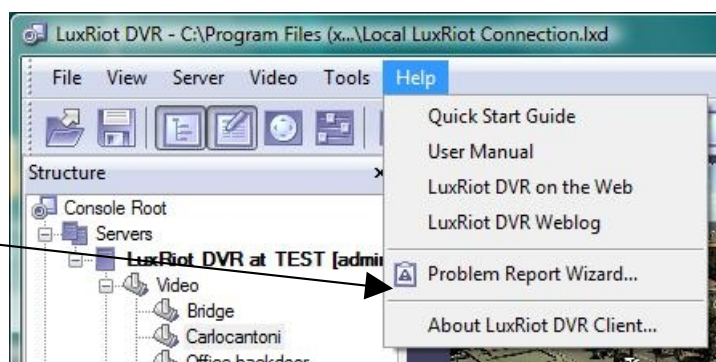
{EVENT_SOURCE_TITLE}—user defined title for the camera

Run mode of side program in Luxriot VMS is of *hidden* type by default (user can also choose *minimized* and *normal*. In *minimized* mode command prompt window will appear minimized, but in *normal* mode you will see that window on top of other windows for the time of executing side application).

End of Event and action management wizard

Submitting A Problem Report

Manually- if you go to the Help icon, you will see "Problem Report Wizard"
Click on it and fill in the information requested.

A screenshot of the 'LuxRiot DVR Problem Report Wizard' window, specifically the 'User Information and Description' step. The title bar says 'LuxRiot DVR Problem Report Wizard'. The subtitle is 'User Information and Description' with the instruction 'Provide contact information and comment to the created report'. There is a contact information field with the placeholder text 'Contact information, eg. "John Doe <johndoe@domain.com>" (optional):' and the value 'myemail@luxriot.com'. Below it is a 'Problem description (such as bug report or feature request):' text area containing the text: 'Live video from IQVision(192.168.1.151). I was adding new camera (Arecont 3130) after successfull finish of camera setup wizard video from IQVision was lost. Restart of server and client doesn't help, Archive is without video from this camera too.' At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

Specify your e-mail and Luxriot support team will contact you by sending mail at this address. Make sure that spam filter doesn't delete our messages recognizing them as spam.

Describe your problem as detailed as possible, try to repeat your issue and describe what was you achieving when problem appeared. Do not hesitate to send error reports with new feature requests or suggestions. If your problem is specific camera related problem do not forget to write it's model.

Check what log files do we need to resolve this issue, however it is strongly recommended to send us all log files.

Please note that log files are truncated to the maximum size limit when submitting report. You could increase this limit here if you see that log files size is larger than it's submitting limit.

Luxriot greatly appreciates, your efforts and takes all problem reports seriously. Thank you again for your cooperation.

End of Submitting A Problem Report

A screenshot of the 'LuxRiot DVR Problem Report Wizard' window, specifically the 'Log Files' step. The title bar says 'LuxRiot DVR Problem Report Wizard'. The subtitle is 'Log Files' with the instruction 'Attach log files generated by applications to the created report'. Below the subtitle is a text box: 'Select relevant log files the wizard will attach to the report. Existing log files generated by LuxRiot DVR applications are shown in the list below. To continue, press Next.' There is a table with columns 'File Name', 'Size', and 'Directory'. The table lists several log files, all of which are checked with a checkbox in the first column. At the bottom, there is a 'Maximal log file size, kb:' field with the value '256' and a checkbox labeled 'Delete successfully submitted log files'. At the bottom right are '< Back', 'Next >', and 'Cancel' buttons.

File Name	Size	Directory
☒ DVRClient.log	70 kB	C:\ProgramData
☒ DVRClientTools.log	100 kB	C:\ProgramData
☒ DVRCodecs.log	701 kB	C:\ProgramData
☒ DVRCommunication.log	15 kB	C:\ProgramData
☒ DVRServer.log	6 kB	C:\ProgramData
☒ DVRServerNetworkCameras.log	1,024 kB	C:\ProgramData
☒ DVRServerTools.log	6 kB	C:\ProgramData

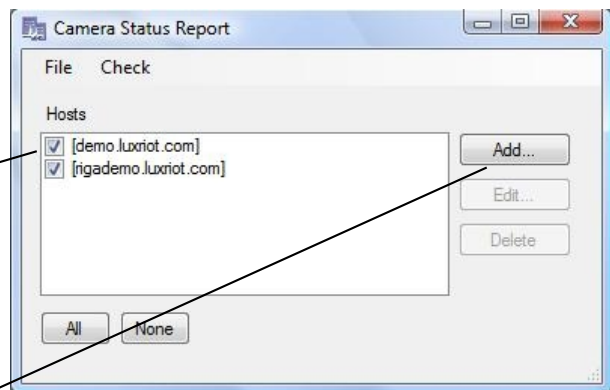
Camera Status Report

Requires .NET Framework from Microsoft installed.

Camera status report, is helper application that helps you to connect and to monitor one or more remote Luxriot VMS servers. The application is capable of showing up to date status of operation and recording on a per camera basis.

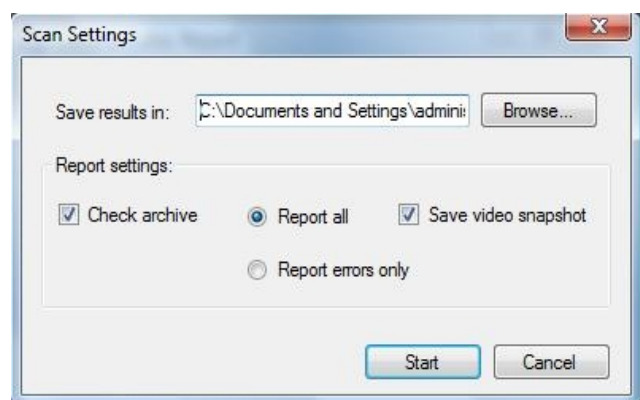
The Application can be found within the Luxriot Wizards or can be started from Start menu: Start -> Programs -> Luxriot Digital Video Recorder -> Tools -> VMS Server Camera Status Report

You can first browse and select the server connections of your choice that you want to have a report. Regardless if the servers are local or remote. or...



You need to add server by pressing button «Add» and then fill in all fields:

When the server is added to the list you can then check the cameras status by pressing: Check -> Start
The Scan Settings window allows you to select settings in which you require report.

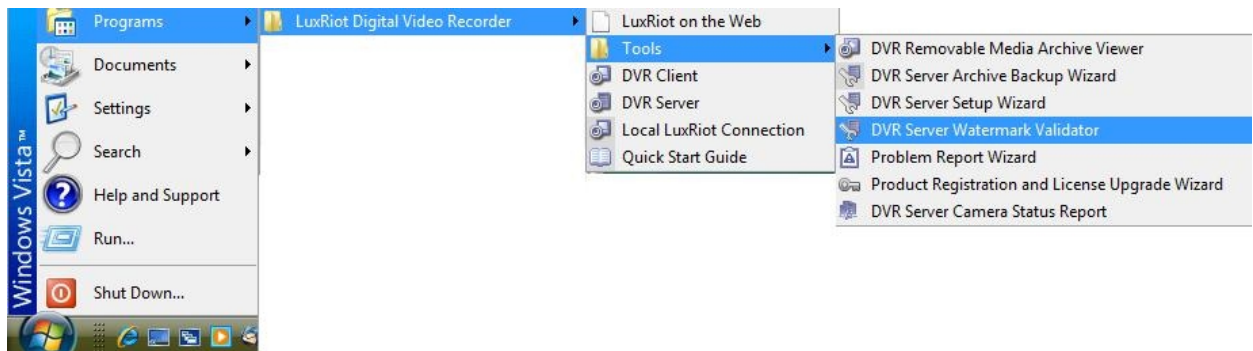


Pressing «Start» will show you all information about cameras on servers

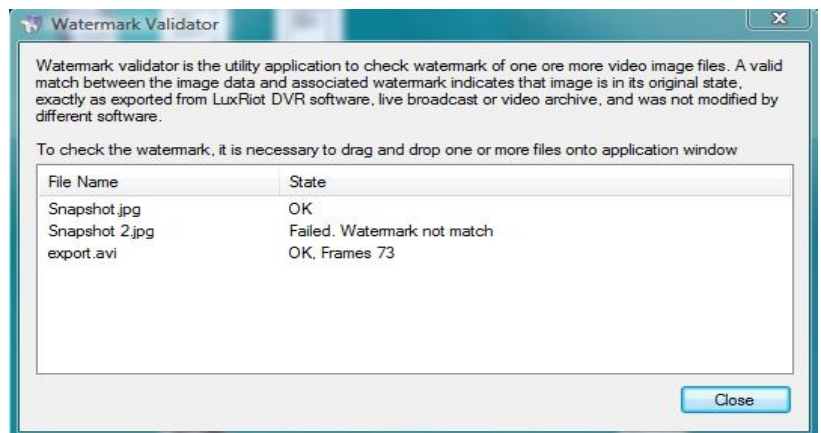
End of Camera status report.

Watermark Validator

The application can be started from Start menu: Start -> Programs -> Luxriot Digital Video Recorder -> Tools -> VMS Server Watermark Validator



To check the watermark it is necessary to drag and drop one or more file onto application window.



End of Watermark validator.

Chapter 4

Setting up an IP camera

There are two ways of setting up an IP camera to work with Luxriot:
One-way is to let the software find the cameras **automatically**
Another is to **manually** input all of the camera's IP information.

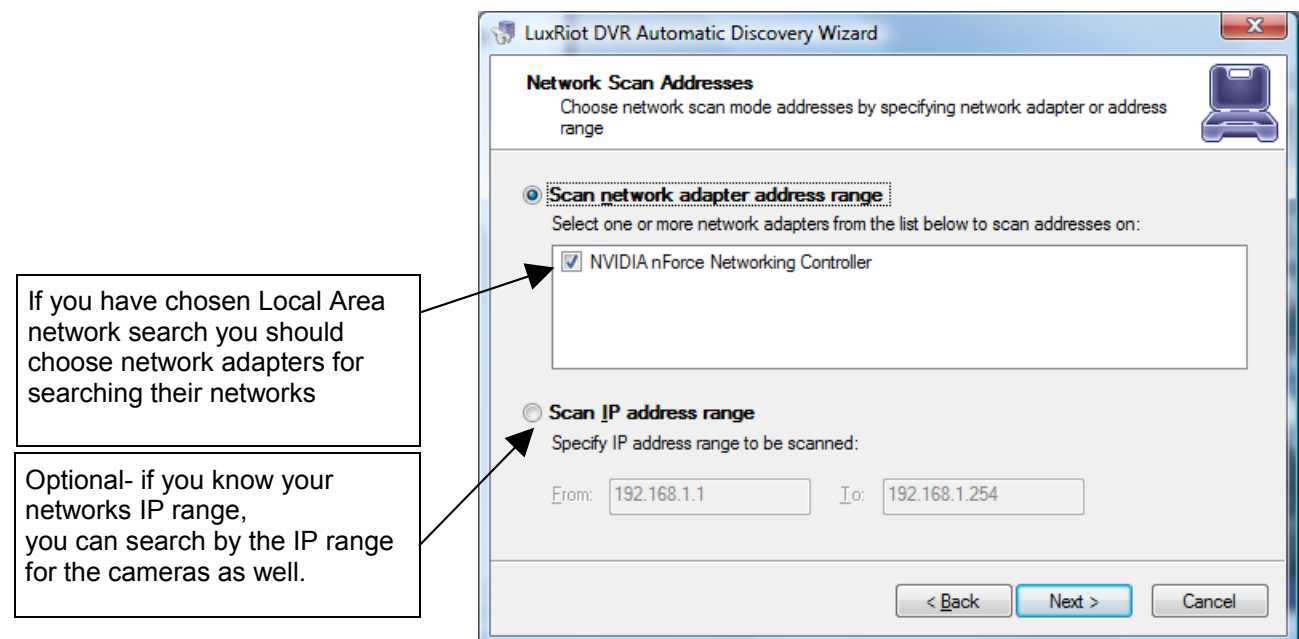
IP Servers

Note: Luxriot also works with IP servers such as PiXORD-4000, which are Internet-based digital video server appliances, capable of connecting one or several channels of video sources to distribute their compressed live video into Intranet-Internet through Ethernet connection. IP Servers let you use regular CCTV cameras as IP cameras; therefore getting rid of the sixteen camera limitation that is seen with most VMS applications. Also if all of your cameras are connected to an IP server with a WAN IP then you do not need to install Luxriot on the premises, but instead you can have Luxriot running miles away (SEE PAGE 11) as long as it is connected to the internet.

Configure your IP cameras automatically.

- Right click on your server name
- Left click tasks
- Left click Auto discover network video devices. Then the Luxriot VMS Automatic Discovery Wizard will appear.

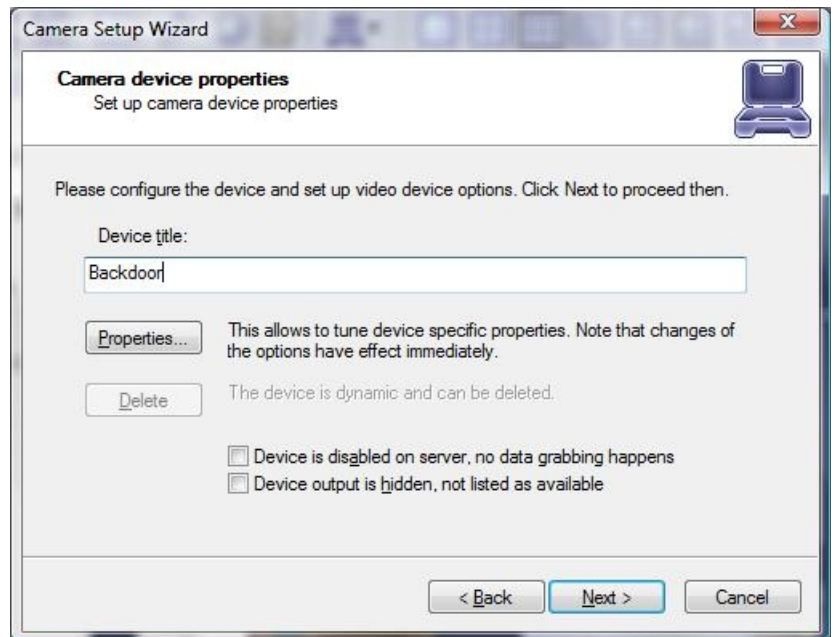
-Click Next



Luxriot will now begin scanning your network and specified ports for any IP cameras. Once it is finished it will give you a list of the cameras that it found and give you an option to add them to Luxriot.

Configure your IP cameras manually.

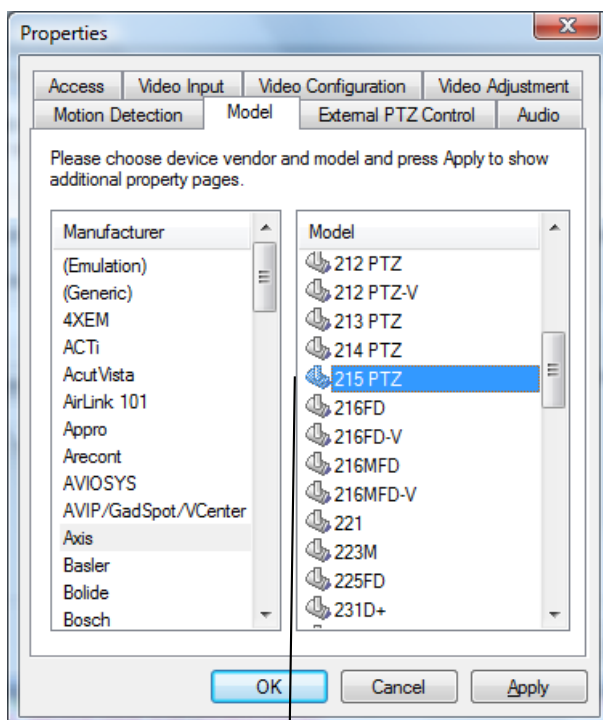
- Right click on the server name
- Choose tasks
- Choose camera setup wizard
- From the first window in the wizard select “Network Devices (IP Camera, Video Server)”
- Click Next.
- Device Title - Name the camera.
- Click Properties



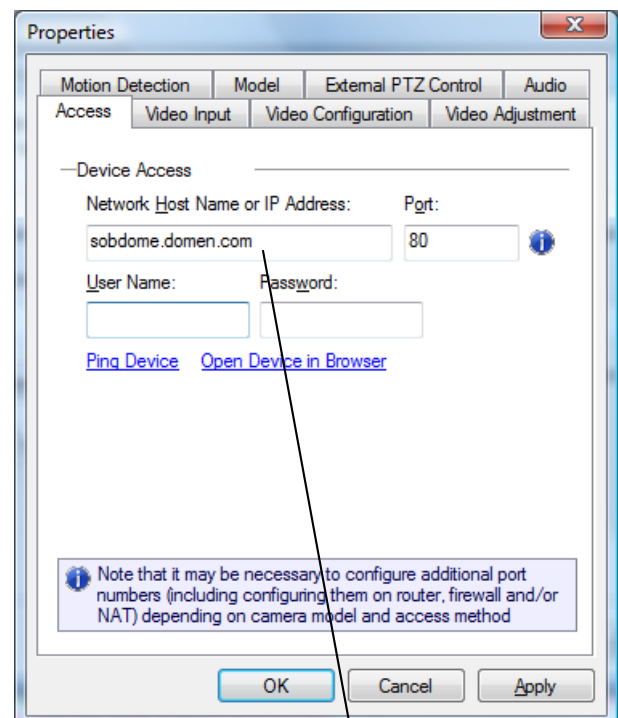
Properties- Tab Explanations

Access Tab

Note: If you are using a video server you can select the output channel for this camera from the advanced menu.



Select the camera type that you are using from the drop down menu. **Or** if you are using an IP server select from the same Menu. (You can then select the camera input from the advance menu).



Input the IP address of the IP Camera

Video Input Tab

Video channel selection for a multichannel device.

Add a new channel if device support the creation of a new channel.

Choose Operation mode supported for the actual device.

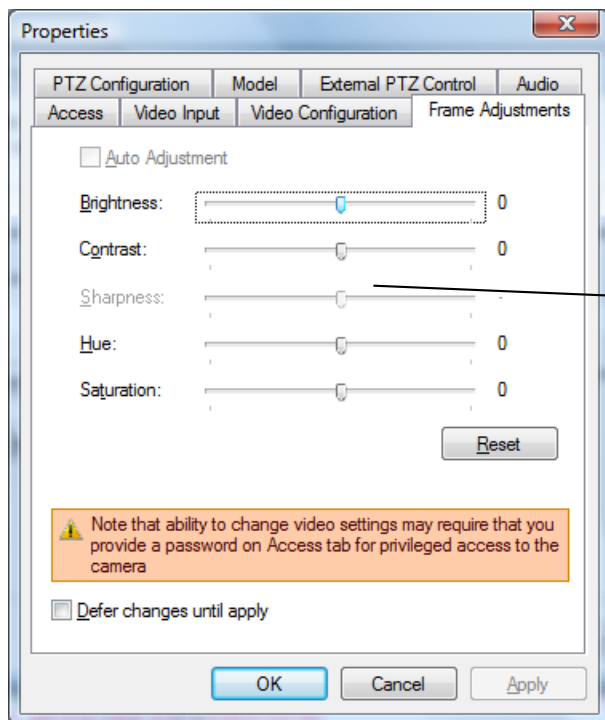
Video Configuration Tab

Dimensions- Quality of the picture. The higher quality you choose the more space it will take
Color Mode- Color or black and white

Codec's section, Bitrate mode, Quality

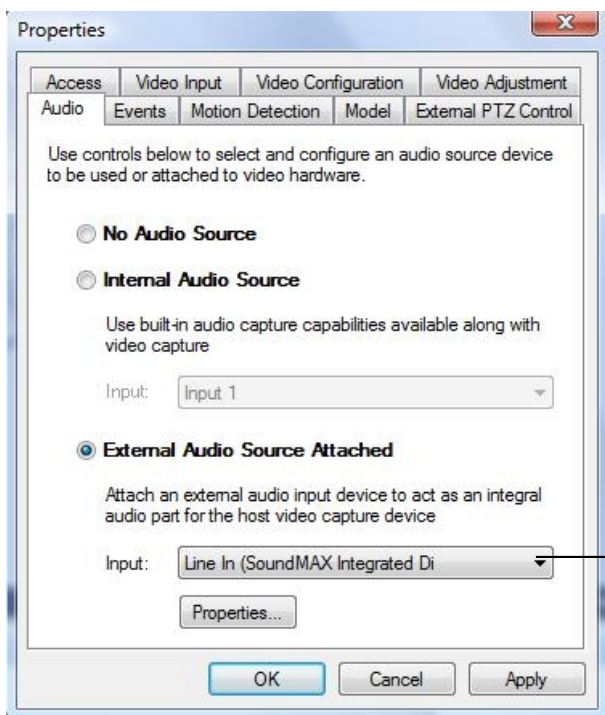
Here you may adjust the frame rate for the encoder or ip camera.

Frame adjustment Tab



Brightness, Contrast, etc... Change the appearance of your video quality.

Audio Tab

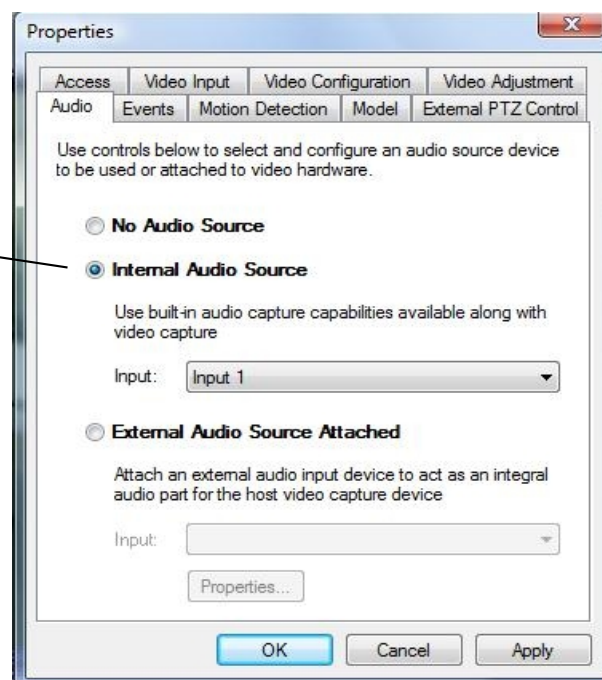


Audio Input. Audio input can be the audio in of the pc main-board or additional usb audios. **One way audio** is supported for HP4000EX boards (up to 32 channels) **Two way audio** is supported for for IP Network cameras (currently supported cameras for two-way Audio is Axis, Sanyo HD, and KT&C)

Two-Way Audio

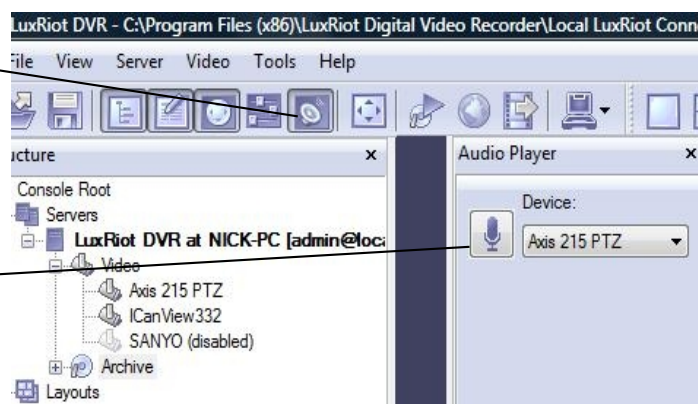
Two way audio is supported for IP Network cameras (currently supported cameras for two-way Audio is Axis, Sanyo HD, and KT&C). "more manufactures will be integrated for 2 way audio"

Options for Internal Audio Source from an IP camera can be found under the camera properties. From the Audio Tab the internal Audio source can be selected and activated. If the camera selected is not an audio compatible camera then the option will not be activated. In the case that the camera is not supporting internal audio you can select external audio and use a usb microphone (for one way audio) or the built in Mic from the pc main-board.

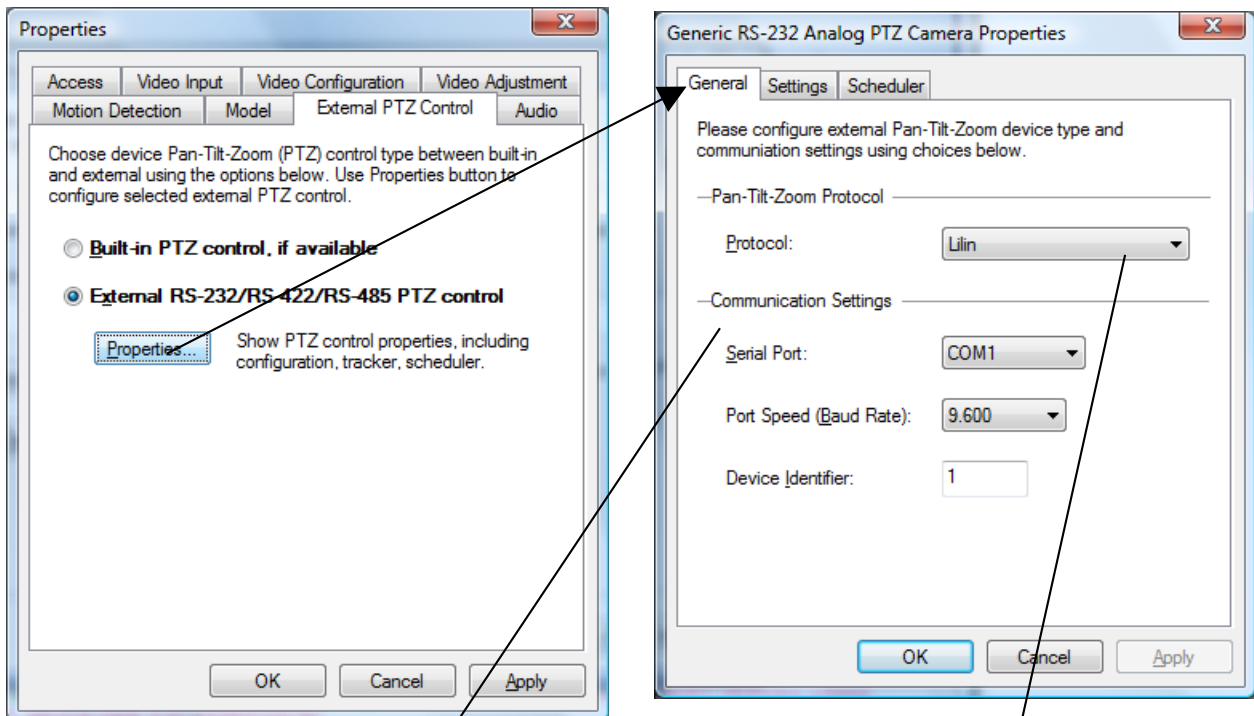


Audio to the camera can be send via Client application Audio Pane .

By selecting a camera from the list and press and hold microphone icon. When icon pressed you can speed into microphone connected to Cleint PC and audio should be sent to the speaker connected to the remote camera.



External PTZ Tab



Communication Settings:

the communication port has to match the communication port that the RS232/485 controller is connected.

Baud rate has to match the baud rate of your ptz camera.

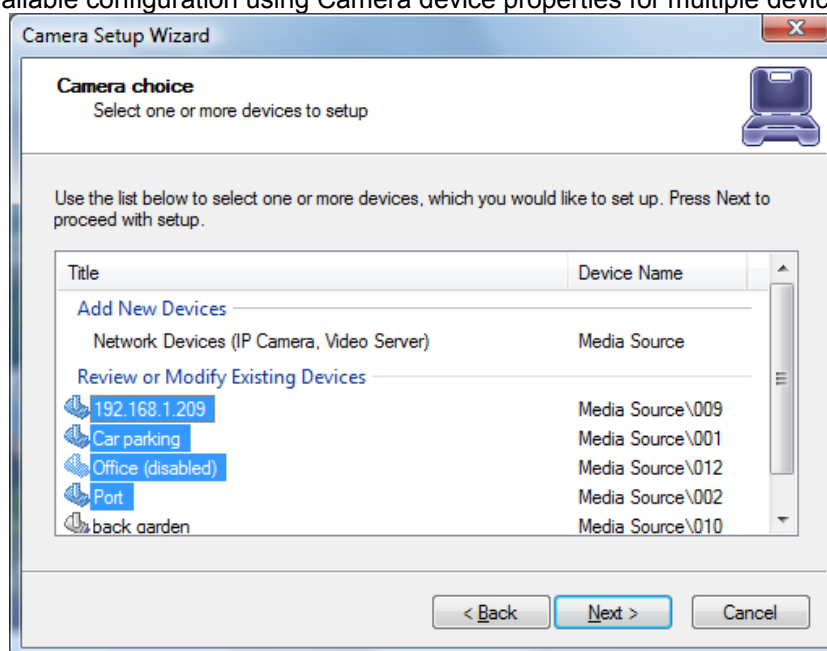
Device Identifier, is a unique ID that has to be set on ptz cameras. Having multiple PTZ cameras requires a unique id to be set on every individual ptz camera. Failing to assign a unique id to every single ptz camera will result for all cameras to move at the same time.

Protocol:

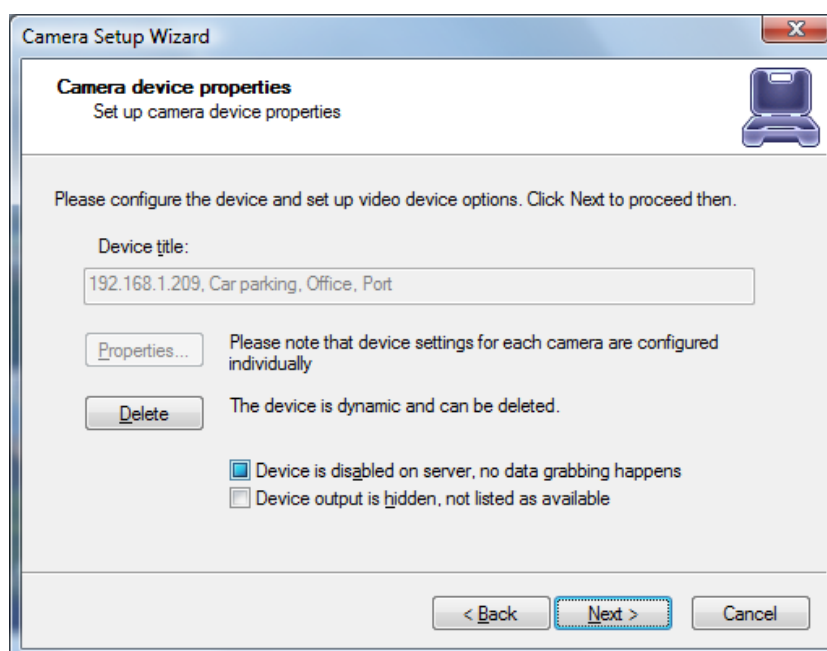
If you do have a pan-tilt-zoom camera connected you must choose the communication protocol set for your PTZ camera. The protocol has to match the protocol assign on your PTZ camera.

Configure multiple cameras.

Description of available configuration using Camera device properties for multiple devices.



For the multiple selection of several devices, click on mouse button while holding down the Shift key and clicking in the window and drag the pointer diagonally, providing drawing frame.



When you change the camera settings, you must remember that the camera may already have some of the settings.

Type of check-box will help you determine what state is the option you want to change.

- ☐ Some devices have this setting is unspecified
- ☐ All devices have this setting is unspecified
- ☒ All devices have this setting is unspecified

CCTV Camera Configuration

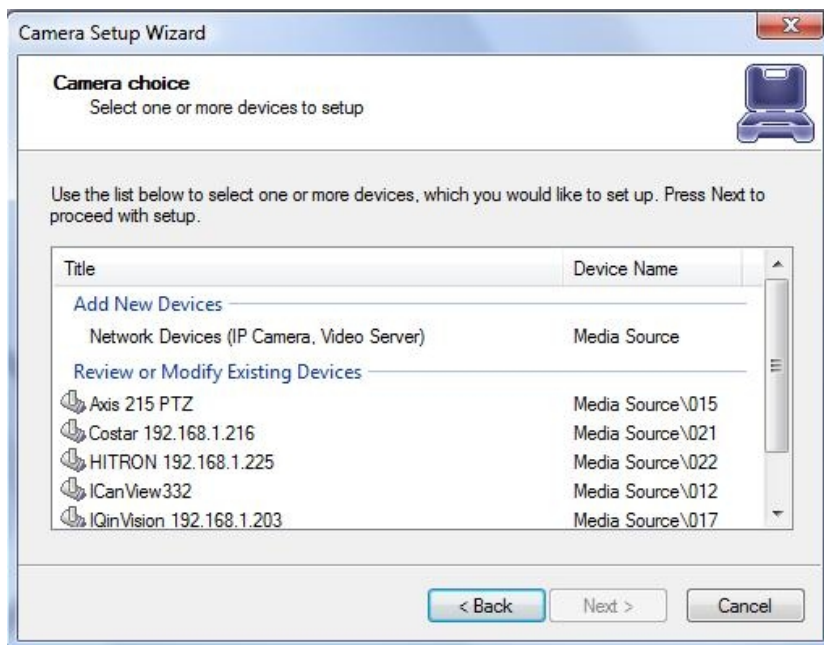
To setup a CCTV or Direct Show compatible camera we will use the Camera Setup Wizard Right click on your server name located on the left side of the Luxriot window choose tasks “Camera Setup Wizard”.

[Click Next](#)

2nd Screen- “Camera Choice”

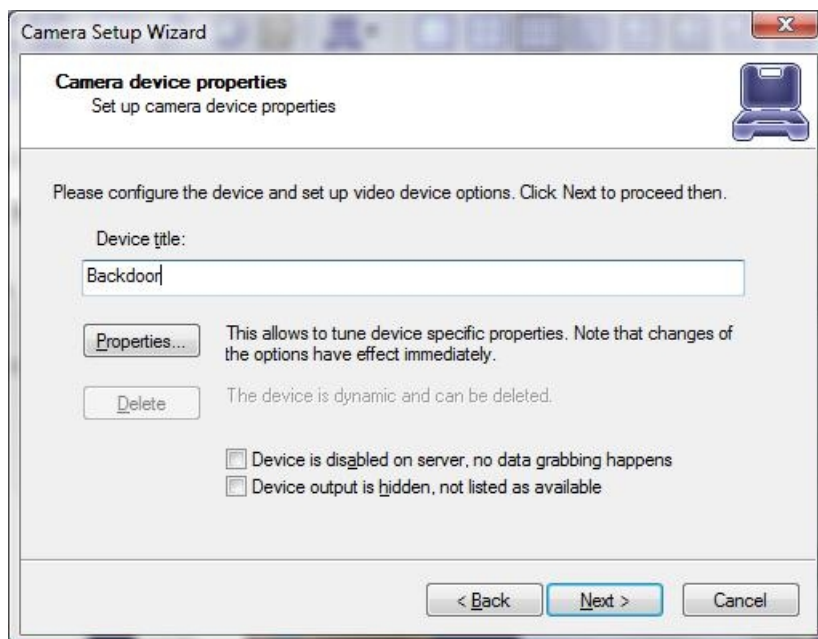
Select the camera, which we will be configuring.

[Click Next](#)



3rd Screen- “Device Title”

Feel free to name your camera anything you find helpful and then choose properties.



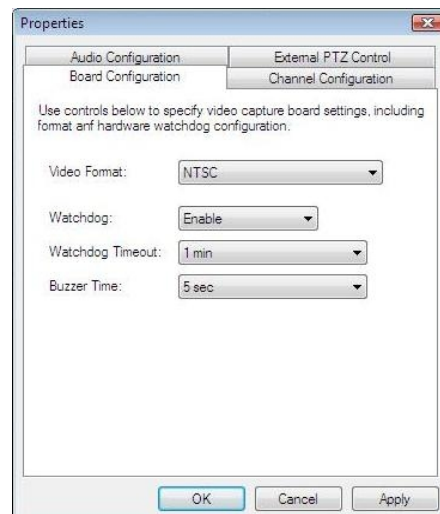
Board configuration Tab

Available only if you have the **HP4000EX** Frame Grabber

Video System- choose your format NTSC, Pal, etc. Note: This is a global configuration for all cameras.

Watchdog- Adjust watchdog timeout.

Defer changes until Apply- If checked this would ignore the changes you made until "Apply" or "OK" have been hit.



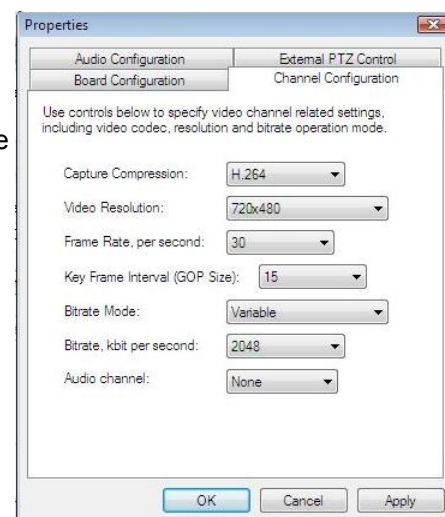
Channel configuration board Tab

Available only if you have the **HP4000EX** Frame Grabber

Frame Rate - Here you can choose to increase or decrease your frame rate. Note: for this board you can adjust frame rate camera by camera from 1fps to 30 fps.

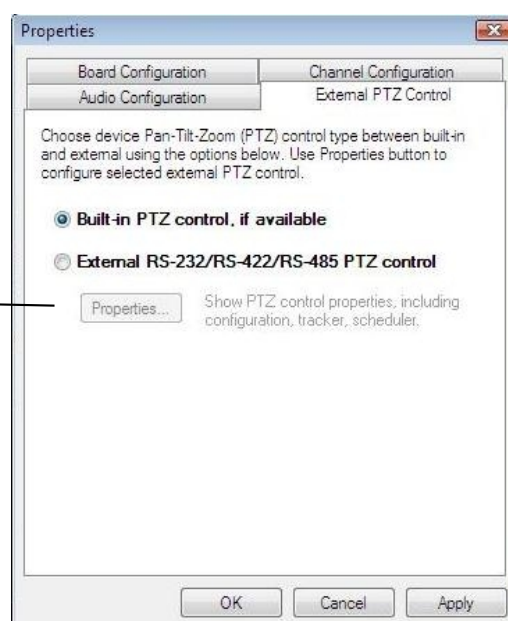
Frame Resolution- for this particular board you can adjust the frame resolution up to 720x480 for every individual camera.

AUDIO Channel- Gives you the option to enable audio for the current video channel.

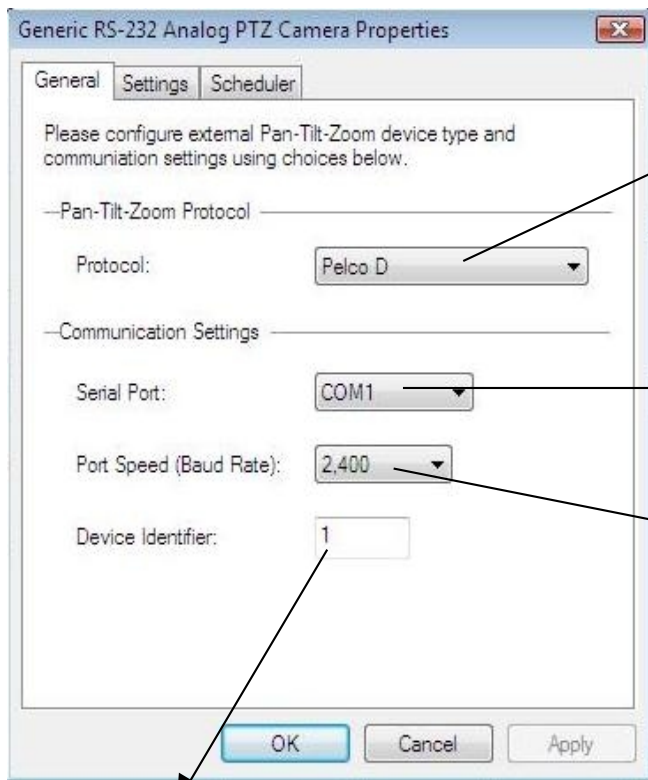


PTZ Camera Properties

PTZ Control: Luxriot can interface RS-232, RS-422 and RS-485. When the RS Control is selected, the Properties button becomes available, for you to set-up your PTZ camera.



PTZ Protocols-Communication Settings



Here you Choose the communication protocol supported by the PTZ camera your installing.

Choose which communication Port the RS control is connected to it.

Set the appropriate Baud rate that the camera manufacture recommends for the PTZ your installing.

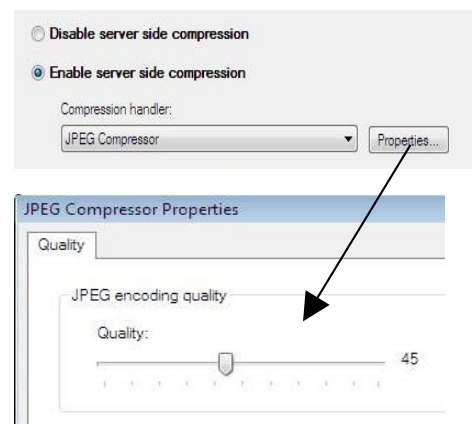
PTZ Cameras often have DIP switches, or configuration software that can be set to different ID's In order to be able to control multiple PTZ cameras on the same RS Controller.

Properties tab ended. Click ok and you will now return to the camera setup wizard.

[Click Next](#)

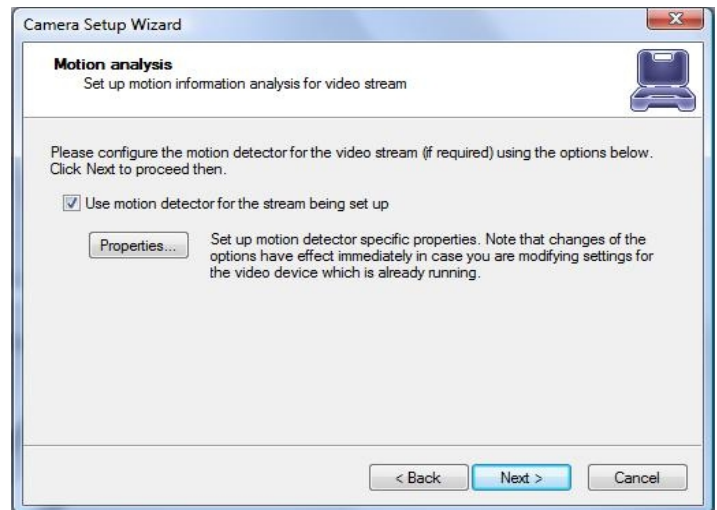
Video Compression

Enable Server Side Compression- Compresses video according to the compression you choose. Luxriot continuously integrates compressions so feel free to check here every so often.



5th Screen- "Motion Analysis"

Use Motion- This box should be checked if you are interested in using Motion Detection. We recommend you use motion detection for it will save you an abundance of well-needed storage space. Choose Properties



Properties- Tab Explanations

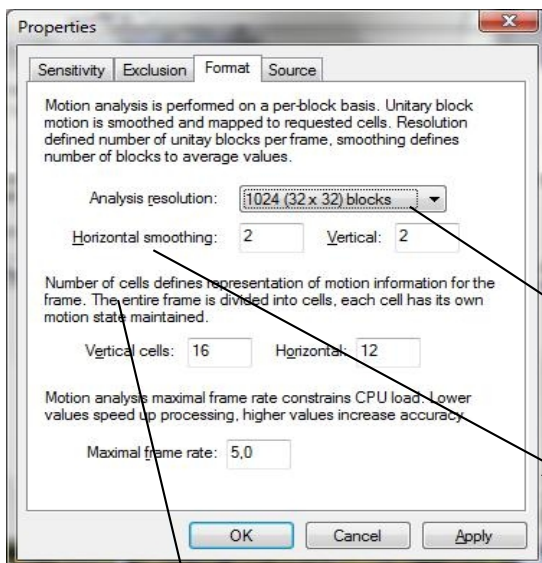
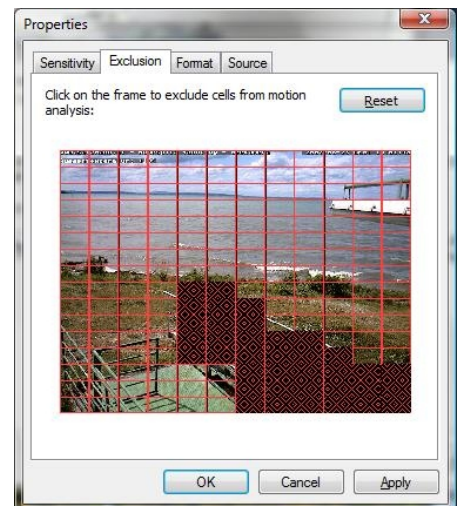


Sensitivity Tab-

The sensitivity should be adjusted to a point where motion is only seen by people and not by blinking lights, reflections, or shadows, otherwise you will get "false motion" and Luxriot will be recording based on motion that does not exist.

Exclusion Tab-

If you are still getting motion from lights, trees or things moving from an air-conditioner or an open door then you can click on exclusion and block the object out from the motion detection grid. You simply click on the grid boxes around the object that you would like to exclude, to remove them from being seen by the motion detection engine in Luxriot.

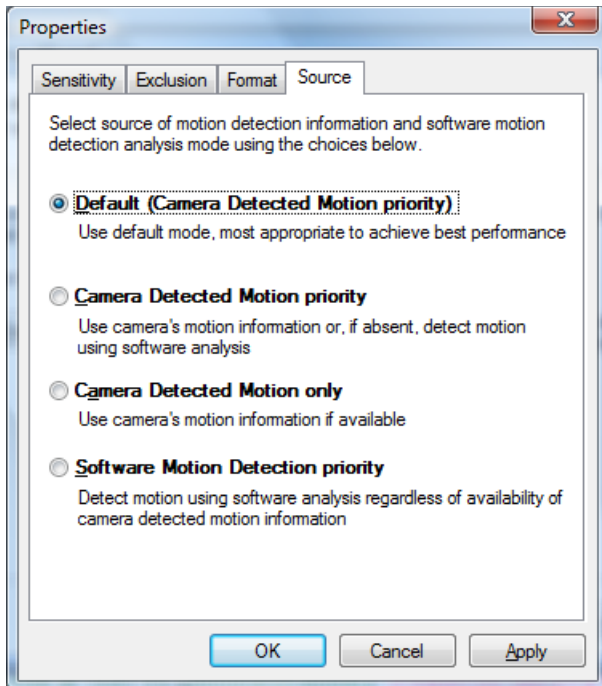


Format Tab- This controls the internal motion detection analysis properties.

Analysis resolution- controls precision of the detection process, the more resolution blocks is selected, the better precision is, and however, the greater CPU consumption is needed.

Smoothing- feature averages preliminary detection result so that neighboring area is included into motion area as well. Smoothing, however, slightly decreases motion detection sensitivity.

Horizontal and vertical cell number- Defines the dimensions of the target grid, which is used as output of the motion detection algorithm. The defined cells are shown. Click ok when finished



Default- automatic mode, software decides what is best.

Camera Detected Motion priority- with this option you enable hardware/on-camera detection to software.

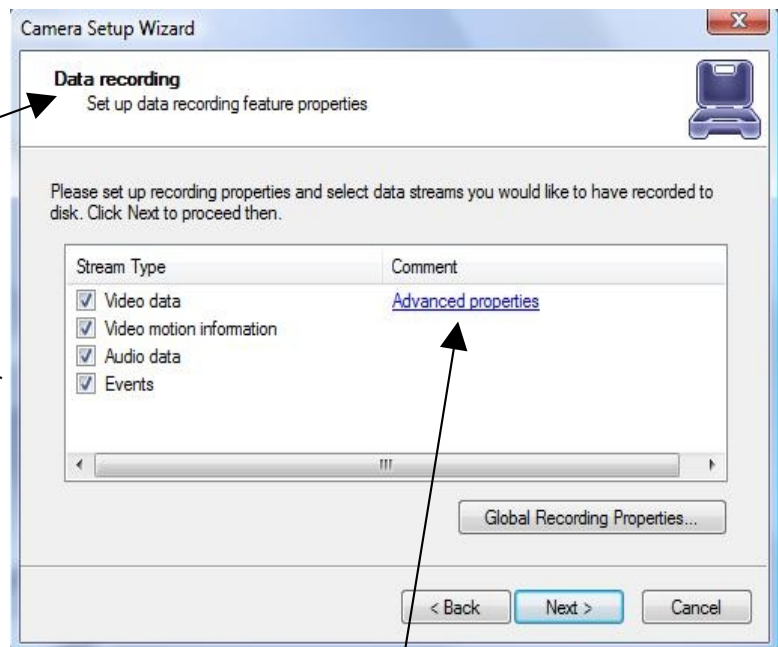
Camera Detected Motion only- instructs to only use hardware detection, wherever available, and never detect via software detection.

Software Motion Detection priority- instructs to use software motion detection only.

[Click Next](#)

6th Screen- "Data Recording"

Here you can specify whether or not you would like motion information and video recording to be written to the hard drive. It is recommended that you write both to the hard drive, because it will make it much easier to review your recordings with motion information. With out motion being recorded to the hard drive you will not be able to search by general motion or defined motion regions ([Smart Search](#), see [Page 36](#)).



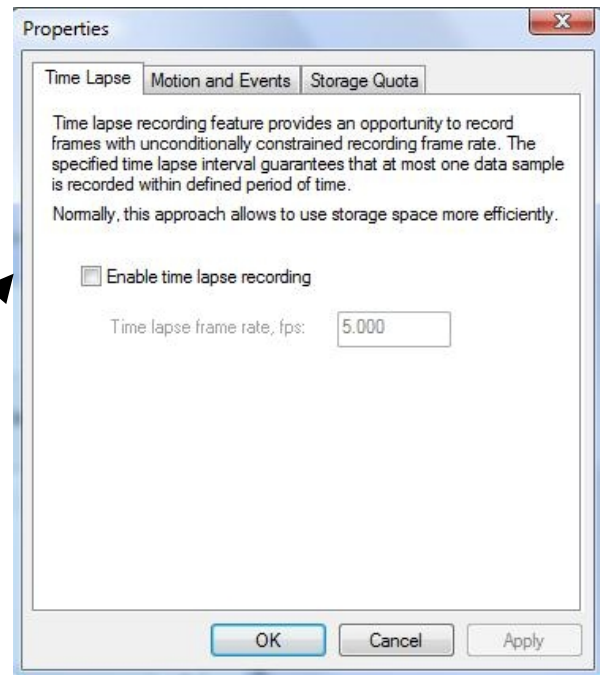
Advanced properties- Allows you to setup time-lapse recordings, and Enable Motion control recording. Time lapse creates a small delay between every frame that is written to the hard drive, this will use the space you have on your hard drive more efficiently.

Time Lapse Recording:

Time Lapse recording properties can be accessed:

- Right click on your server
- Choose Tasks
- Camera setup Wizard
- Data recording
- Advanced properties

Time Lapse recording: The number of frames to be record camera by camera. It gives you the opportunity to use HD space more efficiently. Less important cameras can be set to record less frames than others. Cannot apply for Mpeg4 and H.264 compressions.



Motion Control Recording:

Motion Control Recording can be accessed:

- Right click on your server
- Choose Tasks

- Camera setup Wizard
- Data recording
- Advanced properties

Enable Motion control recording to save disk space and make playback more efficient.

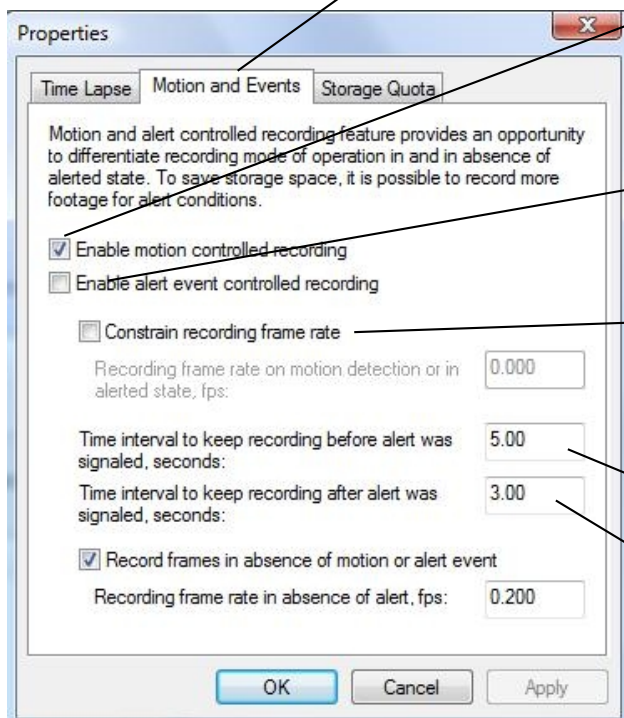
Enable recording when motion is not detected at selected frame rate.
When Motion occurs recording frame rate goes to maximum automatically.

Enable Alert recording Alert is detected at selected frame rate.
When Alert occurs recording frame rate goes to maximum automatically.

Constrain the number of frames to be record camera by camera. It gives you the opportunity to use HD space more efficiently. Less important cameras can be set to record less frames than others. Cannot apply for Mpeg4 and H.264 compressions.

Pre-recording allows you to setup the number of seconds you want to have recorded before the last motion.

Post-recording allows you to setup the number of seconds you want to have recorded after the last motion.



Storage Quota

Properties

Time Lapse Motion and Events Storage Quota

Additionally to global storage management options, individual storage quotas may be defined to prioritize storage capacity usage between recorded streams. Use controls below to provide individual quota for the selected stream.

☒ Enable individual limit on amount of stored data

Keep stored in LuxRiot DVR Server archive at most amount of data specified below.

Amount quota: MB

☒ Enable individual limit on duration of stored data

Keep stored in archive footage, which is not older than specified using controls below.

Duration quota: Minutes (Debug)

OK Cancel Apply

Enable Individual limit amount for data for the current camera. Some cameras are more important than others and some are less important. The user can define the limit for every individual camera.

Enable Individual duration limit for the current camera. Can be set to minutes, hours, days or months.

7th Screen- "Action Summary"

This page of the camera setup wizard gives you a summary of all of the changes that you have made throughout the wizard. You should set up every camera that you have connected to your VMS one by one and disable the inputs that have nothing connected to them. The camera setup wizard only has to be run the first time that you install Luxriot to setup all of your inputs or afterwards to make changes to camera names and/or motion detection, recording, etc, properties.

[Click Next](#)

8th Screen- "Wizard Complete"

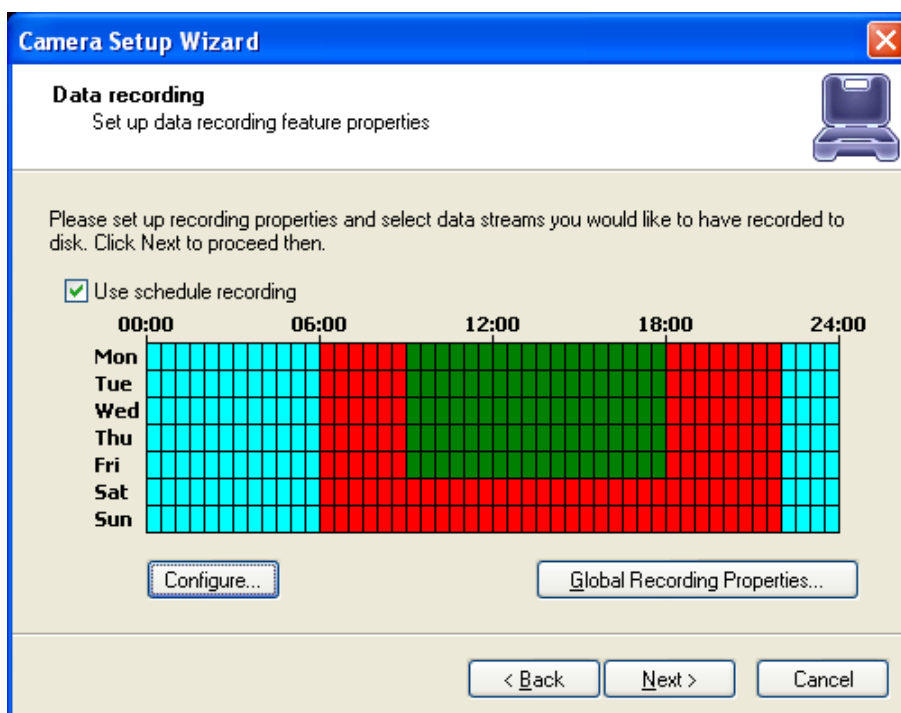
Congratulations, you have now setup your camera.

[Click Finish](#)

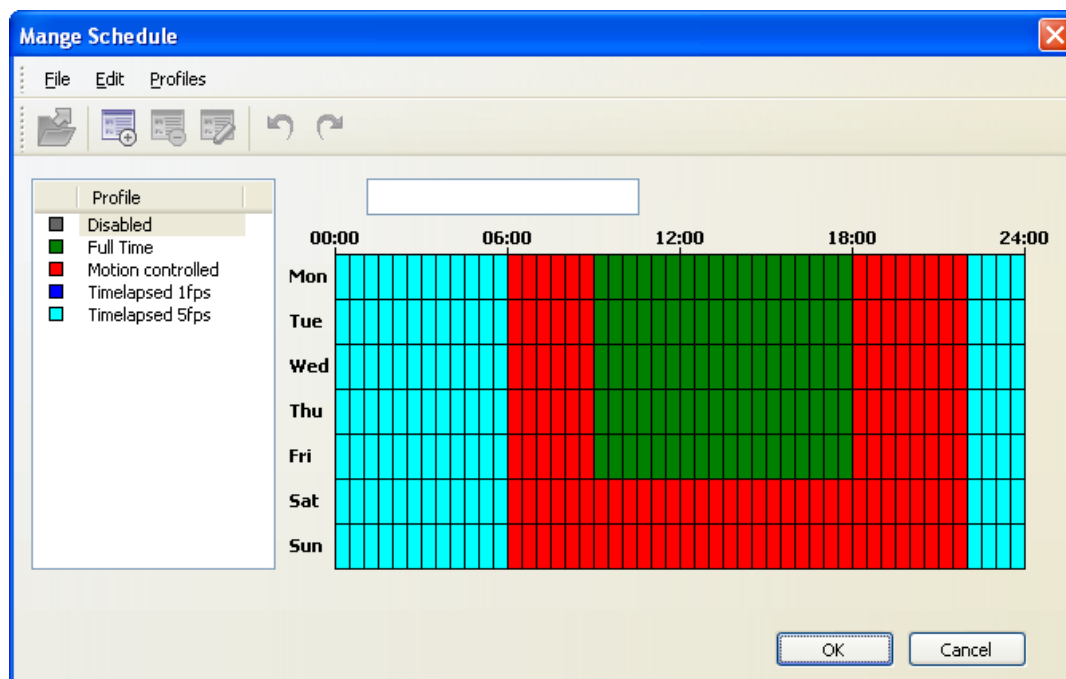
End of Camera Configuration

Scheduled Recording Configuration

Scheduled recording requires device configuration administration permissions through the "Camera Setup Wizard". As soon as scheduled recording is selected, cameras will be recorded in accordance with the schedule.



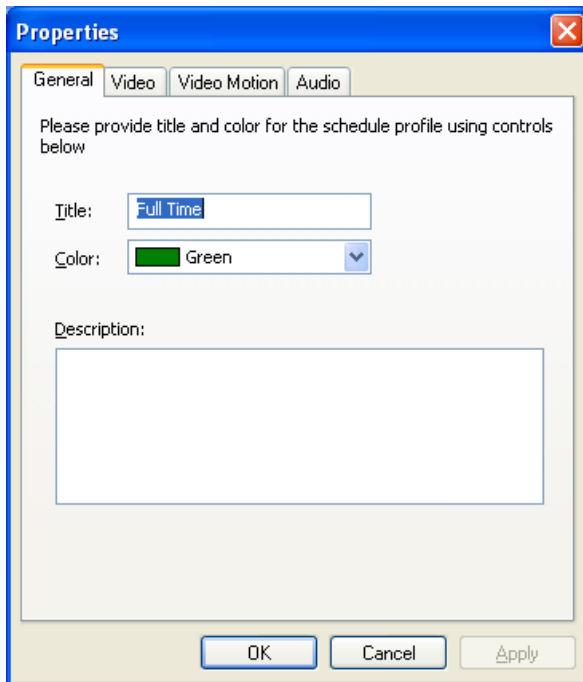
By clicking on the Configure button will take you to a dialogue set a schedule.



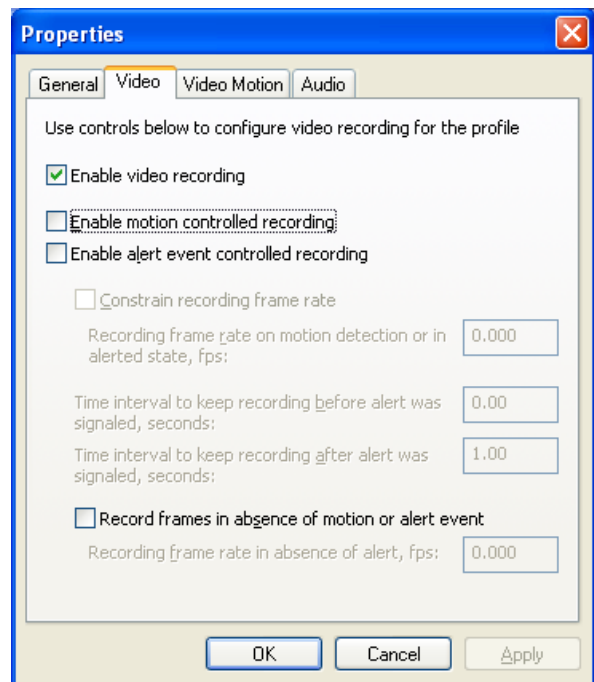
You can create, edit and delete profiles of the schedule by clicking on the top toolbar. By Selecting a profile from the list and "drawing" on the schedule you can specify the time for the selected profile.

Profile configuration

General



Video



General tab³ -Allows to specify settings that are affecting only the appearance of the profile in the settings of the schedule.

Video tab⁴ - Allows managing video recording configurations.

Enable video recording - enable/disable video recording.

Enable motion / alert controlled recording - enable/disable the recording of the movement, or events.

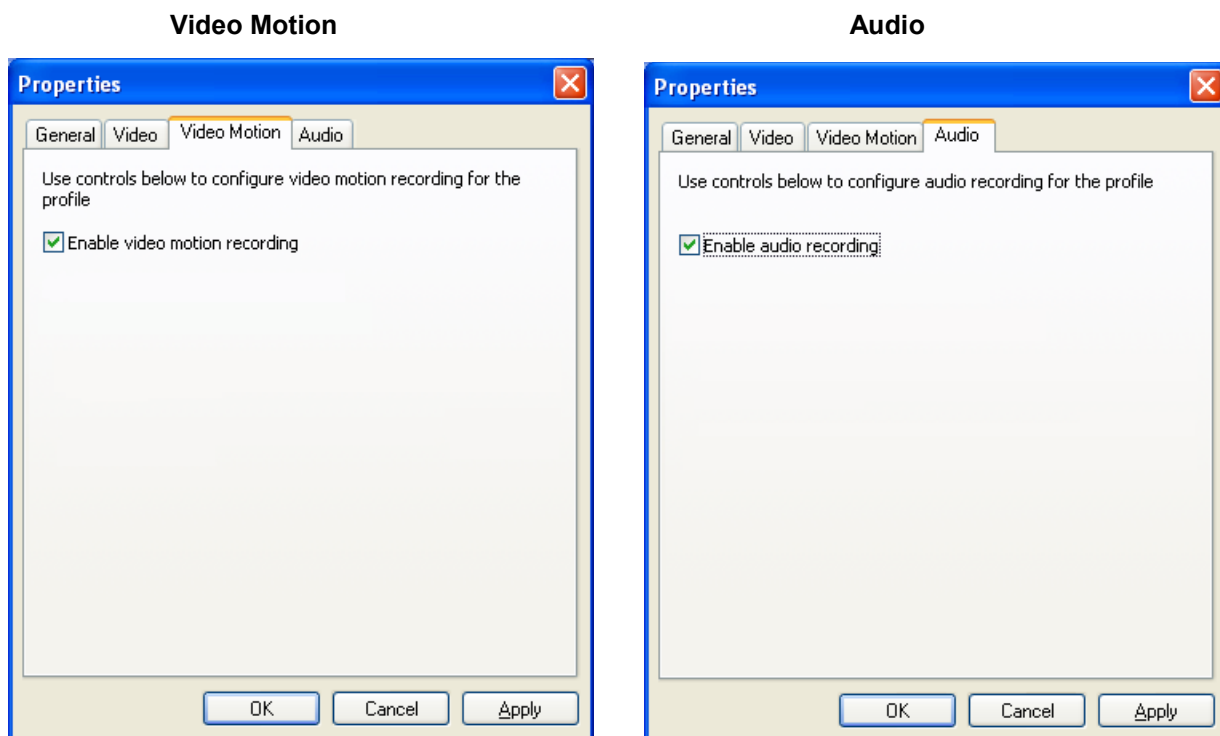
Record frames in absence of motion or alert event - this option works differently.

Record of Motion / off events: includes compression record by limiting the frame rate.

Recording by motion/events enabled - enable recording when there is no movement/events. You can also set the number of frames per second.

Constrain recording - enable/disable the compression record by limiting the frame rate.

Time interval to keep recording before / after alert was signaled - the recording time before and after the motion or event.



Video Motion tab - Allows managing motion based recording configurations.

Enable video motion recording – enable/disable motion information recording.

Enable motion controlled recording – enable/disable motion controlled recording.

Enable alert event recording – enable/disable event alert based recording.

Time interval to keep recording before/after alert was signaled - the recording time before and after the motion or event.

Audio tab - Allows managing audio recording configurations.

Enable audio recording – enable/disable audio recording.

Enable motion/alert controlled recording - if enabled, then the audio will be written only by the motion/event.

Time interval to keep recording before/after alert was signaled - the recording time before and after the motion or event.

Please note: that this page will be available even when the cameras audio is turned off. Therefore, if you want to record sound, make sure it is turned on in the camera and VMS camera properties.

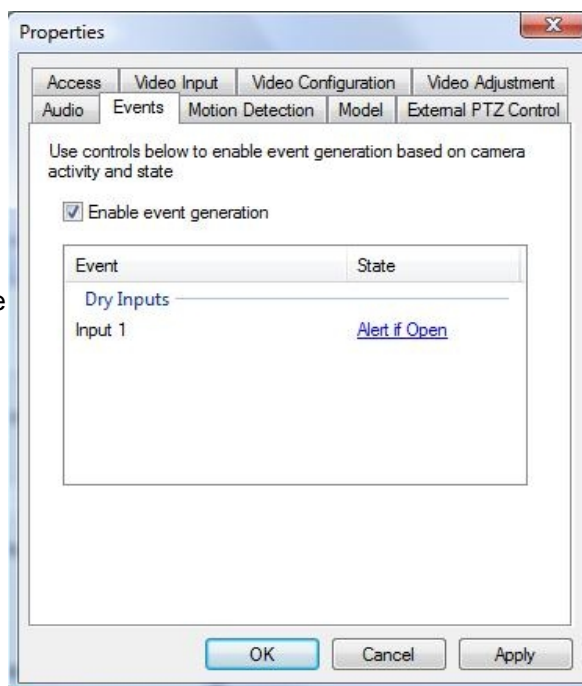
End of Scheduled Recording Configuration

Digital Input configurations and Events.

To activate the dry contacts (digital or dry inputs) on the camera you need run Camera Setup Wizard, open the camera settings and select the tab Events. Next, you need to include the generation of events (Enable event generation), also select the State in which the alert generated by the event - this can be done by clicking the mouse on the link in the column State. After changing the settings you have to continue the Camera Setup Wizard to finish.

Currently supported Ip cameras for DIO are: as for 07/15/2010

Axis, SANYO, KTC, JVC, Dynacolor H.264 series, Hitron MP H.264 series, Etrovision H.264.



Available state:

Active - by changing the status of the contact, it is recorded in the archive;

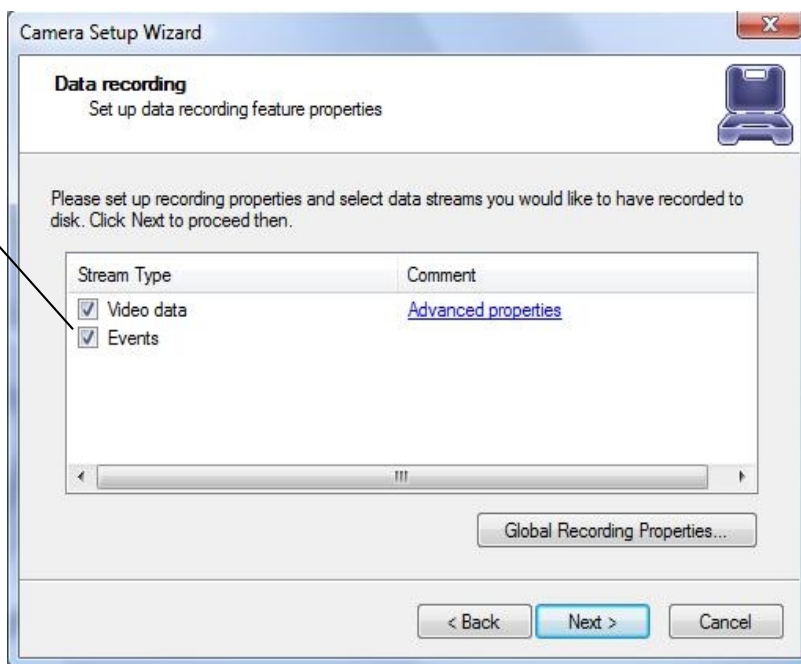
Alert if Change - Same as Active, but by changing the state of contact is generated alert;

Alert if Open - the same as Active, but when closing the contact generated alert;

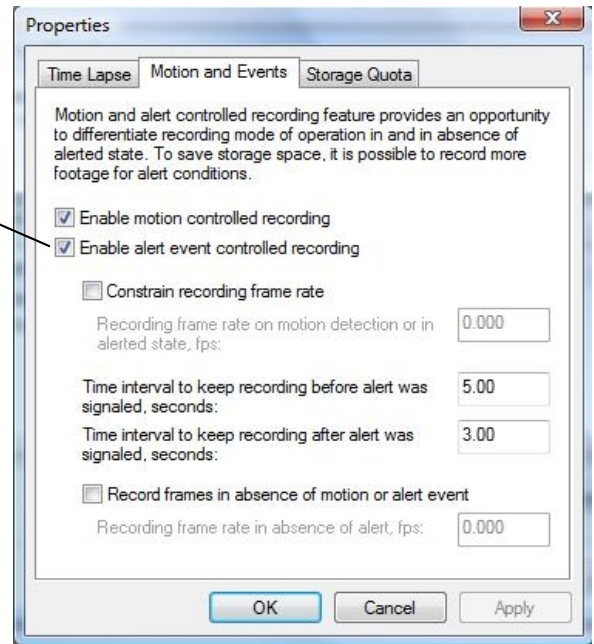
Alert if Close - same as Active, but the closure of the contact is generated alert.

Recording

For the recording of events, select the corresponding check-box on the page, Data recording, in the Camera Setup Wizard.



You can also set up to activate record video after an alarm event. To do this, go to additional settings for recording (Advanced properties page Data recording), select bookmark Motion and Events, and include an entry on warnings - Enable alert event controlled recording.



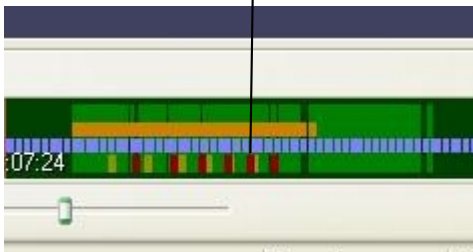
The Properties dialog box has three tabs: Time Lapse, Motion and Events, and Storage Quota. The Motion and Events tab is active. It contains the following settings:

- ☒ Enable motion controlled recording
- ☒ Enable alert event controlled recording
- ☐ Constrain recording frame rate
 - Recording frame rate on motion detection or in alerted state, fps: 0.000
- Time interval to keep recording before alert was signaled, seconds: 5.00
- Time interval to keep recording after alert was signaled, seconds: 3.00
- ☐ Record frames in absence of motion or alert event
 - Recording frame rate in absence of alert, fps: 0.000

Buttons at the bottom: OK, Cancel, Apply.

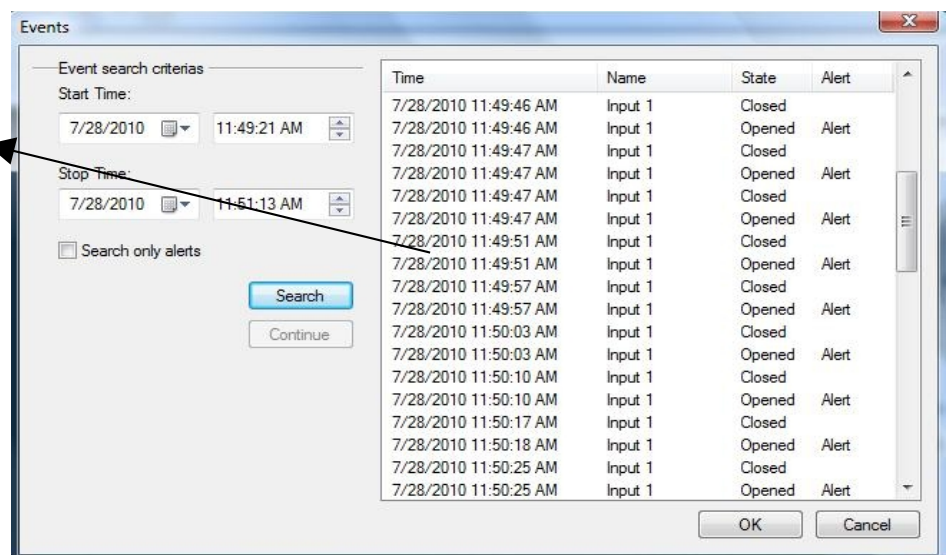
Archive:

At the Time Line bar, events are displayed in the lower part, and are marked with yellow or red (alarm events) Labeled.



Search for events:

To search for events, choose Navigation -> Events in the main menu player archive. In the window to specify search criteria and click Search. Double click on the event of interest to establish the position of the archive at the time of the event.



The Events search window has a search criteria section on the left and a table of events on the right.

Event search criteria:

- Start Time: 7/28/2010 11:49:21 AM
- Stop Time: 7/28/2010 11:51:13 AM
- ☐ Search only alerts
- Buttons: Search, Continue

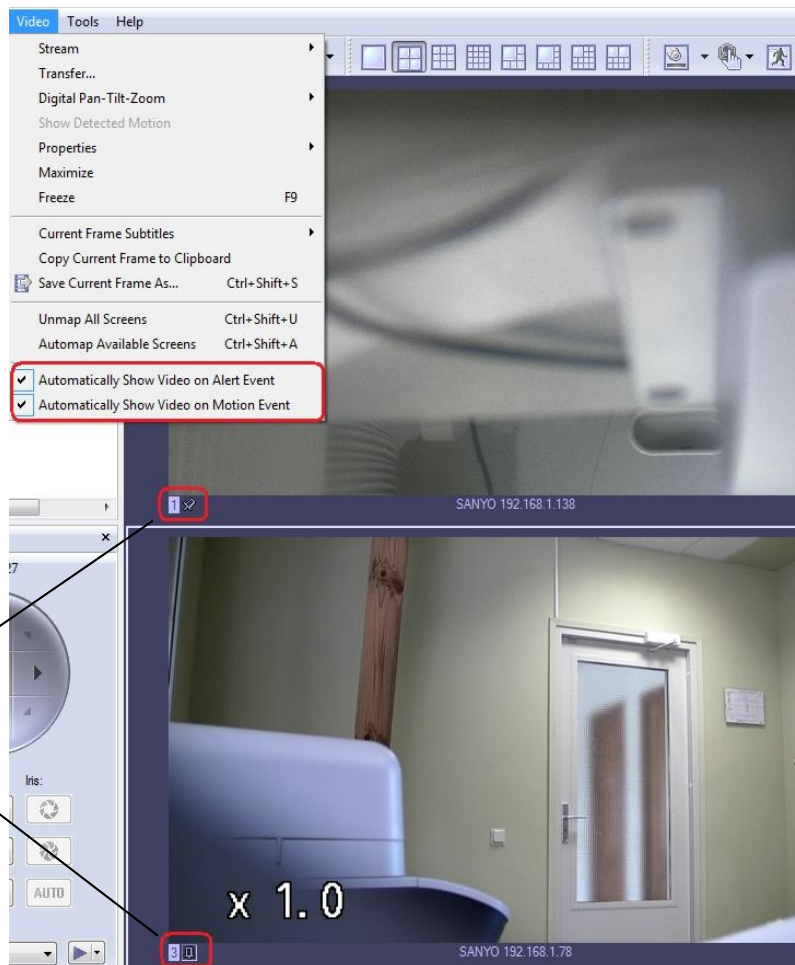
Table of events:

Time	Name	State	Alert
7/28/2010 11:49:46 AM	Input 1	Closed	
7/28/2010 11:49:46 AM	Input 1	Opened	Alert
7/28/2010 11:49:47 AM	Input 1	Closed	
7/28/2010 11:49:47 AM	Input 1	Opened	Alert
7/28/2010 11:49:47 AM	Input 1	Closed	
7/28/2010 11:49:47 AM	Input 1	Opened	Alert
7/28/2010 11:49:51 AM	Input 1	Closed	
7/28/2010 11:49:51 AM	Input 1	Opened	Alert
7/28/2010 11:49:51 AM	Input 1	Closed	
7/28/2010 11:49:57 AM	Input 1	Opened	Alert
7/28/2010 11:49:57 AM	Input 1	Opened	Alert
7/28/2010 11:50:03 AM	Input 1	Closed	
7/28/2010 11:50:03 AM	Input 1	Opened	Alert
7/28/2010 11:50:10 AM	Input 1	Closed	
7/28/2010 11:50:10 AM	Input 1	Opened	Alert
7/28/2010 11:50:17 AM	Input 1	Closed	
7/28/2010 11:50:18 AM	Input 1	Opened	Alert
7/28/2010 11:50:25 AM	Input 1	Closed	
7/28/2010 11:50:25 AM	Input 1	Opened	Alert

Buttons at the bottom: OK, Cancel.

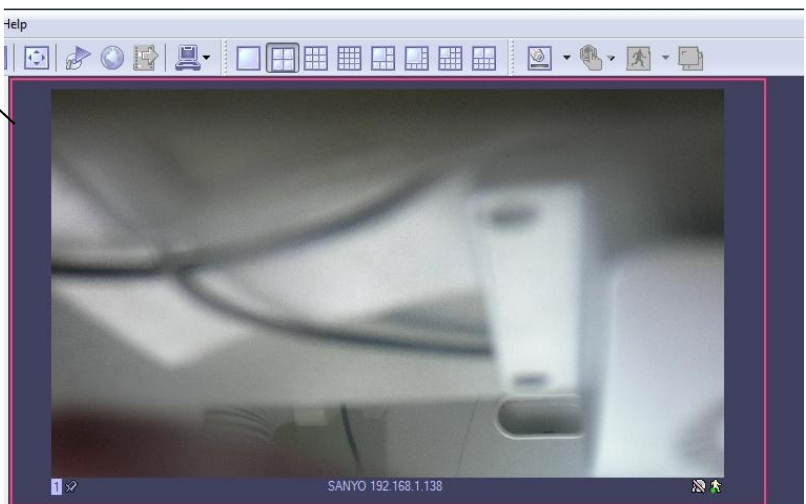
Live view pop up by motion and events

Cameras will be placed on a client screen as soon as Motion/Event triggered on the camera



Each camera has the option in a footer "lock" and "unlock". When a camera is unlocked it will be changed on the screen if you have enabled Pop up features. If a camera is locked then it will always stay on the screen.

On an event, camera placed on the screen by pop up will be marked in red blinking frame.



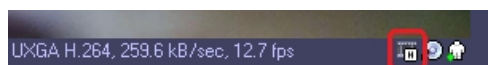
Chapter 5

Video substream (dual stream) operation

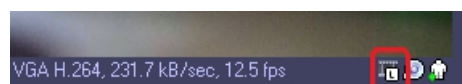
Substream is a lower resolution video which directed to reduce Client PC usage (CPU, network) for live view display. For example, main stream for recording can be set to 1920x1080 at 30fps and substream to 640x480 at 15fps, that would provide much lower load for Client PC to display video stream. This allow to have a high quality recordings, but still be able to view many video stream on low performance Client PC and limited bandwidth.

Client application will detect substream availability and will optimize operation of high and low resolution video streams automatically. For example: when a single video stream placed on a full screen then the software will display high resolution video, when multiple cameras displayed then lower resolution video will be displayed.

Client application has following visual indication on live view screen for substream:



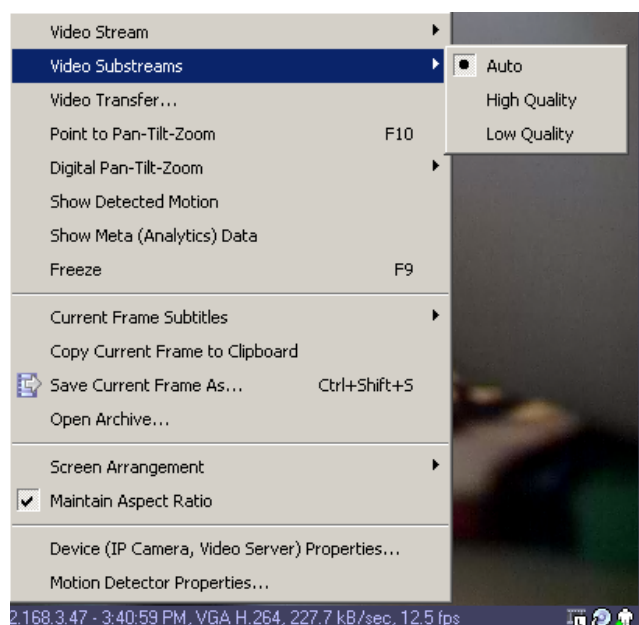
A footer for high resolution video stream include an “H” letter icon.



Low resolution video stream include an “L” letter icon.

“H” and “L” icon absence indicates a lack of substream availability

There is also ability to force high or low resolution video stream (-s) on demand. Right click on a video stream live view screen, select “Video Substreams”.

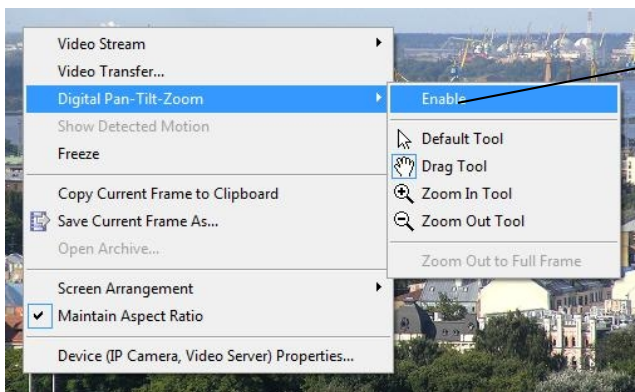


Note: Please refer [supported camera list](#) column "substream".

Substream must be activated on the camera via web browser. Please verify camera's performance to make sure sub-stream can be handled by the camera along with the others features enabled on the camera.

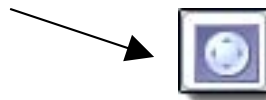
End of video sub-stream operation

Digital PAN-Tilt-Zoom on live view



Right-Click on any camera to Activate the Digital Pan-Tilt and zoom function.

Then by activating the PTZ control pane live streaming video can be digitally enhance.



Digital PAN-Tilt-Zoom Tools

- **Default Tool** – default mouse behaviour, it will click and drag as no digital PTZ was enabled. Digital PTZ control still be accessible via PTZ control pane.
- **Drag Tool** – when selected mouse can drag digitally zoomed image around screen changing your viewpoint. Additionally mouse wheel will works as zoom in/zoom out.
- **Zoom In(Out) Tool** – digital zoom out (in) on mouse left button click.
- **Zoom Out to Full Frame** – zoom level automatically reverts to 0, image will fit on screen completely.

Digital PAN-Tilt-Zoom on Playback

To Activate the Digital Pan-Tilt and zoom function on already recorded video just activating the PTZ control pane from the archive window. It can be controlled only via PTZ control pane.

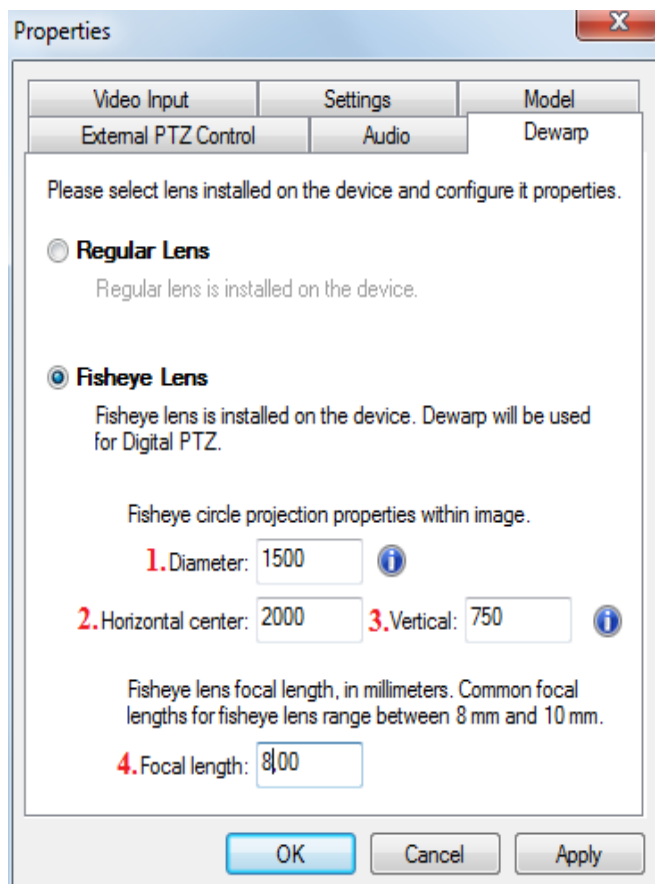
End of digital pan-tilt-zoom

Dewarp for fisheye cameras

Fisheye lens is an ultra wide-angle lens that produces strong visual distortion intended to create wide panoramic image. Generally it capture a 180-degree or larger hemisphere and projects this as a circle within the image frame. Fisheye lens can be built in by the manufacturer or it can be purchased separately. Luxriot Dewarp feature allows to obtain from one “distorted” fisheye frame, one or several regular frames with different angle of view and display them on Client screen.

Dewarp configuration

Dewarp settings can be accessed trough camera properties.



Properties

Video Input Settings Model
External PTZ Control Audio Dewarp

Please select lens installed on the device and configure it properties.

☐ Regular Lens
Regular lens is installed on the device.

☒ Fisheye Lens
Fisheye lens is installed on the device. Dewarp will be used for Digital PTZ.

Fisheye circle projection properties within image.

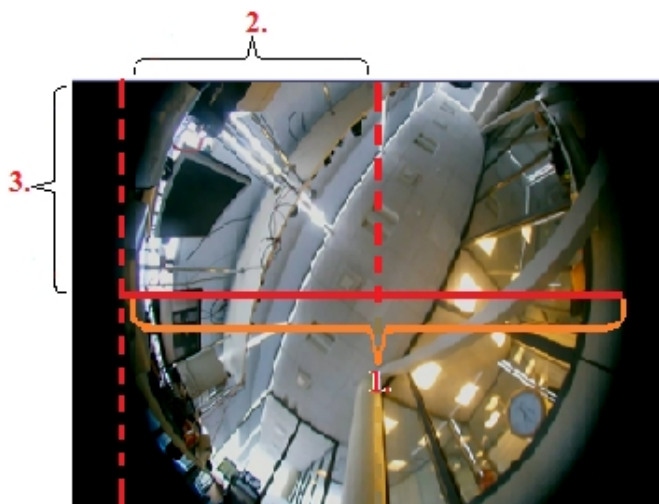
1. Diameter: 1500 ⓘ

2. Horizontal center: 2000 3. Vertical: 750 ⓘ

Fisheye lens focal length, in millimeters. Common focal lengths for fisheye lens range between 8 mm and 10 mm.

4. Focal length: 8.00

OK Cancel Apply

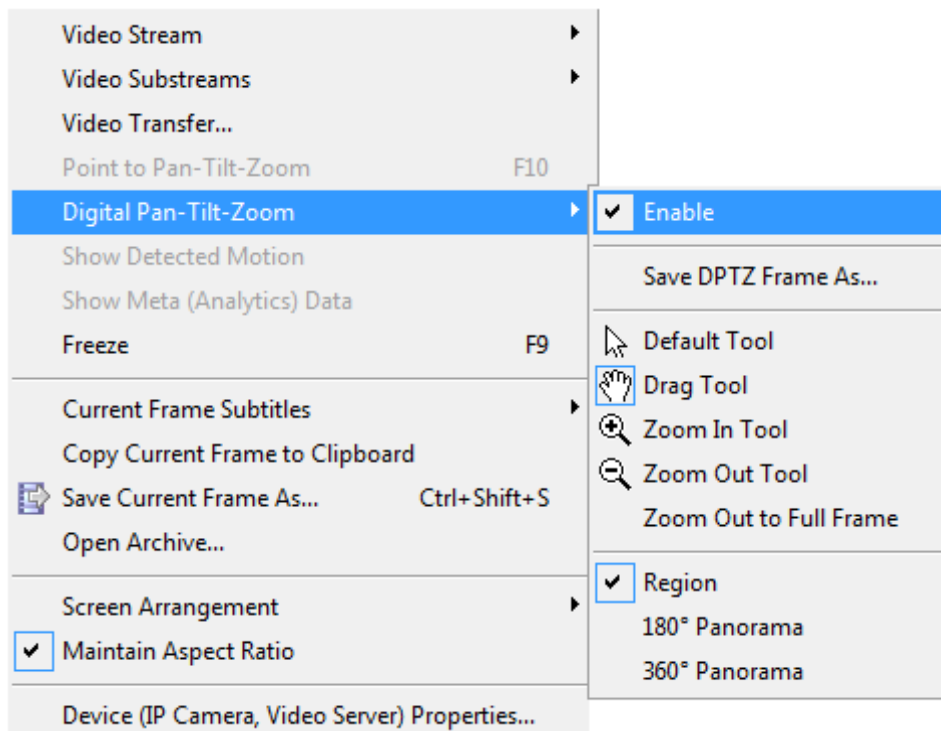


1. Fisheye circle projection diameter, in pixels;
2. Segment from *left “effective”* image corner till horizontal side center, in pixels;
3. Segment from *top “effective”* image corner till vertical side center, in pixels;
4. Focal length is a parameter of lens which determines how far the camera can see, and can be found in it specification.

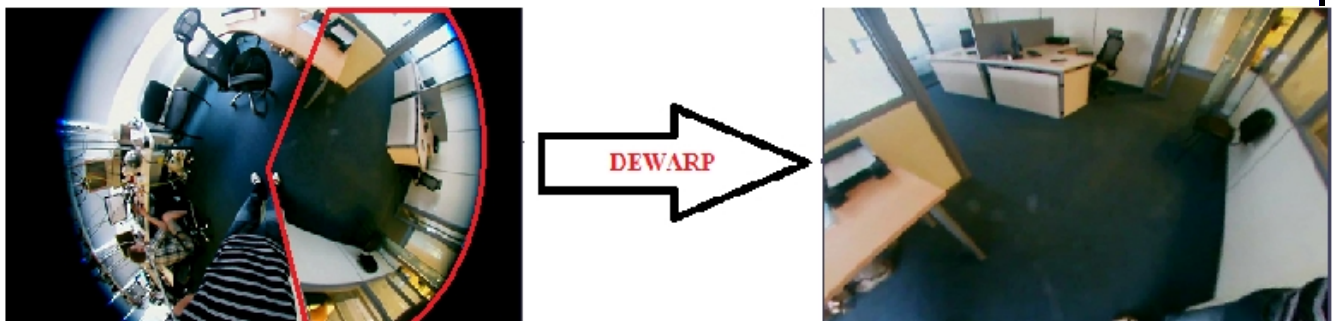
On snapshot above is shown configurations for image with 3 Mpixel (2048x1536) resolution. This values will allow the software to convert the spherical image into a view which is more convenient to human eye.

Dewarp operation in Live view

In order to activate Dewarp, select *Digital Pan-Tilt Zoom* by right-click on a fisheye camera screen, and mark as *Enable*.



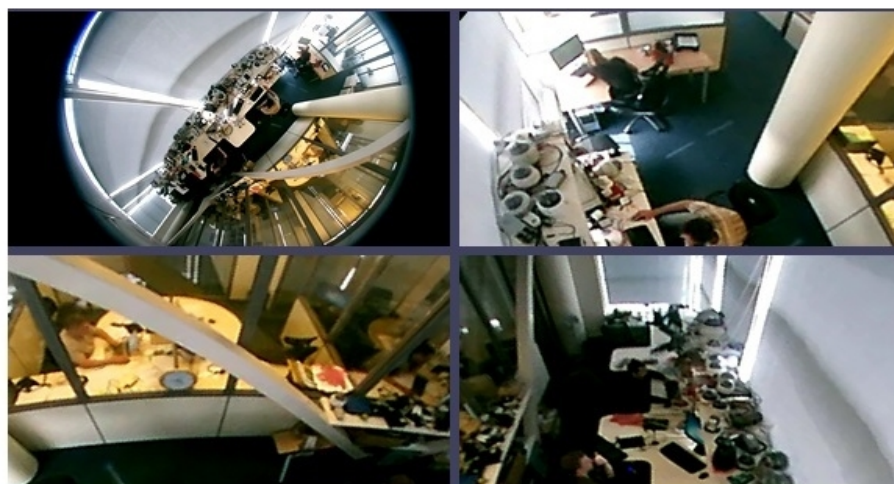
After all parameters is set and *Digital PTZ* is enabled, camera becomes a virtual PTZ, which can be zoomed and moved through entire angle that fisheye camera allows.



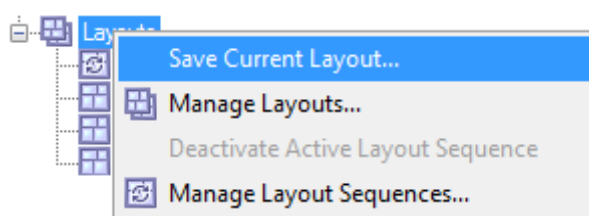
Options to choose how wide aspect ratio of dewarped frame will be displayed, also becomes available. *Region* format is set by default and represents the “standart” view of image, but if you need more of the scene at once to be displayed you can choose *180° Panorama* or *360° Panorama* format.



It is possible to divide dewarped picture into multiple separate channels and view them simultaneously. To do so just drag (by holding left mouse button) one the same camera from structure pane on desired screen place multiple times.

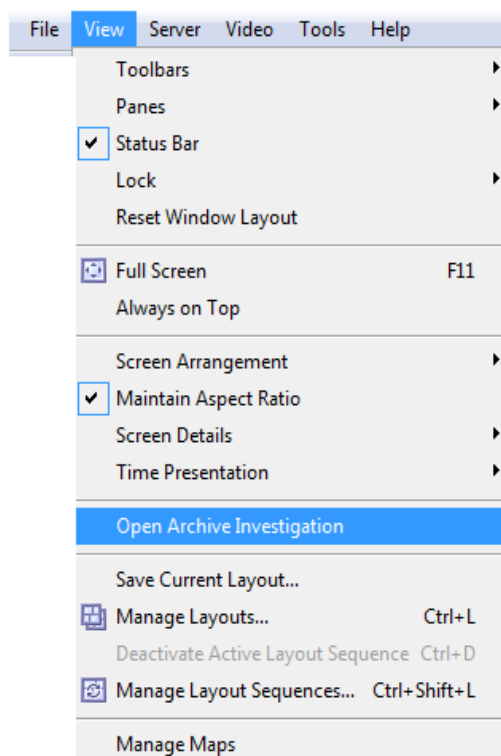


The created layout can be saved with all configured screen positions, by right-clicking *Layout* on structure pane followed by *Save Current Layout*.



Dewarp operation during playback

For playback Dewarp is available only in Archive Investigation. Software records entire video stream no matter what settings are implemented in Dewarp configurations. So, entire image is preserved, allowing for you to look, during playback, at all directions, regardless of the area being monitored when the incident occurred. Digital Pan-Tilt Zoom activation and managment is similar to Live view.



End of dewarp for fisheye cameras

PTZ Control Pane for Optical

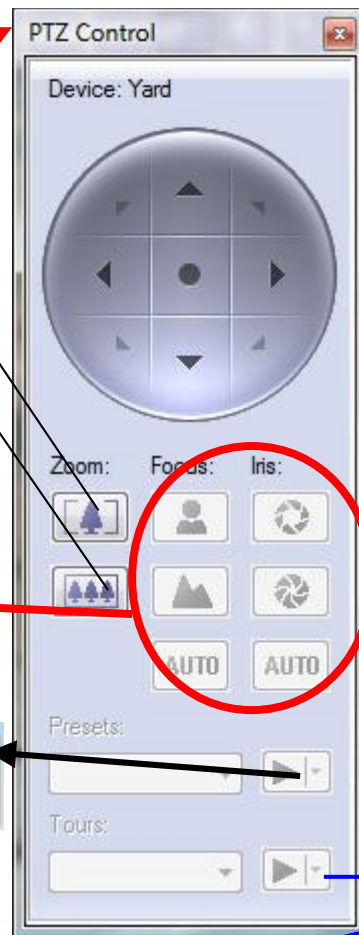


Click on the this Icon on the main toolbar to get the PTZ control pane

Zoom IN

Zoom OUT

Manual and Auto Adjustments for Focus and Iris

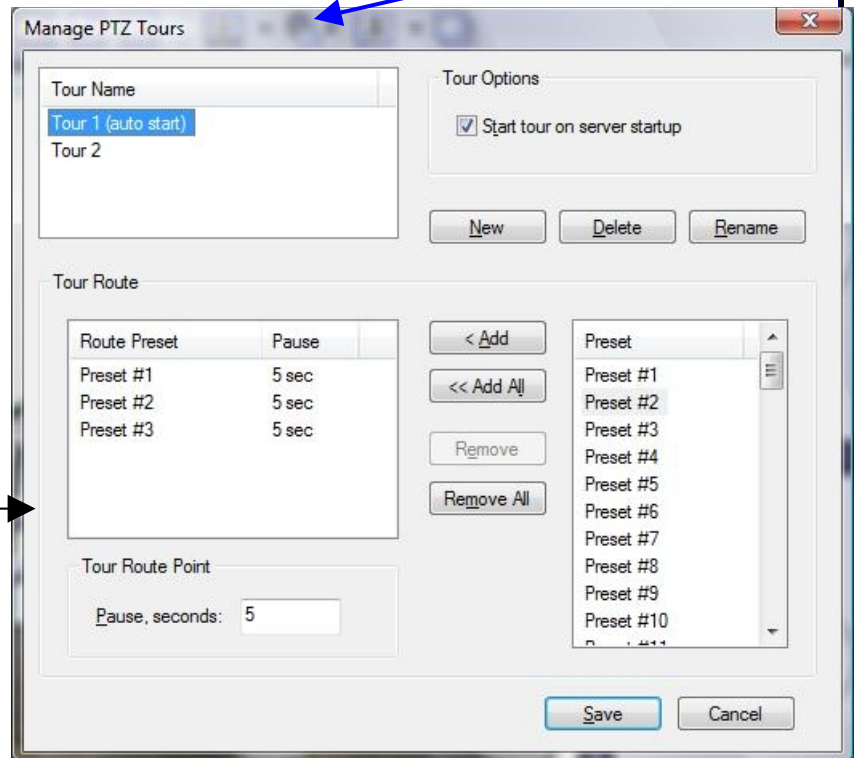
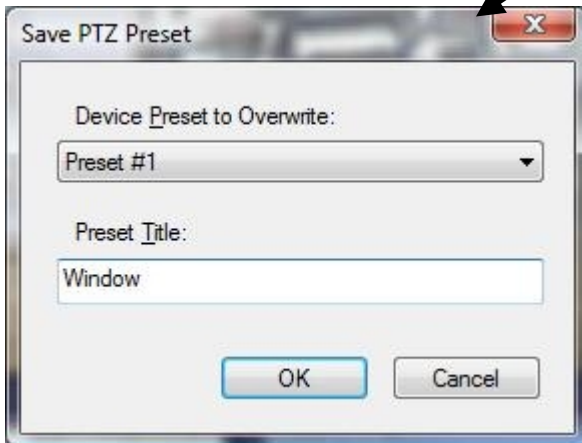


Save Presets and Tours for PTZ Cameras

Presets and Tours can be from the PTZ control window.



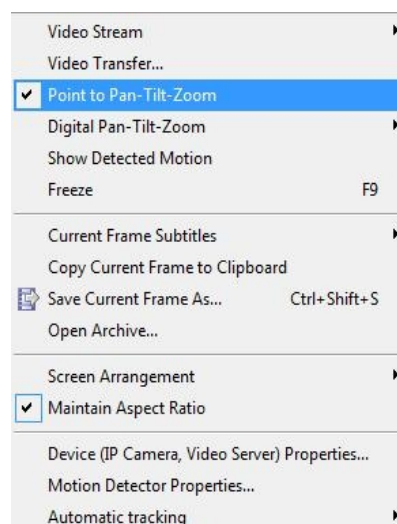
configured



Manage PTZ tours camera by camera by selecting the presets of your choice and time between them.

PTZ control - Point to click PTZ

Point to click works on PTZ cameras that support point to click. To enable the Point to Pan-Tilt-Zoom just right-click the live video and enable.



PTZ control - shortcut keys

PTZ cameras can be controlled with the +/- and arrow keys from pc keyboard.

PTZ Keyboard controller

Luxriot supports USB PTZ keyboard controllers:

DCZ is universal keyboard for managing applications on the PC. The DCZ keyboard comes with jog shuttle, joystick 38 backlit keys, alarm buzzer, and allows the management of Luxriot application via USB connection.

The Luxriot receives an event message whenever a key is pressed or released.

The DCZ keyboard can work with Luxriot emulating a 4-axis 32 keys HID joystick or as full featured CCTV management keyboard. It can also be used together with ordinary PC peripheral devices such as keyboards, mouse, joysticks or other accessories.

This simple and user-friendly DCZ keyboard allows a comfortable and intuitive management of Luxriot application from PC.



Luxriot USB Joystick

- Luxriot and all Microsoft Windows USB compatible
- Server/Client side controlling from remote and local clients
- Control IP and Analog PTZ's
- 10 programmable preset buttons
- Zoom on Joystick. Twist left or right to zoom in and out



End of save presets and tours for PTZ cameras

Video Adjustments

Toggle Video Amplification Pane



Video adjustment can adjust every individual camera with its own settings.

Audio Player Pane

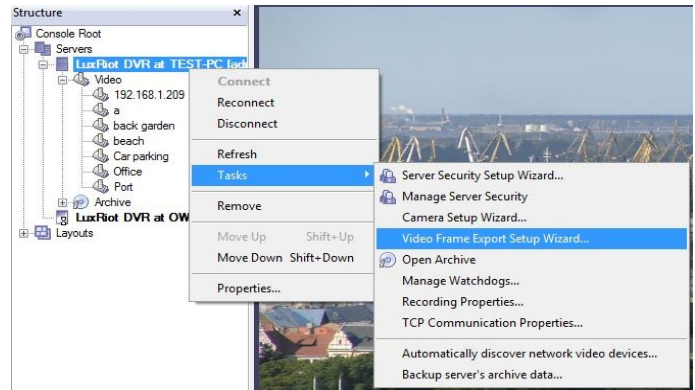
From Audio Panel you can enable live audio from the camera of your choice



End of video/ audio adjustments

Video Frame Export

Video Frame Export Setup Wizard allows you to configure continuous saving of video frames on network, fixed storage or FTP. Frame export can be configured for multiple devices. Also you can use fps limit (time lapse) and motion controlled export. Exported frames will be saved in JPEG format using file name format you specify when configure export until disabled.



To run this wizard you should:

- Right click on server in structure tab or select menu item Server->Selected Server
- Choose Tasks
- Click on "Video Frame Export Setup Wizard"

1st Screen- **"Welcome to the Video Frame Export Setup Wizard"**

[Click next](#)

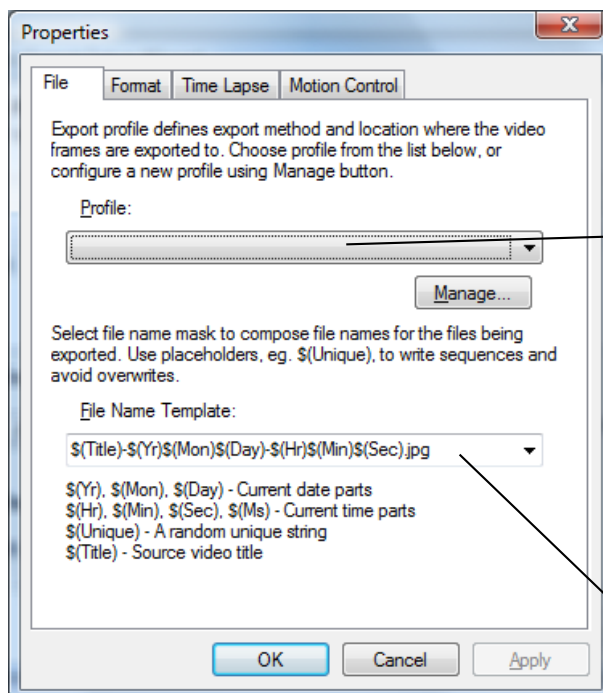
2nd Screen- **"Video Streams"**

Select one or more devices from the list for frame export configuration.

[Click next](#)

3rd Screen- **"Export properties"**

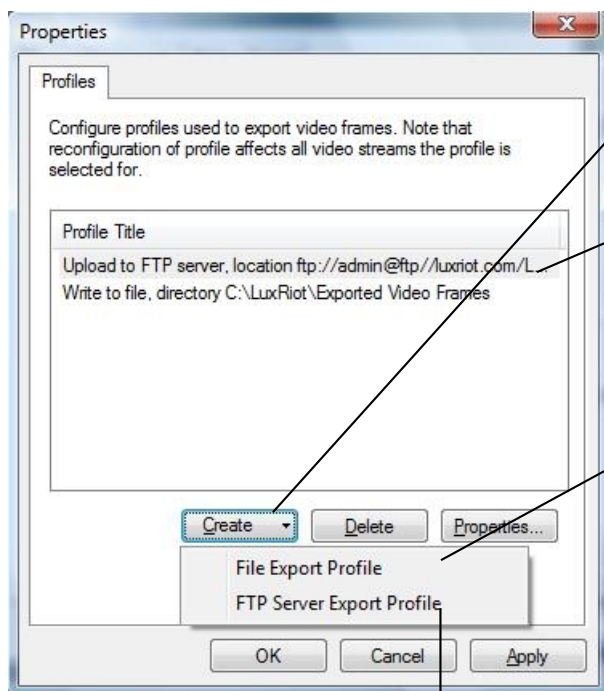
You can enable or disable video frame export in this screen. If you want to enable export, press properties button to configure it.



Select already created profile or create at least one to start using video frame export. There are two types of profiles: **file export** profile and **FTP export** profile. Use manage button to create edit or delete those profiles.

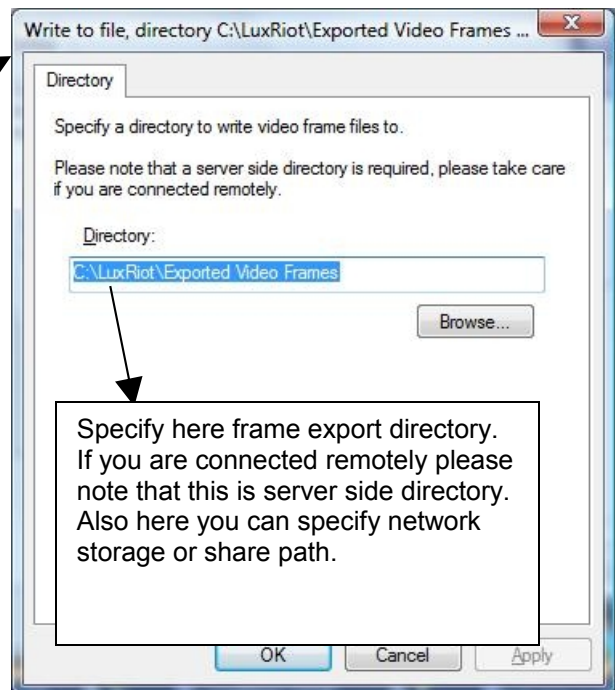
Each frame will be saved into file, this template string will be used for formatting filename. Please make sure that it will be unique by adding it's time in ms or random unique string (\$(Ms) or \$(Unique) format tags)

Managing video frame export profiles

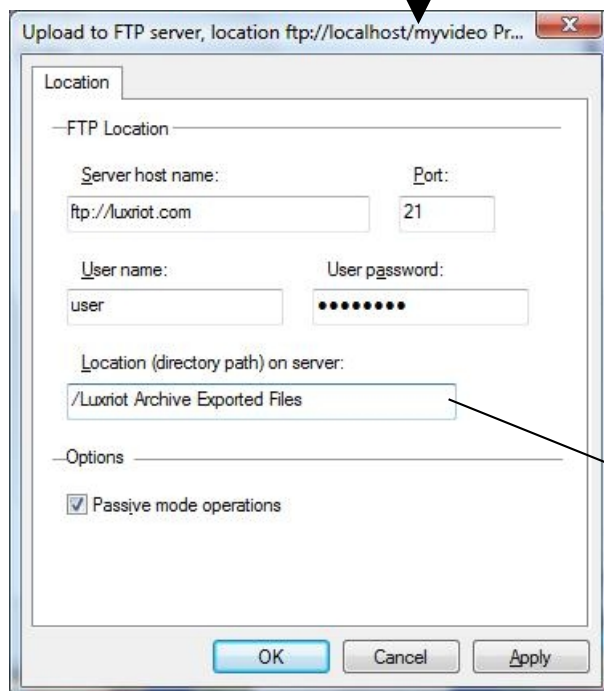


Use Create button to choose where do you want to export video frames.

Edit or delete already created profiles in this list by pressing corresponding buttons.



Specify here frame export directory. If you are connected remotely please note that this is server side directory. Also here you can specify network storage or share path.



Fill this dialog with FTP access data to allow Luxriot to connect and save frames there.

[Click next](#)

7th Screen- "Action Summary"

This page of the Video Frame Export Setup Wizard gives you a summary of all of the changes that you have made throughout the wizard.

[Click Next](#)

8th Screen- "Wizard Complete"

Congratulations, you have now setup export of frames for your camera(s).

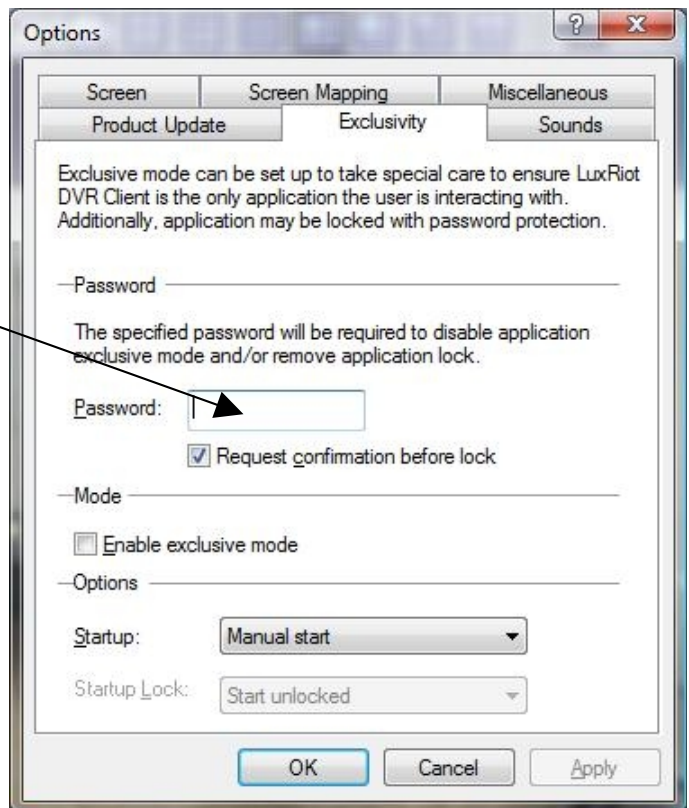
[Click Finish](#)

End of video frame export

Exclusivity Mode (Windows lock out feature)

Exclusivity Mode is to make sure that operator cannot get access to Windows operating system. On the other hand they can have access to Luxriot software only. This is to ensure uninterrupted server operation and stability eliminating the human error.

Exclusivity is a password protected function.



Lock Application:



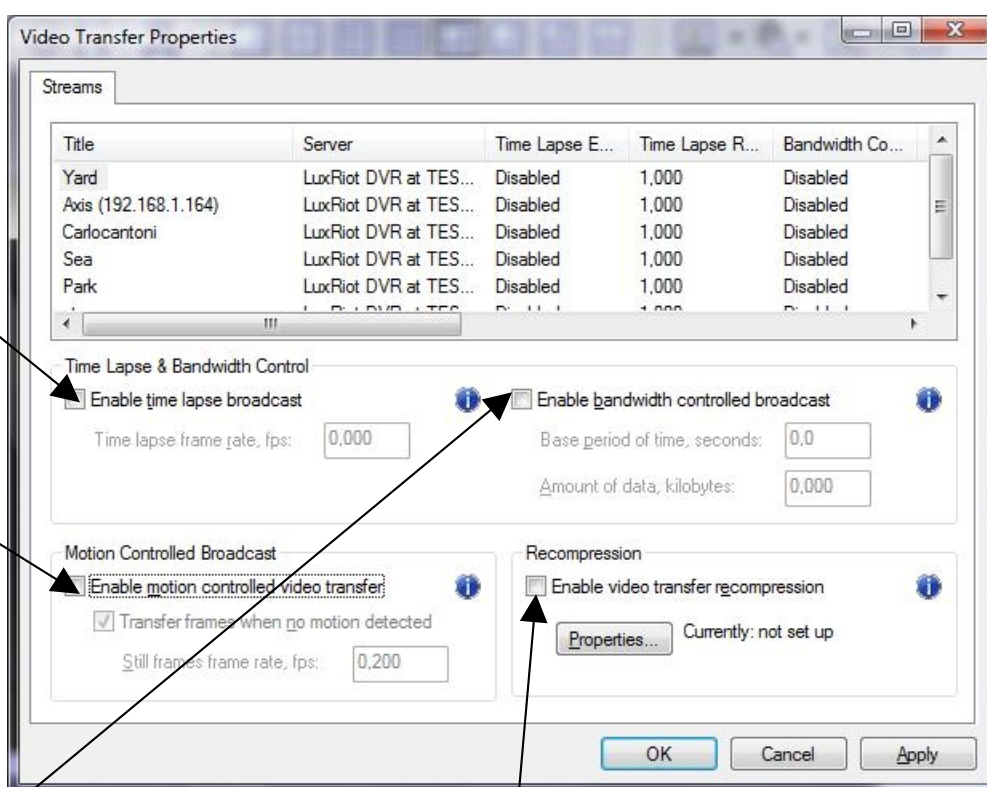
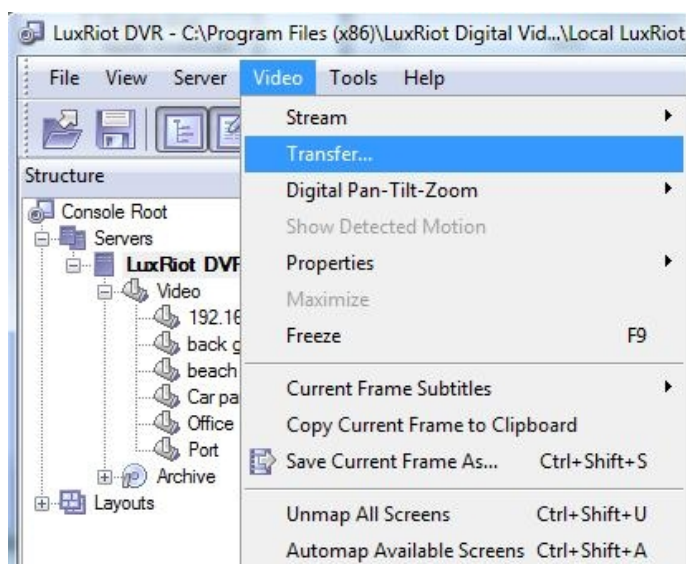
Additionally Luxriot Client can be locked to ensure that no one could damage server settings while administrator is away. Exclusivity mode password will be used to unlock application.

You can combine Exclusivity Mode and Lock Application features in order to exclusively control Luxriot Client application and restrict access to other applications.

End of exclusivity mode

Enable Video Transfer Properties

Video Transfer feature is made for network traffic reduction between VMS Server and VMS Client (if remotely connected) and/or CPU load decrease on the Client side. Video Transfer reduces amounts of data transferred from server to client by skipping some frames, transferring only motion detected frames, re-compressing or downsampling them without reducing recorded data quantity and quality. This feature is useful in slow remote connection or highly loaded network when viewing cameras remotely. Also it will be effective to decrease image resolution or transfer fps on the low-end systems, where VMS Client is used for viewing large amount of cameras. This approach reduces resolution and amount of frames, waiting to be rendered on the screens.



Enable time lapse broadcast on your remote connection only if needed.

Enable this feature remotely if want to see video on motion only. This is very helpful because frame rate is distributed to the cameras that have motion only.

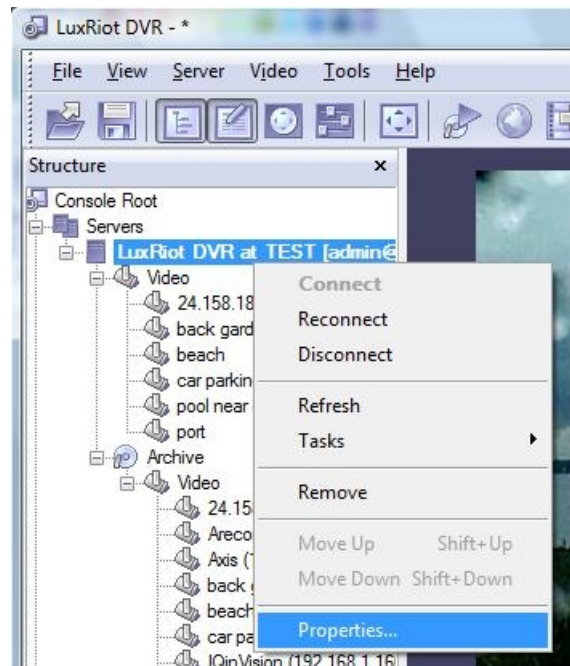
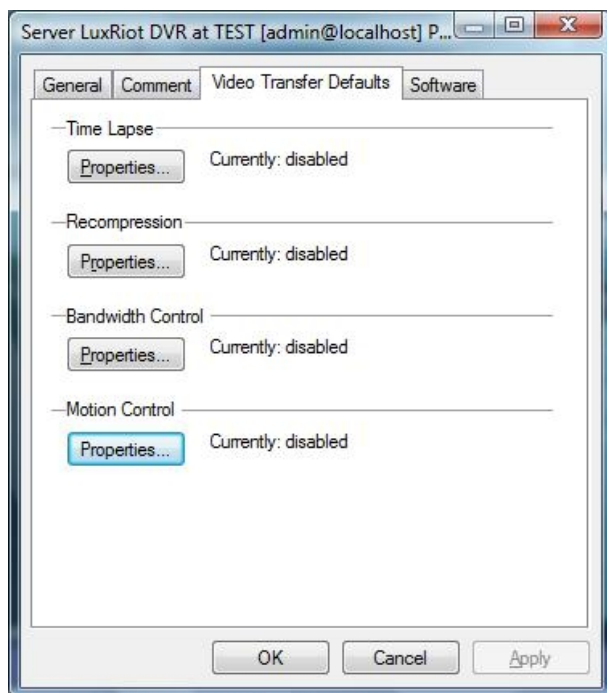
Adjust data controlled broadcast if needed.

Enable Video transfer re-compression, can be very useful for remote connections only. The Luxriot server can record up to 3 mega pixel images, but remotely using this feature a user can receive more frame rate with less image quality without changing the server properties.

Video Transfer Defaults

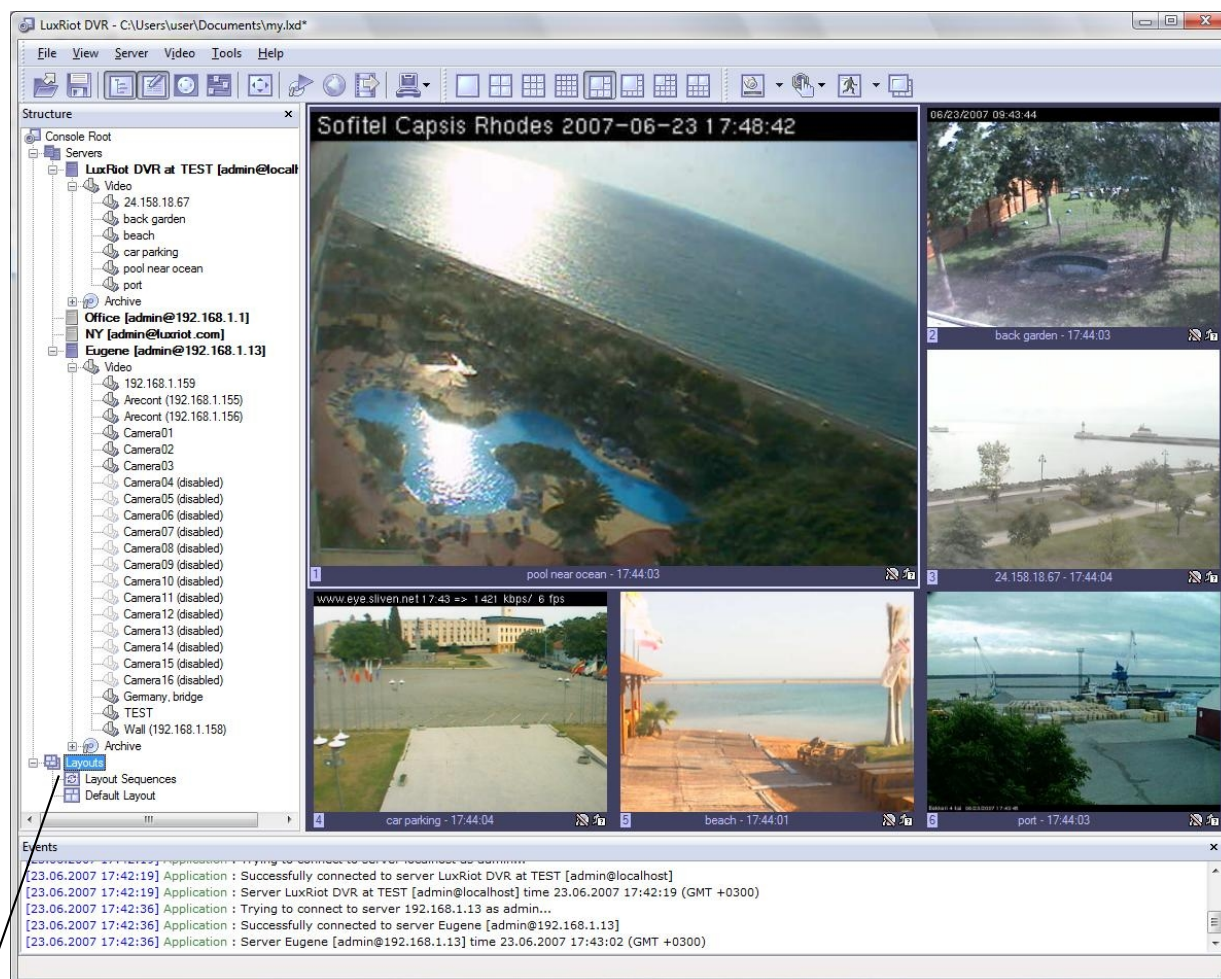
You can specify default values of the video transfer for newly added devices. All options are identical to the Video Transfer properties.

Those defaults can be accessed by clicking on server and choosing menu item Properties.



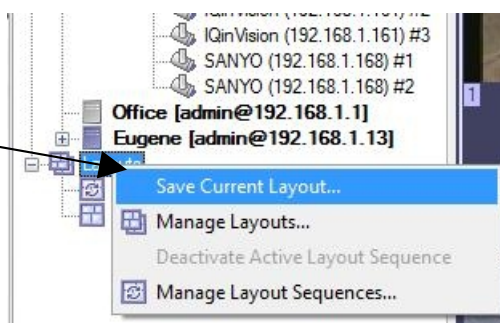
End of video transfer

Layouts



Create custom Layouts by grouping cameras from different VMS Servers/Locations into groups for more efficient monitoring, and better management.

For example group together all outdoor cameras from different location or all POS cameras from all registers.



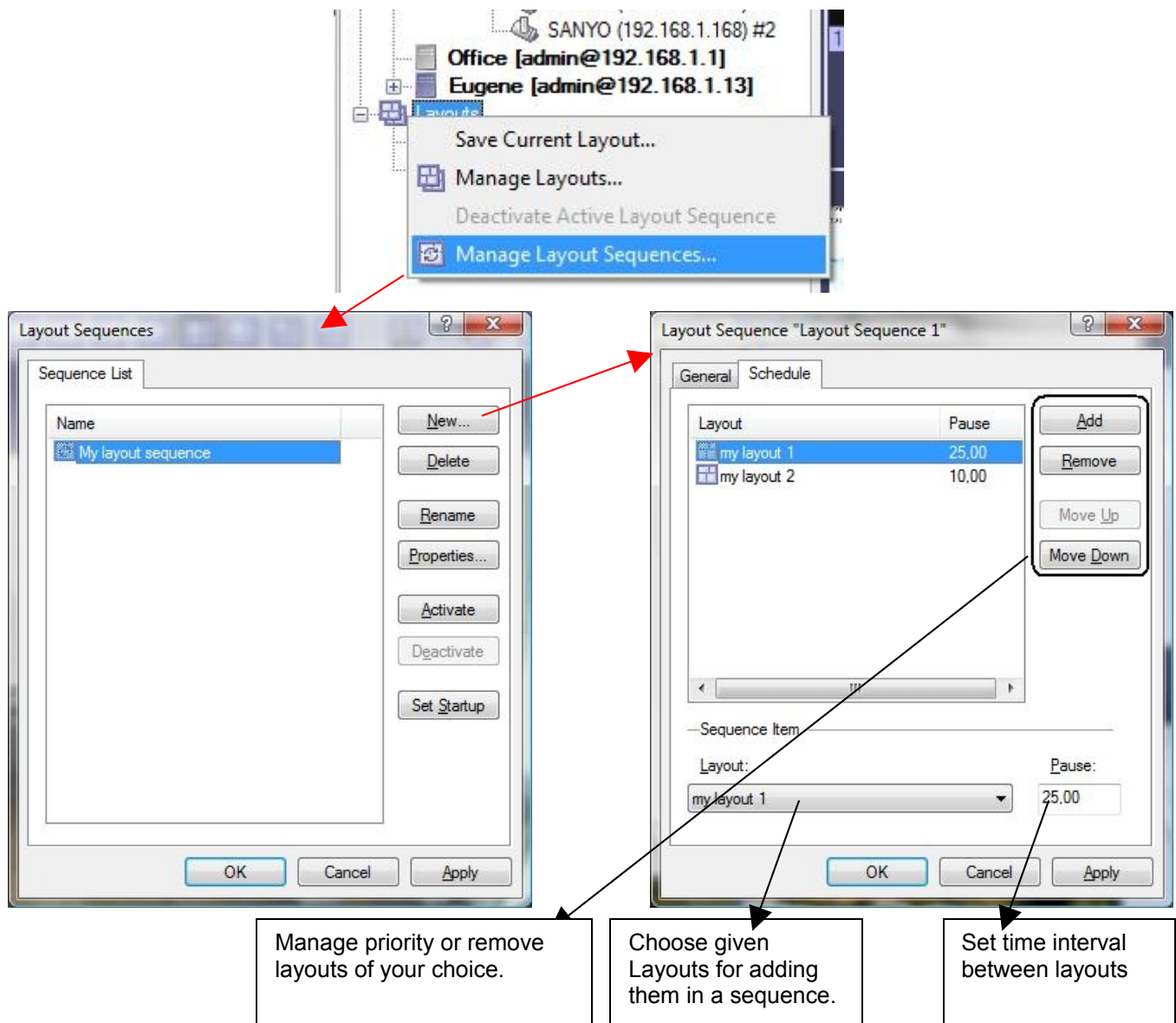
Individual Layouts can be activated by double-click on them with the mouse.

Users now can perform playback and other function by Right-click on the camera of their interest.

Note that empty screens by default are filled with available cameras. You can disable this feature by selecting Tools->Options and choosing Screen mapping tab on appeared dialog, Set Automatic mapping mode to "disabled".

Layout Sequences

When Layouts are created, they can be used for Sequencing.
To create Sequences Right mouse click on Layout Sequences.



End of layouts

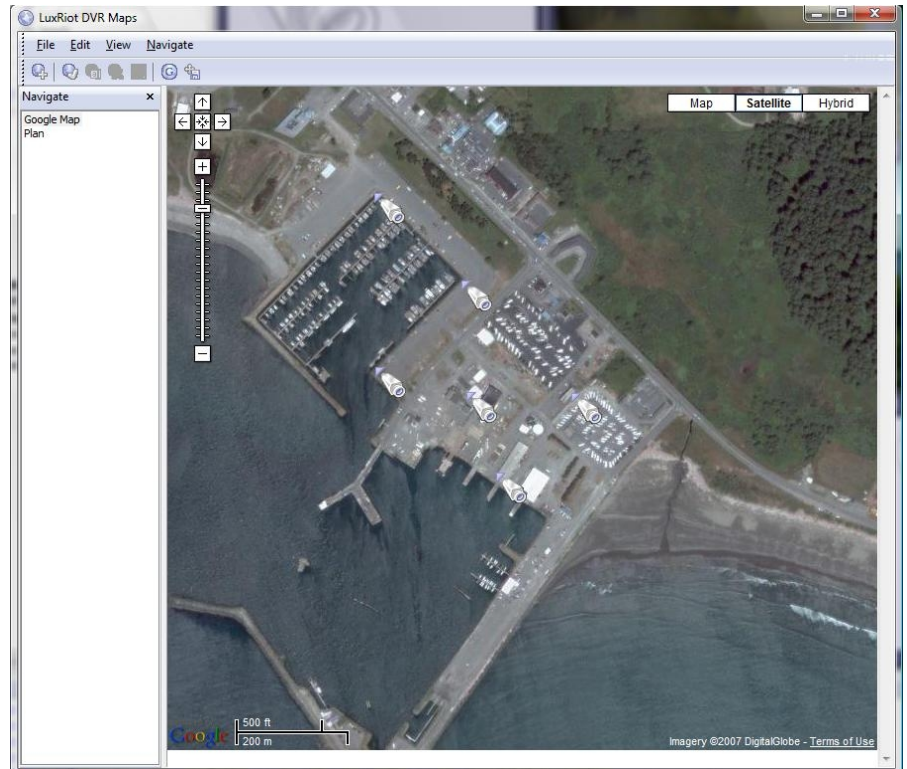
Map module

VMSMap allows you to quickly and conveniently locate cameras for viewing placed on Google Map and/or on your own floor plans added in JPEG format.

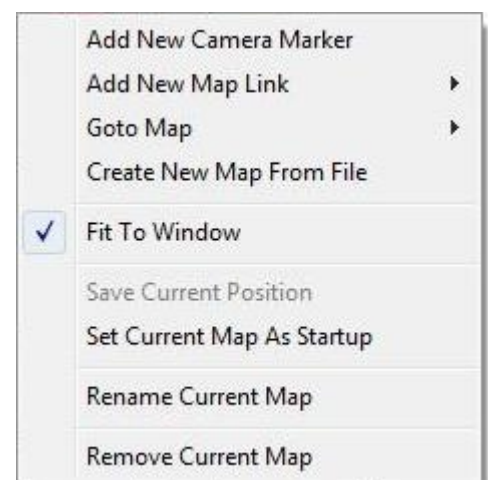
To start this module use this toolbar button:



Right click the map and use context menu commands to configure and control map features.



- **Add New Camera Marker** – this item will add camera marker in place where menu has been called. There will be shown list of servers and cameras after choosing this menu item. After adding new marker you can double click on marker to activate matching camera. To remove marker right click on it and choose according popup menu item.
- **Add New Map Link** – inserts on current map link on the new or already created map. Double click will change current map on the linked map. To remove this link use right click on it and choose according menu item.
- **Goto Map** – navigate to other maps in appeared list.
- **Create New Map From File** – add new map from JPEG image file, which will be used as background.
- **Fit To Window** – JPEG map will strain on window maintaining it's aspect ratio.
- **Save Current Position** – used in Google map to saving it's current position.
- **Set Current Map As Startup** – set current map as startup map. Selected map will be loaded when starting to view this map module.
- **Rename Current Map** – rename currently selected map.
- **Remove Current Map** – delete currently selected map.

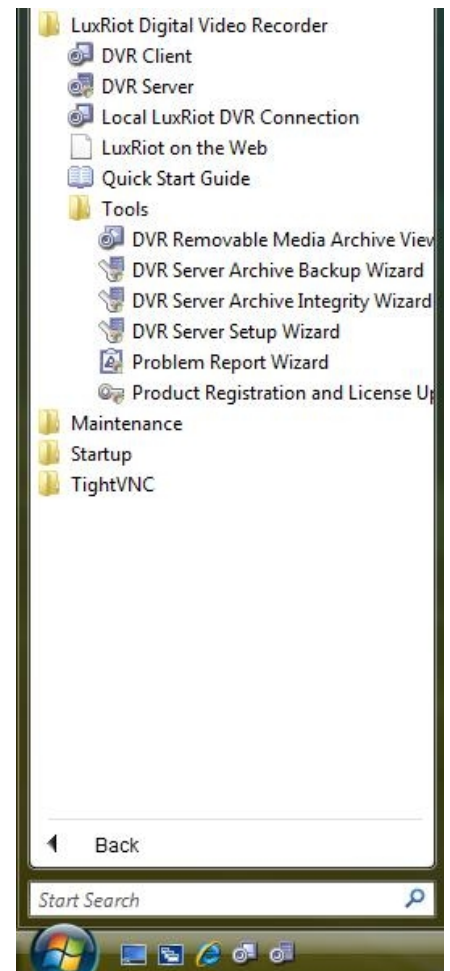


End of map module

Archive Backup Wizard

Archive Backup Wizard purpose is to backup specific part of archive or burn CD/DVD with archive and Archive Viewer on it. This can be useful to create backup copies of your archive with lower fps, or writing specific part of the archive on the CD for other machines without Luxriot being installed on them. Please note that this wizard works only on the same machine where VMS Server is installed.

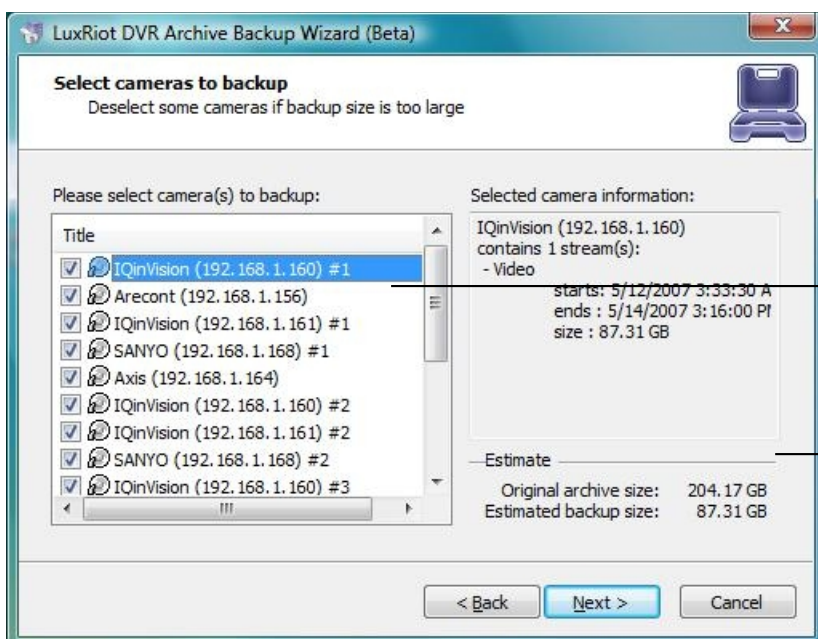
This wizard is located in Start Menu, your Luxriot VMS menu folder, "tools" subfolder.



1st Screen- "Introduction to the Archive Backup Wizard"

[Click next](#)

2nd Screen- "Select Cameras to Backup" Select one or more cameras from the list.



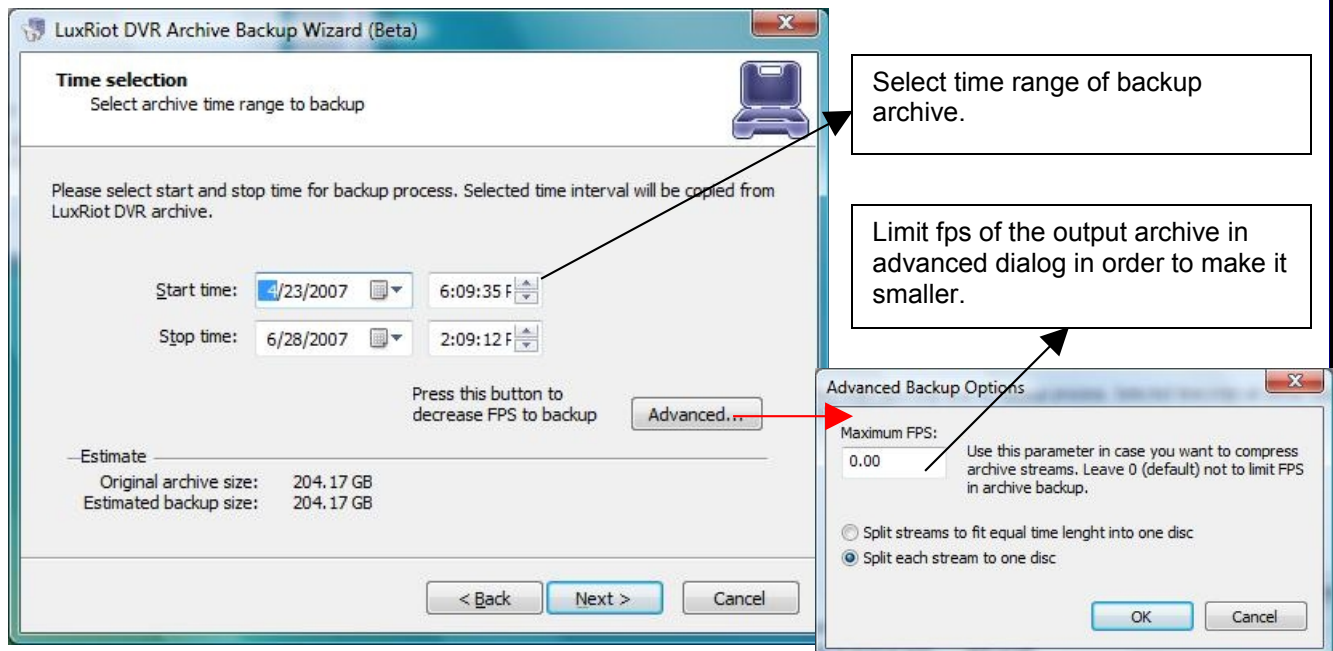
Choose cameras to backup.

There are estimates of backup size on every page in this wizard. Note that you can always decrease estimate size by decreasing output fps of backup archive, deselecting some of the cameras or changing time range.

[Click next](#)

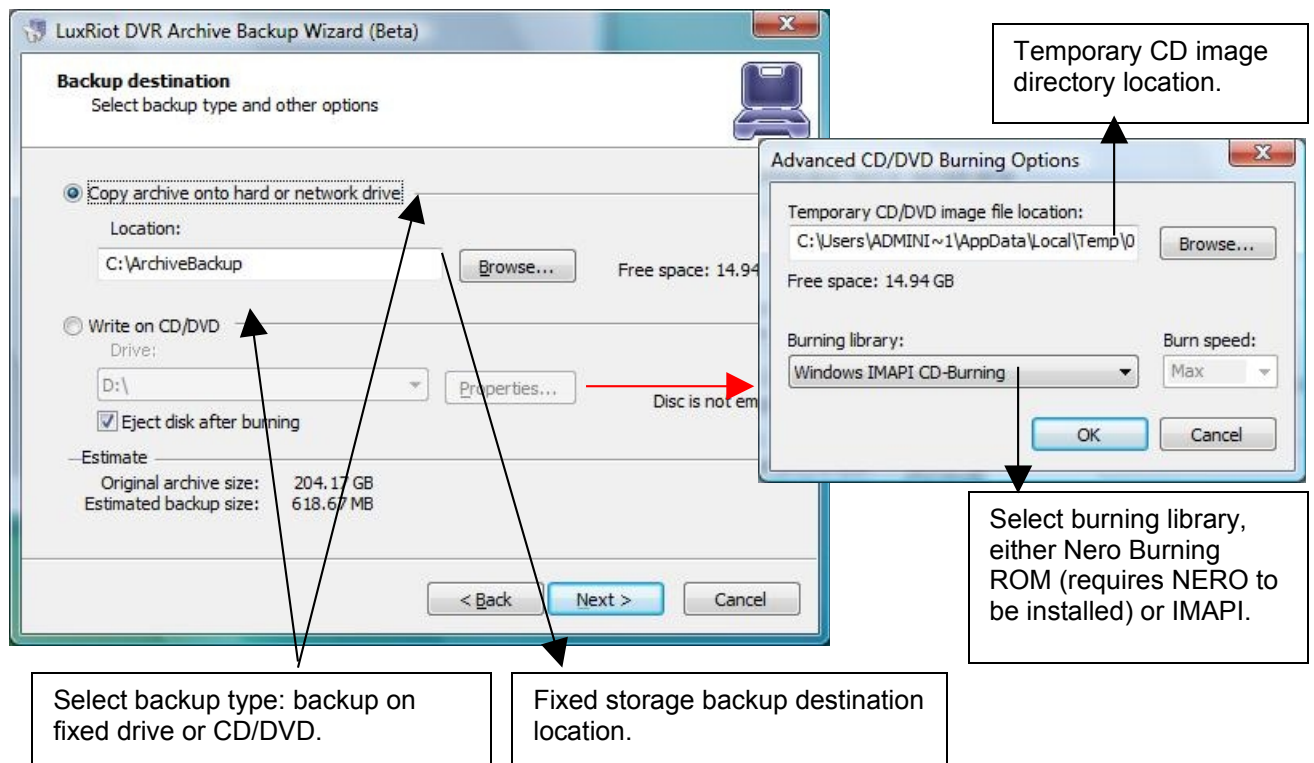
3rd Screen- "Time Selection"

Select time range of backup archive. Additionally you could decrease fps of backup in advanced options.



4th Screen- "Backup Destination"

Select type of backup and check options of each type of backup.



On the next page you will see progress of backup action, after which you will be directed on the finish page.

End of archive backup wizard

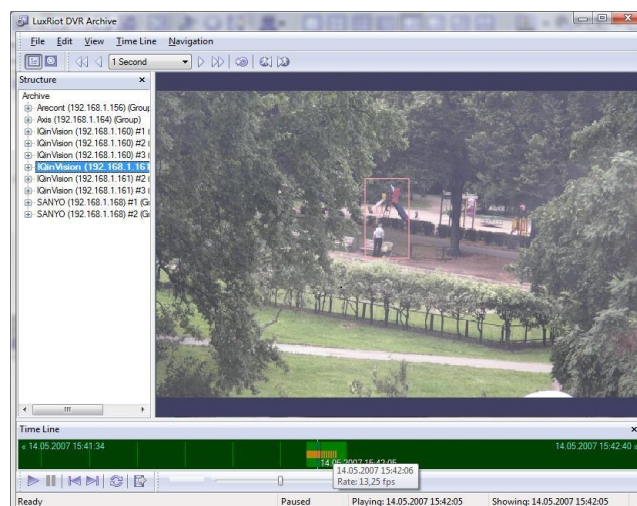
Chapter 6

How to Playback Video

To playback recorder video
Right click on your server name
Choose tasks
Open archive

You can also

Right click on any camera view and
Choose open archive



Your archive pane will now open

Playback Window Structure -

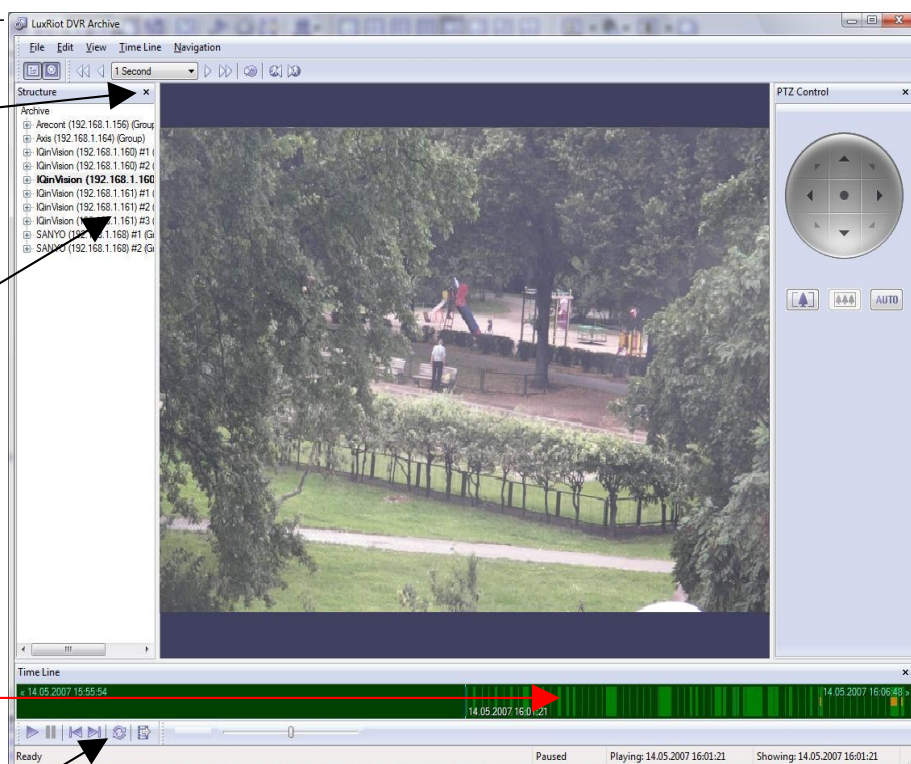
Now that you are in the playback screen, the structure pane on the left lists all of the cameras that you have recordings for

To Navigate through the Video -

Double click on the camera you wish to playback (This camera will now appear with footage on the video screen)

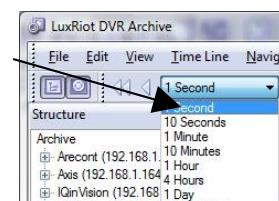
The solid **green line** on the bottom represents time. The **light green lines** represent recorded video. The **orange lines** represent motion information.

There are basic VCR controls on the bottom of the playback screen, which you can use to play, pause, forward, and rewind.



Fast forward & Rewind

You have a jog dial on the bottom of the screen, which you can drag in either direction to browse through your video in high speeds.
Another way to fast forward is to use the arrow controls on top of the screen in which you can define how many increments of time you would like to move through the video.



Playback Motion Only-



Located at the top of your Archive Pane, there are two buttons that allow you to seek video with actual motion in return saving you time.

With the camera you wish to review selected and showing in your video screen
Choose either “seek previous motion” or “seek next motion”



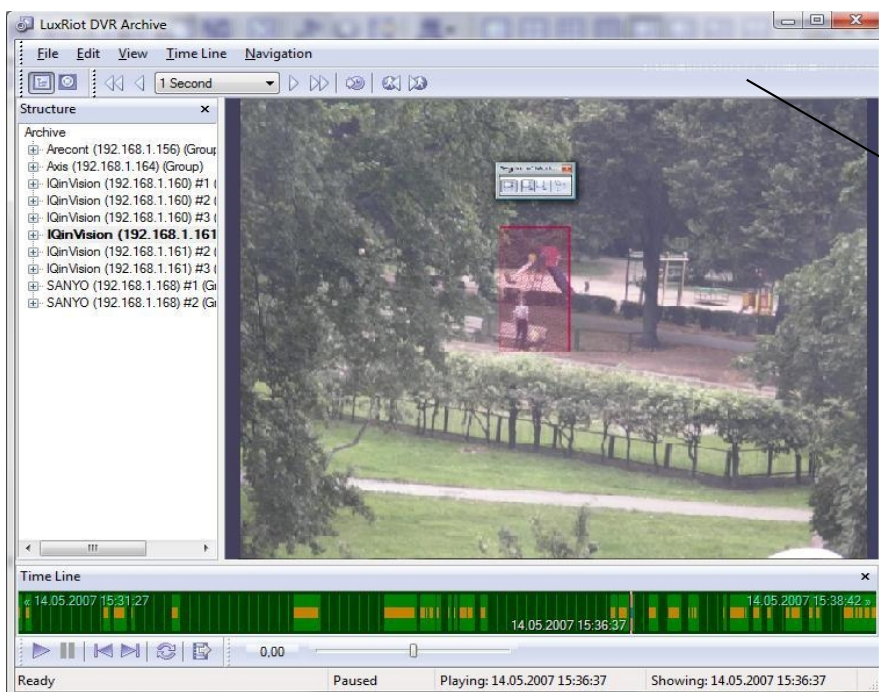
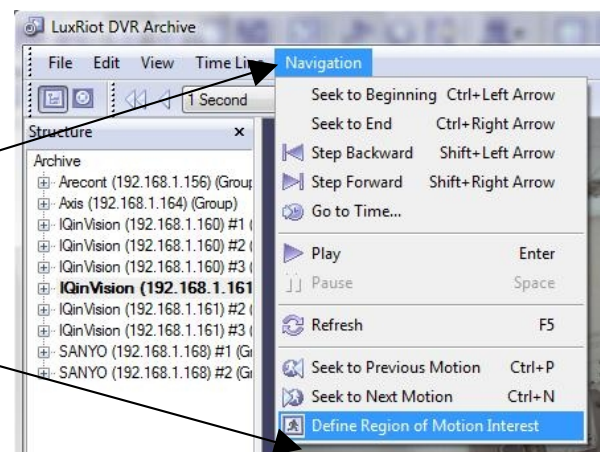
Smart Search

You can also search through video not only by motion in the screen, but also by ***motion in a specific part of your camera screen***. Through Luxriot's playback screen, you can define a specific object in your view, or define a path, and seek through motion only in that specific region. This process is very commonly referred to as “smart search”.

Define motion of interest

Click on the navigation menu at the top of the playback screen

Click on “Define region of motion interest”.



While having the left button continuously pressed, drag the mouse over the area you would like to see motion in (This will create a grid in that area). You can also select multiple regions.



Click on “seek to previous motion”

or “seek to next motion”

to search through motion in the defined area or areas.

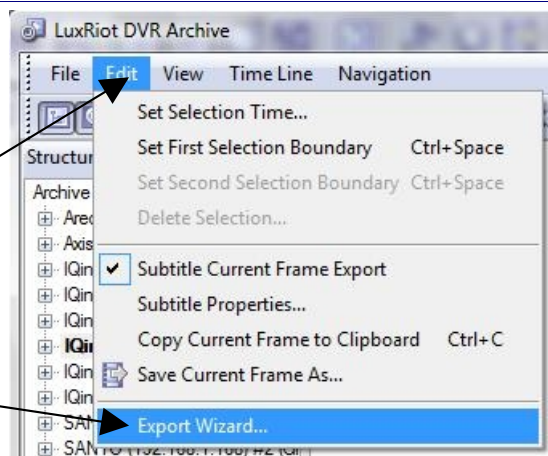
End of Playback Video

Export Video

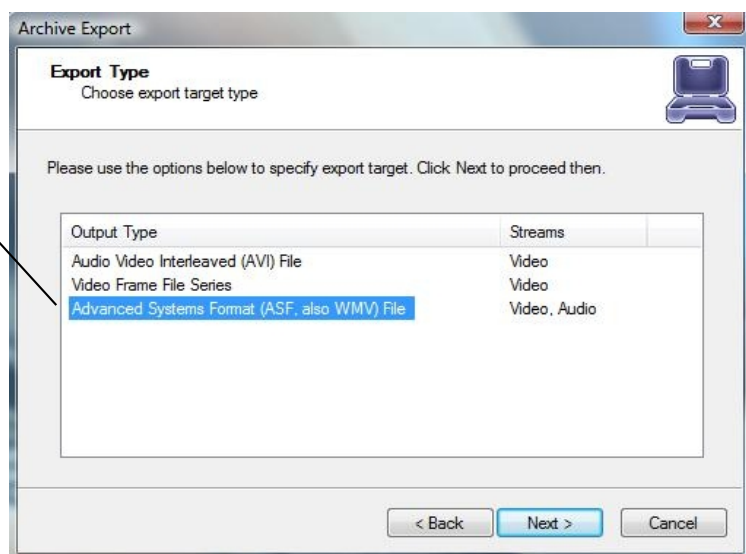
To export video, you first have to select the section of recordings that you want to export to a different location (This will also prevent it from getting overwritten). To select video

Click on Edit at the top of the playback screen

Click on Export Wizard



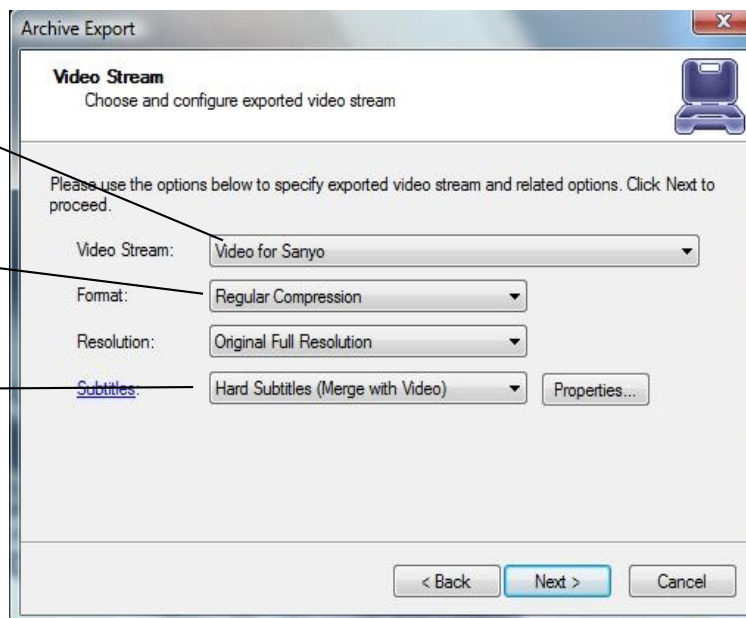
Video + Audio export available only for ASF and WMV formats.



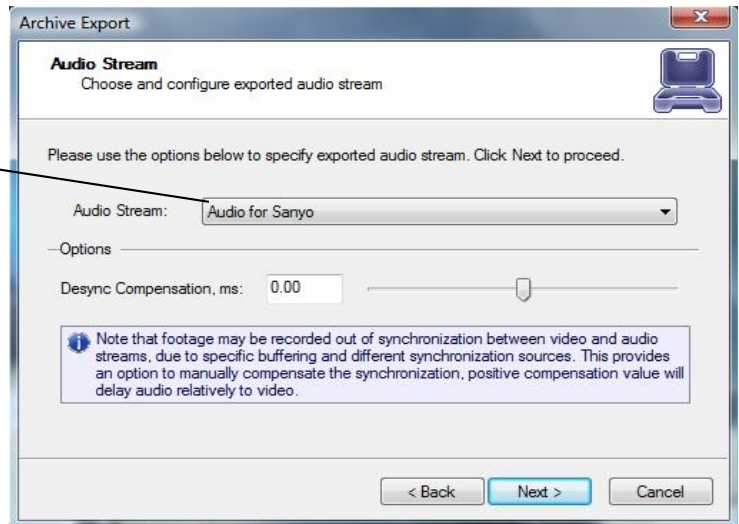
Choose which camera to export.

Choose compression.

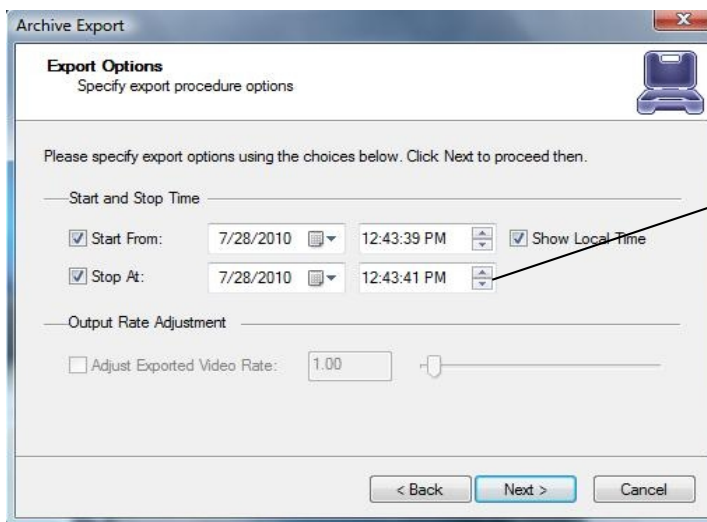
Choose subtitles.



Choose which Audio stream you want to export along with video.



Click next.



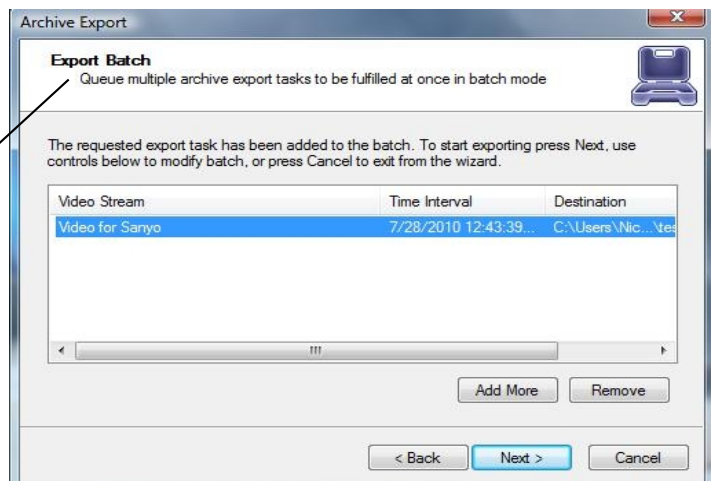
Select the start and finish times of the video clip that you want to export.

The Wizard will guide to the next step for you do designate to which drive or folder to save the export video.

Note: To play back the Luxriot AVI file, a codec (a small executable file) will have to be installed in order for your media player to recognize the Luxriot video file. The codec can be downloaded from <http://www.Luxriot.com/downloads.html>

Export Batch

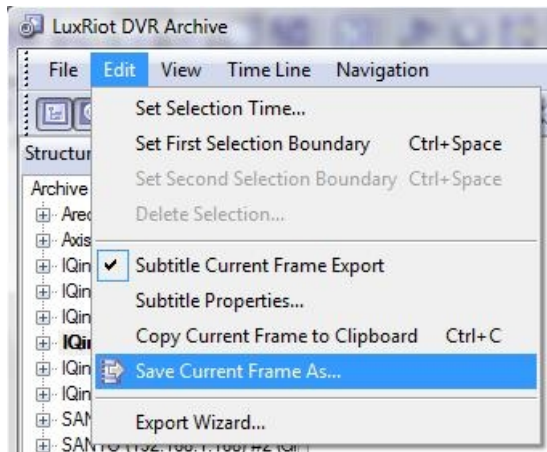
set all necessary parameters and before start export, the wizard shows you the Export Batch window. The export Batch Window allows you add multiple export tasks.



Export Snapshots

Another way to export video is to save one frame at a time, like a snapshot.

First pause the video on the picture that you would like to copy,
Click on edit
Choose “save current frame as...”
Pick a location and file name for your image and
Click save.

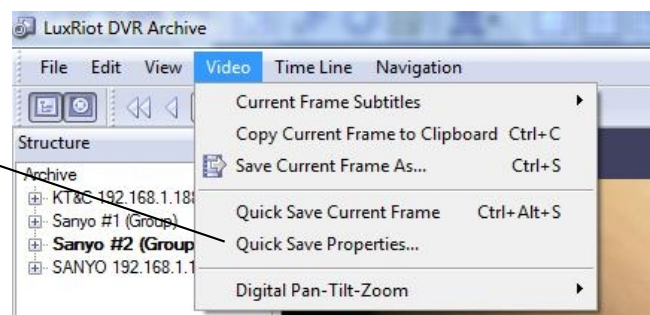


Now you will have the image stored so that you can print, e-mail, or enhance that snapshot.

Quick snapshot save and current visible frame save

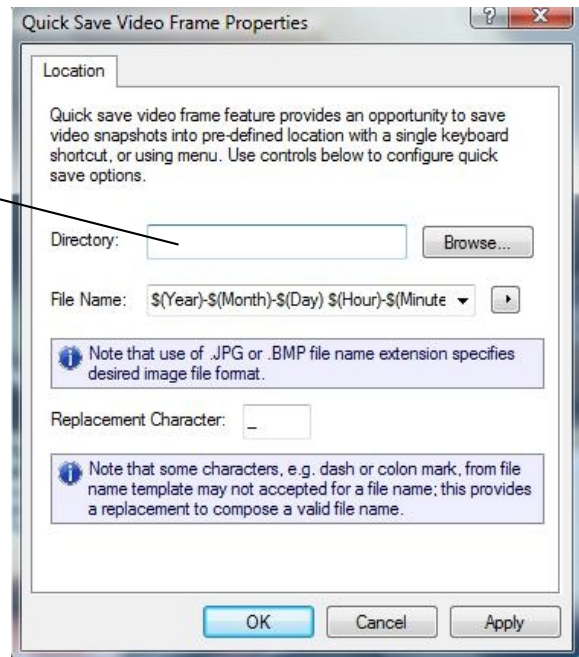
The Quick save feature provides you the option to quick save video snapshot to a pre-define location with a single keyboard shortcut.

Prior using the “quick save current frame” the Quick save properties must be configured to pre-define the save location.

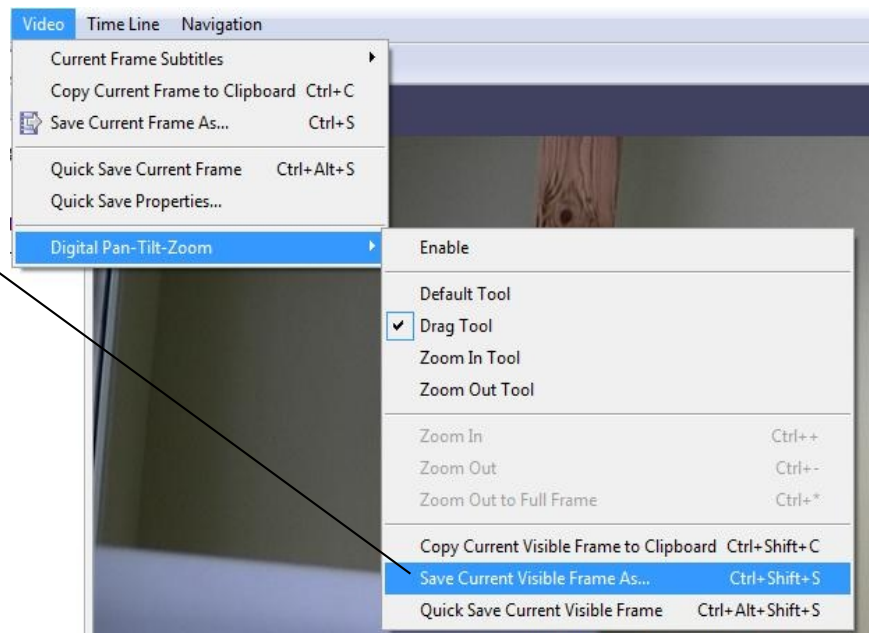


Setup preferred directory for saving the snapshots.

Quick snapshot can be saved by menu or short keys



The same procedure applies for Digital PTZ visible Frame.



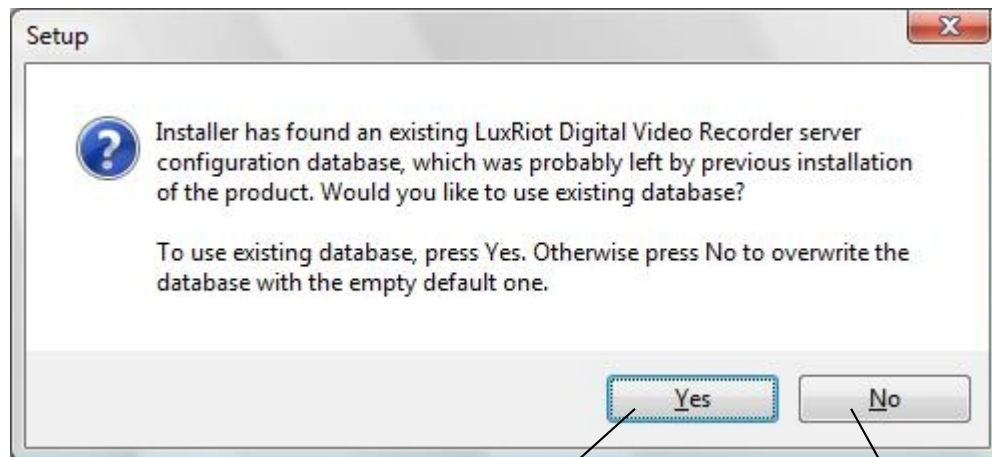
End of Export Video

Chapter 7

Upgrading Luxriot software to a newer Version

To check for upgrades and new free versions you can always visit www.Luxriot.com.

Updating the software requires all VMS services to stop before Installation (see page 17-18). During the installation of the new version you will encounter the following message:



Recommended

To keep all current configurations of your server

To start a new database. By doing that all previous settings and configurations will be erased and a new database will be created.

After the above step you can continue with the installation. See Chapter 2

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Date Of Purchase:

Purchase Location:

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Dates Software Last Upgraded:

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