Installation Chapter

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[1] While Cathexis has made every effort to ensure the accuracy of this document, there is no guarantee of accuracy, neither explicit, nor implied.
Specifications are subject to change without notice.

1 Getting started with CatVision

Installation of any CatVision software is simple. It requires one installation file for the NVR and one file for the Client. This is because our software works on a licensing format, so you install the whole package, and unlock features, using licenses.

This makes for a very dynamic environment where you can add abilities (such as integrations) by simply updating your license.

The purpose of this chapter is to take you through the initial steps of getting started. These are:

- Installing **catVision NVR**, and possibly the **CatVision Client**
- Getting **licensed**
- Creating your site with the **Enterprise Manager**

Note: While you need to install the NVR, and Client software on their respective units, an administrator can make all relevant changes via either software. I.e. he can make changes to the site from a client, or NVR unit.

2 Minimum Requirements

The Cathexis CatVision software architecture is designed to utilise the various hardware system components with maximum efficiency.

When choosing hardware for your solutions there are many system issues to be taken into consideration. Some examples are:

- **Camera resolution.**
- **Camera bitrates** for recording.
- **Camera Frame rates** and resolution for "live" viewing.
- **Video Analytics**: Are you using the I.P camera, or the Cathexis software to perform Video analytics?
- Whether you are viewing cameras "**live**" from the same server on which you are recording.
- Whether you are streaming "**multicast**" video streams from the camera.
- **Storage** methodology (on-board, Network Storage etc.).

Below are some guidelines which will assist you in choosing the hardware for your application. If you would like assistance with your design, contact your distributor, a Cathexis regional office, or complete the System Design Form and submit it to Cathexis and we will assist you.

System Design Form

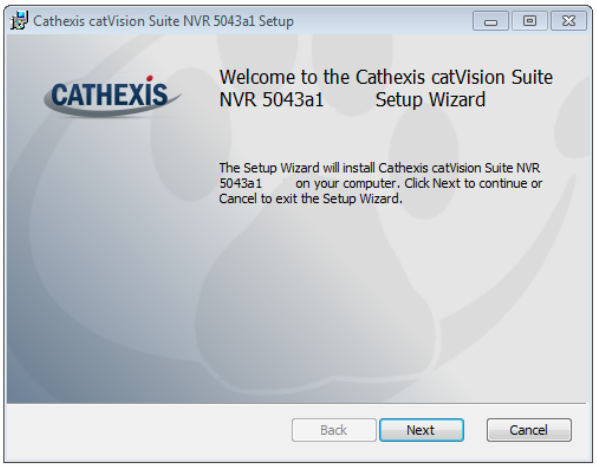
Cathexis CatVision System Requirements Guidelines:

Processor	RAM	Operating system	Recording camera bitrate (Mb/s)	Live View MegaPixels/sec
Core i3	4GB	Windows 7-64bit	Less than 100Mb/s	< 100 MP/s
Core i5	8GB	Windows 7-64bit	Less than 150Mb/s	< 300 MP/s
Core i7	8GB	Windows 7-64bit	Less than 180Mb/s	< 600 MP/s

3 Installation

Installation is simple, and intuitive. Double click the installation file (.msi) to run the setup wizard.

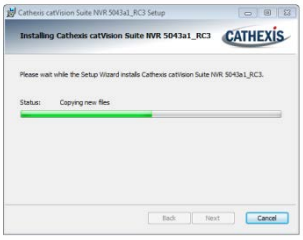
a. Follow the installation wizard



Accept the license agreement

Choose the installation folder (this is best left as it is.)

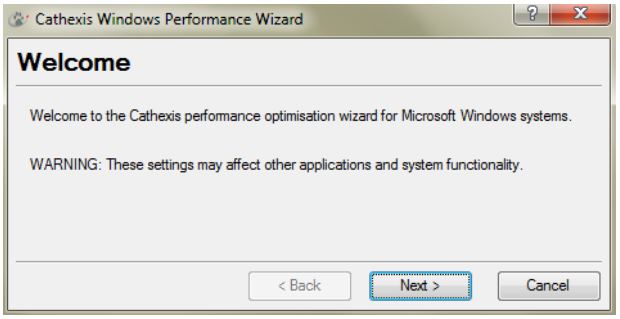
Click install



Click finish to complete the installation

b. Cathexis Windows Performance Wizard

You should leave the Launch Performance Wizard box ticked. The Performance Wizard optimizes several Windows system settings for the use of Cathexis software. While it should be run immediately, it may be run any time after installation.



The installer will show the current state of each setting. It presents the following options:

- DisableDOS 8.3 filenames on NTFS partitions. This is a required setting for using the database engine. (Required)

- Disable the Last Access timestamp on NTFS partitions. This provides a small performance gain when accessing large volumes of files. (Recommended)

- Enable the High Performance power management scheme. This adjusts power settings to allow the best performance of the system. (Recommended)

- Disable the Windows Defender service. This isn't required but provides a small performance gain over a secured system. (Optional)

- Disable the Windows Search Indexing service. Provides a significant performance gain by preventing background indexing of the file system. (Recommended)

- Disable the Windows Desktop Manager Service. Will disable the Aero desktop and appearance enhancements to reduce graphics system load. (Optional)

c. Finish Installation

Once you have finished with the Performance Wizard, and clicked finish, you have completed your installation. If you have any client stations, you may wish to install the CatVision Client software on them.

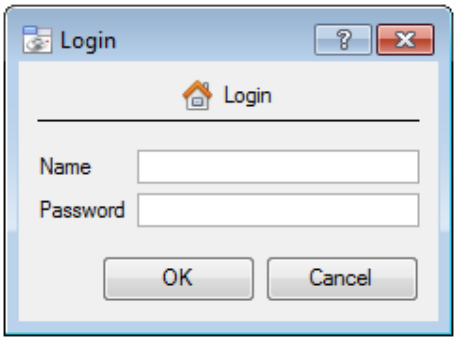
4 Licensing

Before proceeding, the licenses for the unit need to be applied to the software. The mode of licensing will depend on whether you have access to the internet, and how you purchased the software. You may be licensing from a remote unit, or from the local unit (the unit you are working on). This section provides a guide for each situation.

a. Licensing from the Local Unit

Note: The following instructions describe the process for licensing the unit that you are currently physically working on. To license a remote unit, see the next section (4b Licensing From a Remote Unit).

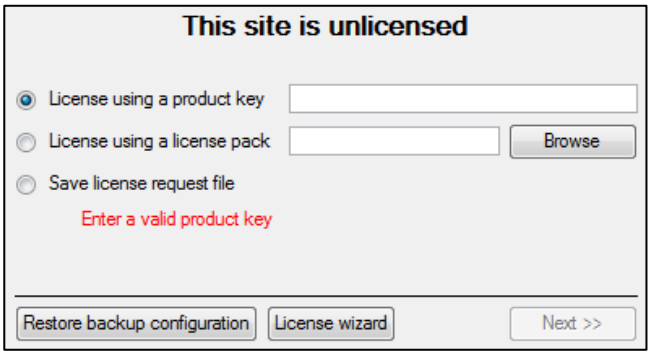
- ***Log in***



The default login details:
Username: admin
Password: admin

Note: The default Username/Password for NetBSD servers and all pre-CatVision 2014 Windows/Fedora systems will be dvs/dvs.

Once you have logged in you should be presented with the following images. The splash on the left will be superimposed over the dialogue on the right.



You may now license your unit via one of the following steps:

Trial License

To activate a trial license, simply copy and paste the product key from your trial license pdf.

Internet Connection on the Unit

If you have access to the internet, and your vendor supplied you with a product key, enter the product key. The system will connect to the on-line licensing system and complete the process for you.

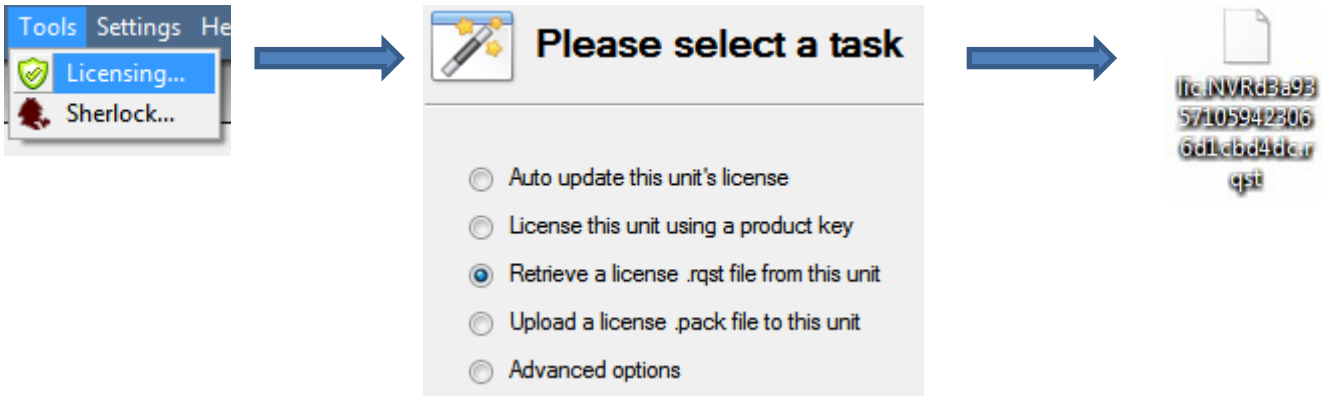
No Internet Connection on the Unit

If you have no internet connection on the unit that you are licensing from, then you will need to upload a .pack file. A pack file is a file that contains all the licensing information for a unit.

To get a .pack file from support@cat.co.za there are two steps. First you must save a .rqst (request) file, from the unit you are licensing, and email this to support, along with the information relevant to the licenses you wish to add to this unit. Support will then respond with a .pack file, containing the licenses, which you will then upload to that unit.

- ***Save a licence request file to a USB key/cd***

A .rqst file must be retrieved from the unit that you wish to license.



Email this .rqst file to support, along with the information relevant to the licenses you wish to add to this unit.

- ***Upload the .pack file to your unit***

Your site should now be licensed. For further assistance you can contact support@cat.co.za.

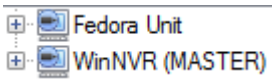
b. Licensing From a Remote Unit

When you are licencing from a remote unit (i.e. the unit you are working on, is not the unit you are licencing) the procedure is different. This is because when you click **Tools —> Licensing** this will license the unit you are currently logged in on.

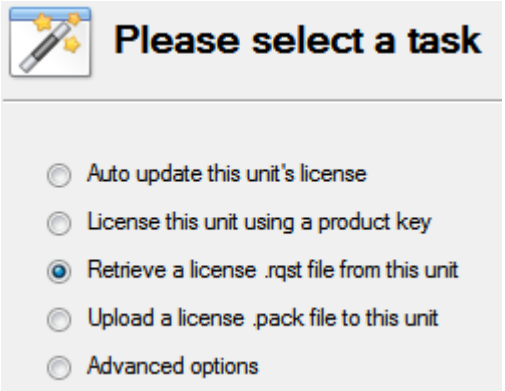
Open Configure Servers

To open **Configure Servers,** of the site that you are logged into, follow this path from the menu bar: **Site —> Open Tab —> Setup**.

Once in the setup tab click on the **Configure Servers** icon .



Once Configure Servers is open right click on the individual unit that you would like to license and select **Licencing** from the drop-down menu.



After this the licensing procedure is the same as if you had selected **Tools — Licensing** in the GUI of the local machine.

You will get the options that you see here on the left.
You may **Auto-update** if this unit has already been licensed, or use a **Product Key** if one was provided.
If you need to request a license you should follow the procedure detailed above in the 0 No Internet Connection on the Unit section.

Note: You will save the .rqst files, and upload .pack files, to storage media attached to the unit you are doing the licensing *from*, not the one that you are licensing.

5 Adding a Site

1. A site brings multiple NVRs under one software space, with one unit acting as a Master (the rest are considered Slaves).
2. Your connection to a site is via a site master unit. This is the address which you enter in the Enterprise Manager.
3. Connections to sites are added in the Enterprise Manager of the GUI.

Note:

- An NVR may not be a member of more than one site.
- When the CatVisionNVR software is installed, the unit is automatically added to its own site. Therefore, when you have a site located on a single, local unit, you do not have to add a new site.
- You add NVR units to a site. You add cameras, and Integrated Devices to the NVRs.

Important Concept

There are some important concepts about Sites that you need to understand.

- ***What Adding a Site Does***

It is important that you understand that, when you are adding a site in the Enterprise Manager (dealt with below) that you are not creating, or even editing a site. All you are doing here is **adding a connection to an already existing site**.

This means that the only information that is contained in the Enterprise Manager is the name of the site, and the information the software needs to connect to that site.

Note: All editions to the site (addition of units, editing of individual NVRs etc.) take place in under **Site Menu —> Open Tab —> Setup —> Servers**.)

- ***What is a Master Unit***

The master unit is the resource database for the site. It contains all the information relevant to the resources of that site.

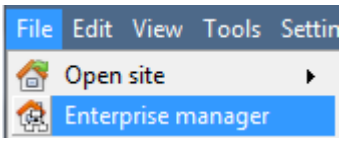
Note:

- Any server that forms part of the site can become a Master by assigning it the same IP address as the Master. This is because an exact copy of the site resource information gets stored on each server. This will help with failover if/when the Master Unit goes down.
- The first unit you add to a new site, will be considered the site Master. To make another unit the site master you will need to change the IP addresses of the units. (I.e. change the new masters IP address to that of the old master unit.)

a. Open the Enterprise Manager

CatVision site management collects multiple units together as a *Site*.

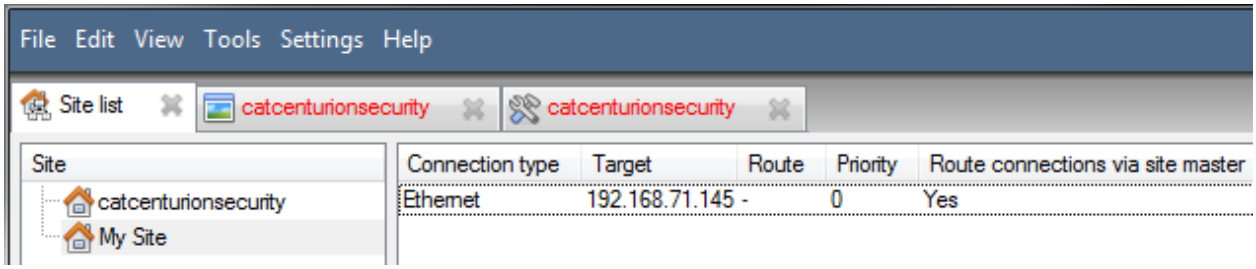
In order to setup your site you need to open CatVision. Login (with an administrator's password, if you are prompted), and open the Enterprise Manager.



Follow the path **File —> Enterprise Manager**. This will open a tab entitled **Site List**.

This is the tab where you add, and manage, sites.

b. Create Sites, and Organise them into Folders

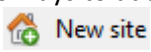


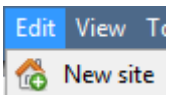
The Site List is in the panel on the left, in the above image. When you click on a site you will see the sites connection details displayed in the panel on the right. There are three steps when adding a new connection to a new site:

1. Add a Site Name
2. Add a connection to that site
3. Fetch the ID of that site

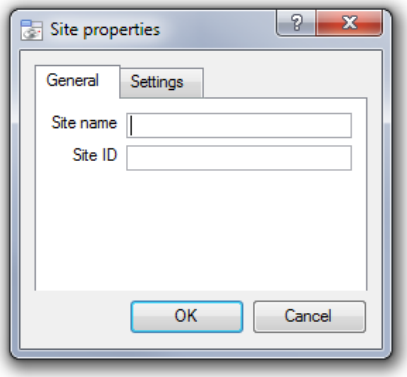
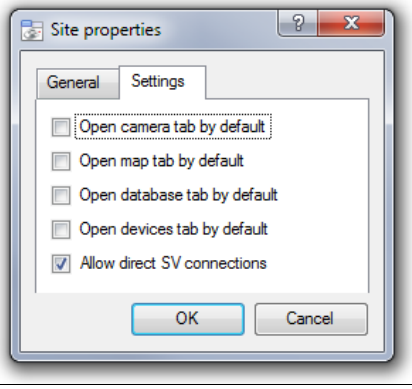
Add a Site Name

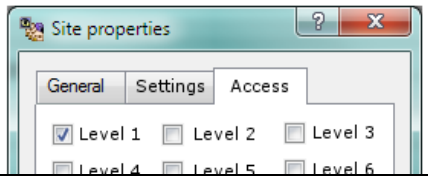
Here you are adding the name of the site to your Site List. There are two ways to add a new site.

- Right click on any whitespace in the **Site** name panel, and click 

. The Site Properties menu will pop-up. Or,
- In the Menu Bar, click on **Edit—>Add Site**. 

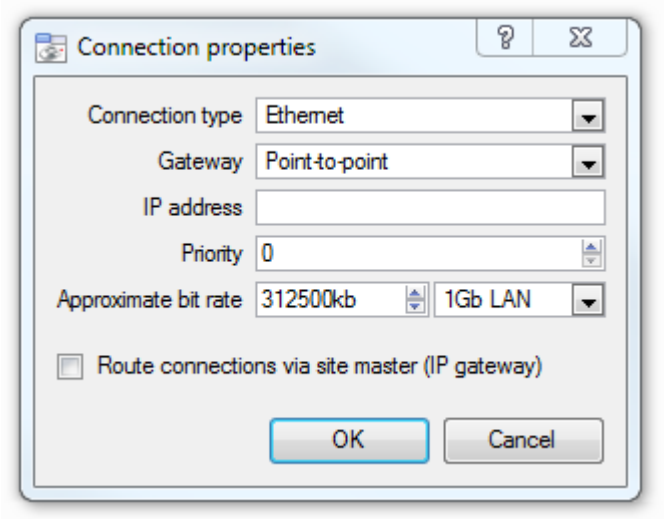
This will bring up the *Site Properties* menu.

	Under **General** Give the site a descriptive name Leave *Site ID* blank for now, this will be Fetched after we have added a site connection.
	Under **Settings**, you choose what tabs open when a site is opened (Cameras, Maps, Database etc.) and whether or not to enable *Direct SV connections*. Direct SV connections relates to streaming video to Video Wall

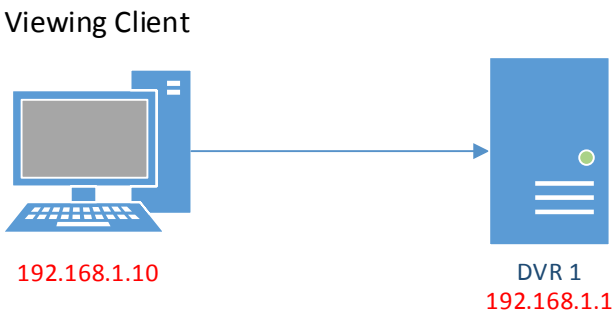
	If your site is connected to a Gateway, you will have the **Access** tab. Here you must specify Gateway User Levels

Add a Connection to Your Site

Here you are adding the information needed to connect your client to the master unit of your site. Select your Site, then right-click in the right hand panel, where you will see a column entitled *Connection Type*. Click on New connection. This will bring up the Connection Properties menu:



Note: you are **not** creating or editing a site here. You are adding the connection to the master unit of an **already existing site**.

Connection Type	The connections medium that you use to connect your site.
Gateway	**Point to point** refers to a direct network connection where the viewing station has a direct connection to the recording unit/s or site. **Note**: the switches have been left out of the images for simplicities sake.  A **Capture Station Gateway** is a recording unit used to forward incoming network traffic to other recording units. The recording units would normally form part of a dedicated CCTV network. The capture station gateway unit normally has two network interface cards, or one network interface card for the local CCTV network and a dialup or WAN connection. See example below: So in the above example the viewing client connects to DVR2. He or she would need to use 10.0.0.254 as the via IP address, and 192.168.1.2 as the target IP address.

	In other words the **target** is the unit you wish to reach, and the **via** unit is your entry-point to the site network.
IP Address	This is simply the IP address of the master unit
Priority	When you have multiple possible methods to access a site you can add these methods as separate individual connections. In the image you will see two connections. A connection with a Local address (192…), and another one with a dyndns address. These both direct the client to the same site. The 192… address is accessible only via the LAN, and the dnydns gives access from outside of the LAN (over the internet, for instance). Connection type | Target | Route | Priority | Route connections via site master Ethernet | 192.168.XX.XX | - | 1 | No Ethernet | YourSitesName.dyndns.org | - | 0 | Yes The Priority determines the order that the client will attempt to make a connection via. **The higher the number the higher the priority**. (The connection with a priority of 1 will be tried before the connection with a 0 priority.) This way you can queue up connection methods without having to select them yourself each time you connect, and be assured that the higher quality connection will always be prioritised.
Approximate BitRate	Here you approximate the connection speed you anticipate. **Note**: if you set it to a low quality setting then the site will select a low quality feed by default, for streaming video.
Route Connections via site master (IP Gateway)	Enable this tick box if you need to make a connection to Site A from outside the local Network. The router also needs to be configured to route the inbound client connection to the Site Master DVR unit. This is to ensure that the client software makes a direct site master connection via the Internet or ADSL IP address. Site A Local Network Viewing Client Internet ADSL Router DVR 1 192.168.1.1 DVR 2 192.168.1.2

Connection Type	Gateway	Information required
Ethernet	Point-to-Point	- Target DSS IP Address - Ethernet specs (Is it Internet, WAN, 10Mb LAN, 100 Mb LAN, or 1 Gb LAN?) - IP gateway connection mechanism (if necessary - refer to IT dept.)

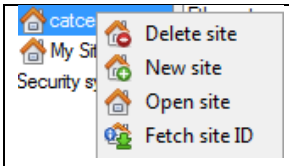
	Capture Station Gateway	- Target DSS IP Address - Target Gateway IP Address - Ethernet specs (Is it Internet, WAN, 10Mb LAN, 100 Mb LAN, or 1 Gb LAN?) - IP gateway connection mechanism (if necessary - refer to IT dept.)
PSTN modem	Point-to-Point	- Telephone number of the modem
	Capture Station Gateway	- Target DSS IP Address - Telephone number of the PSTN modem / Gateway
ISDN modem	Point-to-Point	- Telephone number of the ISDN modem / DSS - ISDN specs (Any ISDN, Multitech MLPPP, or TLPro128K)
	Capture Station Gateway	- Target DSS IP Address - Telephone number of the modem / Gateway - ISDN specs (Any ISDN, Multitech MLPPP, or TLPro128K)

- ***Cathexis ports***

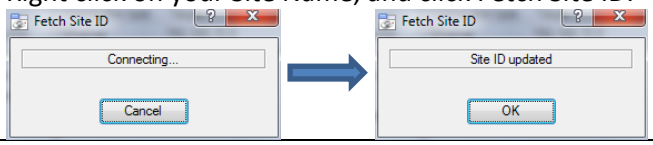
These are the ports that need to be opened for all CatVision support and services to run.

Operational Ports	TCP/UDP
80	TCP
3306	TCP
30010-30100	TCP
5435	TCP
Maintenance Ports	
1194	UDP
20-23	TCP
25	TCP
465	TCP

Fetch Site ID

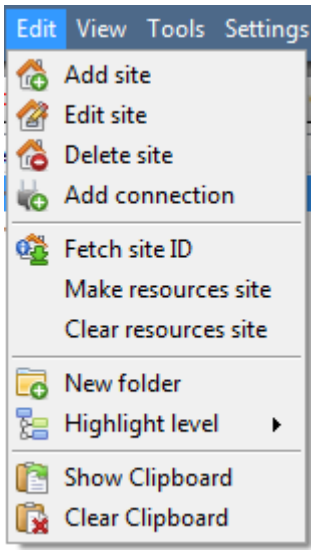


Right click on your Site Name, and click Fetch Site ID:



This will serve to both test your connection, and retrieve important information about your site from the master unit of that site. Once you have done this you should be able to connect to your site via **File —> Site —> YourSiteName**

6 The Site List 'Edit' Menu



When you open the Site List the 'Edit' option will appear in the menu bar.

You can achieve everything we have done so far (Adding a site etc.) via the Edit menu, as opposed to using the right click options.

There are a few options that we have not looked at in the initial addition stages, which represent changes that you can make to your site at a later stage. We can have a quick look at them now.

- ***Make, or Clear a Resources site.***

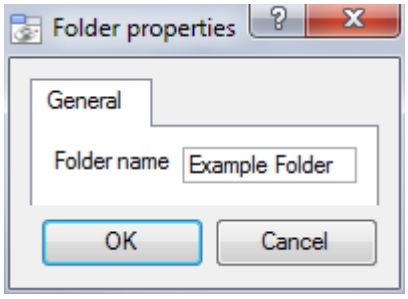
You may have a Video Wall attached to this site, and want the Control Room operators to have control over what the Video Wall screens display. You will need to make the site, on the units that will be controlling the Video Wall a resources site.

To give control select the relevant site, and click on Make Resources Site; to remove control click on Clear Resources Site.

Note: Control of the Video Wall will be via a Monitors Setup Tab that will appear in the CatVision GUI when the site is open. For more information about this consult the Monitors section of the Configure Servers document.

- ***New Folder***

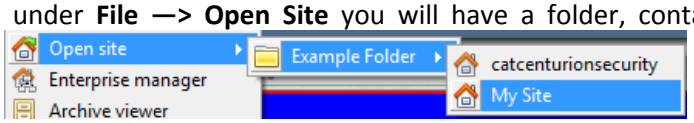
You can organise your sites into folders. This can be done by either right clicking in the site list area, or **Edit —> New Folder**. This will bring up the following box.



Enter a relevant name for the folder and click OK.

Once this has been done you can click-and-drag individual sites in/out of the folder.

Now, under **File —> Open Site** you will have a folder, containing your sites:



- ***Highlight Level***

Highlight Level is relevant to a site that has its **Alarms** sent via an **Alarm Management Gateway.** It will have an access property where only users with certain access rights are allowed to respond to certain sites.

This feature allows users to highlight only those sites that are accessible to certain levels.

Note: this will only highlight the sites in the Site List, in the Enterprise Manager.

7 Extra Considerations

a. Command Line Options

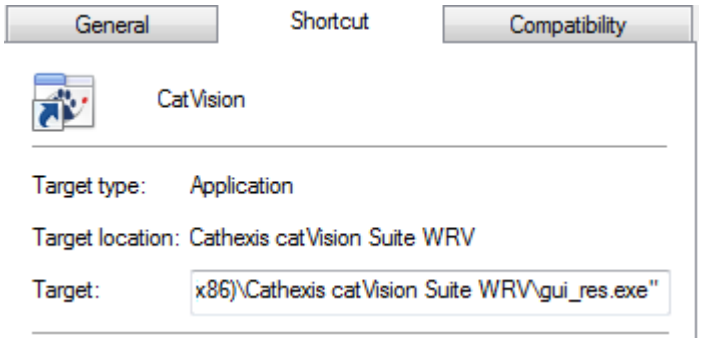
You may make adjustments to the way CatVision opens by editing extra command line parameters.

Note:

1. This doesn't entail opening the software via the command line. You simply need to edit the shortcut that opens the software, and make changes to the *target* field of the shortcut.

Editing the shortcut

To change the Target information of a shortcut, you will need to right-click on it, and click on Properties.



Go to the end of the line in the Target field.

Make sure to start typing after the " at the end of the line.

Note: remember to leave a space between the " and the first letter of your additional commands, and to leave a space between added commands.

E.g. gui_res.exe" gw 192.168.

Note: When you update the software these editions to the shortcut target will be overwritten when the new shortcut is created. You will need to re-add them, so it is advisable to copy any added commands to a text document and save if for after the update.

- ***Set Font Size***

If you want to modify the font size of the software then enter the following text at the end of the Target line:
`font_size x`
Where x represents the font size that you require.

- ***Set Number of Forms***

If you have multiple screens attached to your unit, and want CatVision to open a window on each of these screens, then you will need to indicate this by entering the following text at the end of the Target line:
`forms x`
Where x is the number of screens you want to open CatVision on.

- ***Connect to a Gateway***

If you are going to use this unit to connect to an Alarm Management Gateway, then you will need to append the following text to the Target line:
`gw a.b.c.d`
Where a.b.c.d is the IP Address of the gateway unit

b. Anti-Virus

There is no CatVision specific anti-virus, but if you do install an anti-virus there are some things to take into account.

Active, and Real-Time Scanning

If your anti-virus has active, or real-time, scanning then you will need to make sure that it excludes file transfer checks on the following folders:

1. C:\Program Files\Cathexis catVision Suite NVR
2. All folders, drives, and volumes where your database/s reside.