

ConteraVMS® Video Management Software



Console Management User Manual

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Server Software Requirements

OS Requirements

- Windows® 7 Professional 64-bit
- Windows 10 Professional 64-bit
- Windows Server® 2012/2016 64-bit

VM Requirements

Minimum: (up to 250mbps throughput)

- Hyper-V 5 (Windows Server 2012 R2)
- 2 cores with a reservation of 3GHz
- 8 GB virtual RAM
- Storage throughput equal to at least 125% of the Throughput determined by the ConteraSysCon™ System Configurator
- 1 GbE network connection
- Windows 7 64-bit or newer

Recommended: (up to 500mbps throughput)

- Hyper-V 6 (Windows Server 2016)
- 5 cores with a reservation of 3GHz
- 16 GB virtual RAM
- SAN or pass-through RAID5/10 storage
- 1 GbE network connection
- Windows 7 64-bit or newer

Server Hardware Requirements

- Intel® 5th, 6th or 7th Generation i3, i5, i7 or equivalent Xeon® (Intel only)
- 4–8 GB of memory based on channel count
- 1–2 GbE Network Adapters

Hardware Configuration Based on Channel Count

Channel Count	CPU	Memory	Multi-Drive Storage	Throughput
1–24	i3	4 GB	Single Drive	100 Mbps
25–64	i5	8 GB	JBOD	300 Mbps
65–80	i7	16 GB	JBOD	300 Mbps
81–96	i7	16 GB	JBOD	300 Mbps
97–128	i7	16 GB	RAID 5	400 Mbps

I/O Throughput for Server

- Single-drive 100Mbps
- Multi-drive JBOD 300Mbps
- 400Mbps with appropriate RAID card
- IP audio supporting G.711 codec at 64Kbits and AAC codec based on camera configuration

Concurrent Remote Connections

Professional	Premium	Standard
Unlimited**	5	3

** No restriction on number of connections, dependent on hardware capabilities and throughput requirements

Thin Client System Requirements

The Server can be accessed locally via the **Server Console** or remotely via the **Server Thin Client**. The Thin Client runs in a **HTML5** environment, making it compatible with a wide range of browsers and without additional software installation. **Google® Chrome™** is the recommended browser for this application.

Thin Client	Thin Client Details
Minimum Requirements	<ul style="list-style-type: none"> • 64-bit Windows 7, 8.1 or 10 with DirectX® support • 6th Generation Intel® Dual Core™ i3 processor (or equivalent) • Intel HD630 Video • 8 GB system memory • 1366 x 768 minimum display resolution • Latest versions of Google Chrome, Mozilla® Firefox®, Apple® Safari®, Microsoft® Edge, Microsoft Internet Explorer® 11 web browser • Broadband internet connection (25 Mb/s download, 5 Mb/s upload)
Recommended Requirements	<ul style="list-style-type: none"> • 64-bit Windows® 7, 8.1 or 10 with DirectX support • 6th Generation Intel® Quad Core™ i7 (or equivalent) • AMD® Radeon® RX590 • 8 GB system memory • 1920 x 1080 (1080p) optimal display resolution • Latest versions of Google Chrome, Mozilla Firefox, Apple Safari, Microsoft Edge, Microsoft Internet Explorer 11 web browser • Broadband internet connection (25 Mb/s download, 8 Mb/s upload or better)



NOTE - 4K monitor resolutions are currently supported in the Web Client and Console if the hardware supports it.

Thin Client Average Bandwidth Usage

Average bandwidth usage based on D1/4MP, 6,000Kbps, 15 IPS, 15 GOP IP Cameras		
Channel Count	Live & Search SD Playback	Live & Search HD Playback
Single Channel	500 Kbps	5 Mbps
4 Channel Grid	2 Mbps	Not Applicable
9 Channel Grid	5 Mbps	Not Applicable
16 Channel Grid	8 Mbps	Not Applicable

Thin Client Live View Support

Live View Support	1 Channel	4 Channel	9 Channel	16 Channel
Google Chrome	X	X	X	X
Microsoft Edge	X	X		
Microsoft IE11	X	X		
Mozilla Firefox	X	X	X	
Apple Safari	X	X	X	X

Server Software

Installation and Setup



NOTE - Server software setup can be performed through the Server recorder console or through the web browser Thin Client.

Default Administrator Username/Password

When Server is launched, you will be prompted to login. The default Administrator username and password are listed below.



NOTE - Once registered to Web Services (ConteraWS®), your ConteraWS credentials can be used to log in, in addition to the default credentials listed below.

Server and Linux System Log In:

Username: admin

Password: 1234

Windows System Log In:

Administrative User:

Username: NVRAdmin

Password: dvr4321

Standard User:

Username: NVRUser

Password: (none)

Setup Wizard

The Setup Wizard can be accessed from both the thin client and the local console (Linux) and will guide you through a basic setup of your recorder. If you wish to make system changes after the initial setup process using the Setup Wizard, continue further through this manual.



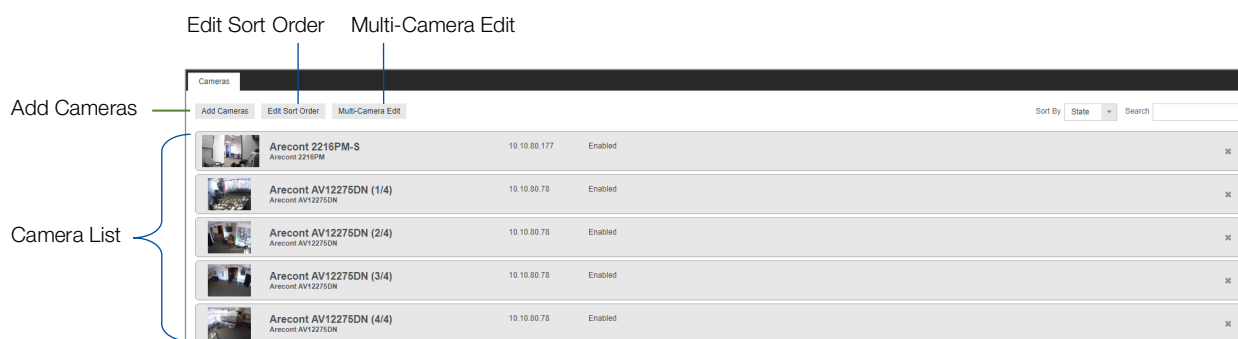
NOTE - The Setup Wizard will only run the first time the recorder boots up.

Setup Menu

General Configuration

Camera Management

Use Camera Management to perform basic and advanced camera functions.



Camera List – List of cameras currently connected to the selected recorder.

IP Address – The current IP address of the camera.

State – The current camera state.

- **Enabled:** The camera is enabled, active, and recording. **Disabled:** The camera is disabled, but previously recorded video is still available.

Add Camera – Add a camera(s) to the Camera List.

Advanced – Launches Network Camera Manager (Console only)

Edit Sort Order – Change the order the cameras will be displayed in local and remote clients.

Multi-Camera Edit – Delete cameras, update images, change recording types, and other options to multiple cameras at once.

Sort By – Sort the cameras in the camera list by IP Address, Model, or State.

Search – Search for a camera in the Camera List.

Add Cameras to a Recorder Using Discovery:

1. Click **Setup**.
2. Under the **General Configuration** section, click **Cameras**.
3. Click **Add Cameras**. The add camera menu will appear, and automatically discover supported cameras available on the physically connected network.
4. Check the appropriate boxes to select the camera(s) you wish to add.
5. Enter the appropriate credentials (username and password) for the cameras you wish to add, and then click **Add Selected Cameras**.



NOTE - Supported cameras will automatically populate the manufacturer's default username and password when possible.

Cameras								
Add Cameras								
The following is a list of available cameras that are not currently added to this recorder. Select the cameras you wish to add and type in a descriptive name so that they can be easily identified later.								
77 Cameras Found								
<input type="checkbox"/>	Name	IP Address	Subnet Mask	Static/DHCP	Enter Custom Name	Username	Password	
<input type="checkbox"/>	Arecont (AV2245PM)	10.10.75.2	255.255.255.0	STATIC	Arecont AV2245PM (3c7fe)	admin	[Enter Password]	
<input type="checkbox"/>	Arecont (AV20375RS) (1/4)	10.10.75.3	255.255.255.0	STATIC	Arecont AV20375RS (71289) (1/4)	admin	[Enter Password]	
<input type="checkbox"/>	Arecont (AV20375RS) (2/4)	10.10.75.3	255.255.255.0	STATIC	Arecont AV20375RS (71289) (2/4)	admin	[Enter Password]	
<input type="checkbox"/>	Arecont (AV20375RS) (3/4)	10.10.75.3	255.255.255.0	STATIC	Arecont AV20375RS (71289) (3/4)	admin	[Enter Password]	
<input type="checkbox"/>	Arecont (AV20375RS) (4/4)	10.10.75.3	255.255.255.0	STATIC	Arecont AV20375RS (71289) (4/4)	admin	[Enter Password]	
<input type="checkbox"/>	Arecont (AV122MV)	10.10.75.19		STATIC	Arecont AV122MV (7152c)	admin	[Enter Password]	

Manually Add a Camera – enter camera information manually to add it to the Camera List.

Refresh – refresh the camera list to reflect changes.

Add Selected Cameras – add the cameras selected from the Add Camera list to the Camera tab.

Cameras								
Add Cameras								
The following is a list of available cameras that are not currently added to this recorder. Select the cameras you wish to add and type in a descriptive name so that they can be easily identified later.								
77 Cameras Found								
<input type="checkbox"/>	Name	IP Address	Subnet Mask	Static/DHCP	Enter Custom Name	Username	Password	
<input type="checkbox"/>	Arecont (AV2245PM)	10.10.75.2	255.255.255.0	STATIC	Arecont AV2245PM (3c7fe)	admin	[Enter Password]	
<input checked="" type="checkbox"/>	Arecont (AV20375RS) (1/4)	10.10.75.3	255.255.255.0	STATIC	Arecont AV20375RS (71289) (1/4)	admin	[Enter Password]	
<input checked="" type="checkbox"/>	Arecont (AV20375RS) (2/4)	10.10.75.3	255.255.255.0	STATIC	Arecont AV20375RS (71289) (2/4)	admin	[Enter Password]	
<input checked="" type="checkbox"/>	Arecont (AV20375RS) (3/4)	10.10.75.3	255.255.255.0	STATIC	Arecont AV20375RS (71289) (3/4)	admin	[Enter Password]	
<input checked="" type="checkbox"/>	Arecont (AV20375RS) (4/4)	10.10.75.3	255.255.255.0	STATIC	Arecont AV20375RS (71289) (4/4)	admin	[Enter Password]	
<input type="checkbox"/>	Arecont (AV122MV)	10.10.75.19		STATIC	Arecont AV122MV (7152c)	admin	[Enter Password]	

Camera Name – the make and model of the camera.

IP Address – the IP address of the camera.

Enter Custom Name – enter a custom name for the camera to make it more easily identifiable.

Username/Password – the necessary credentials to access the camera.

Encoder Listings

Cameras

Add Cameras

The following is a list of available cameras that are not currently added to this recorder. Select the cameras you wish to add and type in a descriptive name so that they can be easily identified later.

<input type="checkbox"/>	Name	IP Address	Enter Custom Name	Username	Password	
		10.0.20.70	Enter a username and password to display a list of cameras connected to this encoder →	admin	****	✓
<input type="checkbox"/>	CM-816	10.0.30.151	CM-816 (d8e76)	admin	****	🔒
<input type="checkbox"/>	OE-C7032-WR	10.0.30.158	OE-C7032-WR (bbdf7)	admin	****	✓
<input type="checkbox"/>	CM-611	10.0.30.159	CM-611 (f9df8)	admin	****	🔒
<input type="checkbox"/>	CM-711	10.0.30.163	CM-711 (cc2d8)	admin	****	✓
<input type="checkbox"/>						
<input type="checkbox"/>						
<input type="checkbox"/>						

NOTE - Server Camera Discovery will automatically discover an Encoder; however, an Encoder's channels are discovered separately. Channels will not be discovered unless an analog signal is plugged into the appropriate port.

Example: If channels 1-3 have an analog connection plugged into the video server, those channels will be discovered, but channels 4-16 will not.

Configuring an Encoder and its Channels:

1. On the Server console or in the Thin Client, click **Setup**.
2. For the Video Management Software (VMS), right-click the connected recorder and select **Select**.
3. Click **Add Cameras**.
4. Once the channels are authenticated, add a sensor(s) by checking the box on the left side of the Encoder, and then clicking **Add Selected Cameras** (channels).
5. Make the desired changes to the recording type, motion grids, etc.
6. Click **Save**.

NOTE - Server Camera Discovery will discover the Encoder showing the device model and same IP address for all analog inputs currently plugged in as individual channels in the sub table below the Encoder.

NOTE - If the Encoder channels did not authenticate automatically with the default username and password, enter the credentials manually or globally at the top of the camera discovery bar.

Camera Auto-Discovery

Arecont Vision cameras will automatically be discovered. Recorders automatically add cameras attached to the onboard Power over Ethernet (PoE) switch. Cameras not connected to the PoE switch will need to be configured via the **Add Camera** menu.

Some recorders automatically add cameras attached to the onboard BNC ports.

 **NOTE** - Automatic configuration (PnP) of cameras attached to the PoE switch can be disabled.

Add Cameras Manually

If you do not see the camera you wish to add in the Add Cameras list, you may need to add it manually.

1. Click **Setup**.
2. Under the **General Configuration**, click **Cameras**.
3. Click **Add Cameras** and then **Manually Add Camera**.
4. Enter the appropriate connection information to add the camera.
5. Click **Save** or **Save and Add New** to add another camera.

Cameras

Camera Details

Username

Protocol
RTSP

Manufacturer
Generic

Password

IP Address

Model

Port

Description

Camera Name	RTSP - High Quality	RTSP - Medium Quality	RTSP - Low Quality
Enter Camera Name	Enter URL	Enter URL	Enter URL

 **NOTE** - Cameras can be added using ONVIF or RTSP. If RTSP is selected, the stream URLs need to be input manually if a pre-defined camera manufactures RTSP is not listed. Consult your camera manufacturer's documentation for URL stream information.

Edit Cameras

To edit an existing camera in the Camera List:

1. Click the desired camera in the **Camera List**.
2. In the camera window, make the desired changes in the **General**, **Live / Recording**, **Image Settings**, **Motion**, **Fisheye**, **Audio** and **Related Cameras** tabs.
3. Click **Save** or **Apply**.



NOTE - Clicking the IP address link in the Camera Information section from the recorder console will connect you directly to the camera web interface for most 3rd party cameras.

Title – Customizable camera name, seen on the Camera List and in the Live Screen

State – Set the camera to Enabled or Disabled


Associate Camera – Select another camera to transfer camera information to in case of hardware failure or change in camera status

IP Address – Camera IP address

Username and Password – Credentials to access camera

Enable PTZ/Autofocus – Enable Pan, Tilt, Zoom (PTZ) capabilities or autofocus on supported cameras

Hidden Camera – Enable to allow only users with local hidden camera permissions to view this camera

 **NOTE** - Checking the hidden cameras check box for a specific camera will hide that channel to all users who do not have hidden camera permissions assigned to their account. You can access these settings under General Configuration>User Management>Users for local accounts or in Web Services User Management.

IP Address – Clicking the IP address in this setup window allows direct access to the cameras web setup.

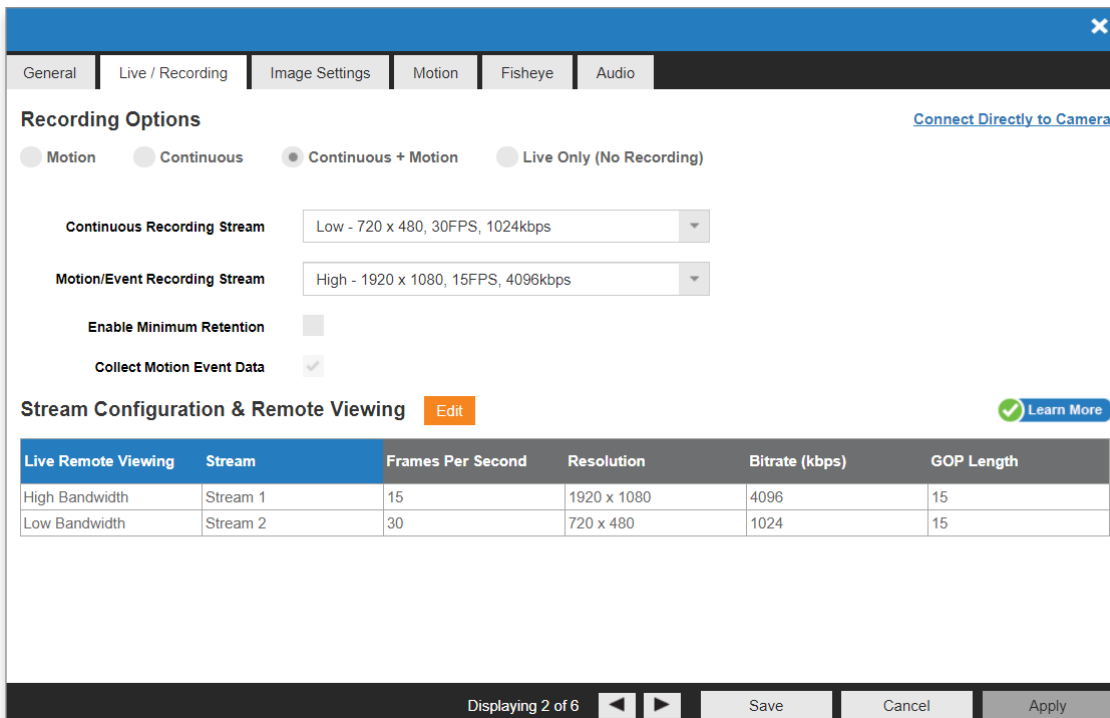
Model – Model of the IP camera or device

Integration ID – Integration ID is the channel number used in 3rd party integrations over the API

Update Image – Update the thumbnail image for this camera to the current live view

Live/Recording

The Live Recording tab displays Recording Options, which determines when and how the camera will record.



Recording Options [Connect Directly to Camera](#)

☐ Motion
 ☐ Continuous
 ☒ Continuous + Motion
 ☐ Live Only (No Recording)

Continuous Recording Stream Low - 720 x 480, 30FPS, 1024kbps

Motion/Event Recording Stream High - 1920 x 1080, 15FPS, 4096kbps

Enable Minimum Retention ☐

Collect Motion Event Data ☒

Stream Configuration & Remote Viewing [Edit](#) [Learn More](#)

Live Remote Viewing	Stream	Frames Per Second	Resolution	Bitrate (kbps)	GOP Length
High Bandwidth	Stream 1	15	1920 x 1080	4096	15
Low Bandwidth	Stream 2	30	720 x 480	1024	15

Displaying 2 of 6 ◀ ▶ Save Cancel Apply

Motion – Record only motion detected by motion thresholds

Continuous – Records video stream continuously

Continuous + Motion – Record one Continuous stream, and then records a Motion stream in addition when motion is detected

Live Only (No Recording) – Cameras display live video but do not record unless a macro is setup to record on motion or sensor events

Continuous Recording Stream – Stream continuously recorded at a lower resolution and/or frame rate when motion is not detected and Continuous + Motion recording option is selected

Motion/Event Recording Stream – Higher resolution and/or frame rate camera video stream used to record when motion or a sensor event is triggered

Enable Minimum Retention – This forces the recorder to save video for that camera stream for the number of days you specify. If you set it to 30 days and the recorder runs out of room, the Server will not delete data from that camera stream within the 30 day range, and instead delete more data from other streams. This range can be specified for each stream independently

Collect Motion Event Data – This function collects motion event data when recording in continuous and populates the events in search

Stream Configuration & Remote Viewing – This is where you designate what high, medium and low quality streams are. You can choose one of these as the recording stream, and the system automatically chooses the highest res stream under 720x576 (D1) to use for motion detection. These streams are also used as high, medium, and low quality streams in the live view



NOTE - If at least one resolution at 720x576 or below is not available, the following warning below will appear.



CAUTION! Server side motion detection is enabled on this camera and for performance reasons a video stream with a resolution between 720x576 and 352x240 is highly recommended. An optimal stream is not currently detected, but motion detection will still continue to function.

Image Settings

The Image Settings tab displays Picture Adjustment Settings and Exposure Settings. These settings have a direct correlation to the camera performance and recorded video quality. The settings displayed here are options made available through either the native Arecont Vision integration or the appropriate ONVIF drivers. Making changes to these settings will then push the changes to the camera.

Brightness – depth of light and shadow in the image*

Saturation – depth of color in the image*

Sharpness – manage image texture, particularly visible in dark scenes*

Contrast – difference between bright and dark areas of the image*

Hue – adjusts all of the colors of an image***

White Balance – preset colors corresponding to natural or artificial lighting for the most accurate color representation

Wide Dynamic Range – enhances details both in the foreground and background**

IR Function – activate the camera IR (infrared) lights if available, for use with night-time recording

Shutter – designate shutter speed. Longer shutter speed will increase visibility at night, but also result in blurred movement in the frame**

Rotate – Allows the camera to be flipped 90, 180 or 270 degrees

* This option can drastically affect the quality of recorded video. The default value is recommended.

**Using this option results in improved video quality but increases recorded video file size.

***Available only on analog cameras with certain recorders


Motion

To Configure Motion:

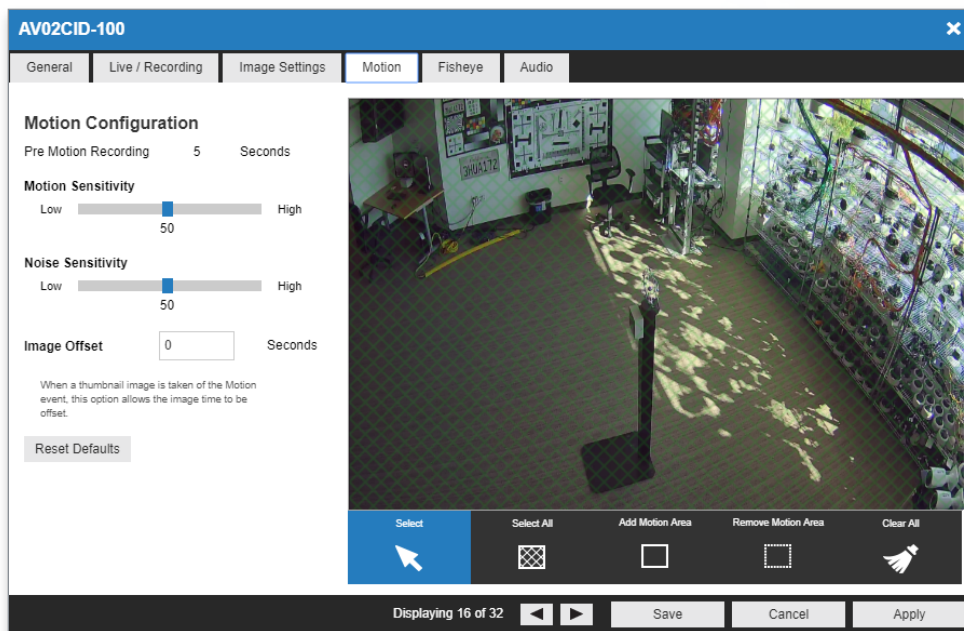
1. Click the desired camera in the **Camera List**.
2. Click the **Motion** tab.
3. Click **Add Motion Area**, and then click and drag the capture square to create the area.

 **NOTE** - By default, the entire camera will be configured as a motion area.

4. Continue modifying Motion Areas as desired.

 **NOTE** - Motion Areas can be subtracted to disable motion detection for specific areas of the video stream and motion grids can be drawn over each other.

5. Click **Save**.



Motion Sensitivity – Reduce or increase the sensitivity of motion detection.

Noise Sensitivity – Reduce or increase noise sensitivity detected on a camera.

Image Offset – Offset when an image is captured from a motion event

Reset Defaults – resets motion sensitivity and noise sensitivity back to default values

Select – Allows motion detection grids to be moved

Select All – Draws a full motion detection grid over the image

Add Motion Area – Draw individual motion detection grids

Remove Motion Area – Allows removal of motion detection grid areas within a grid

To Delete a Motion Area:

1. Click to select the desired **Motion Area**.
2. Press the **Delete** key on the keyboard.

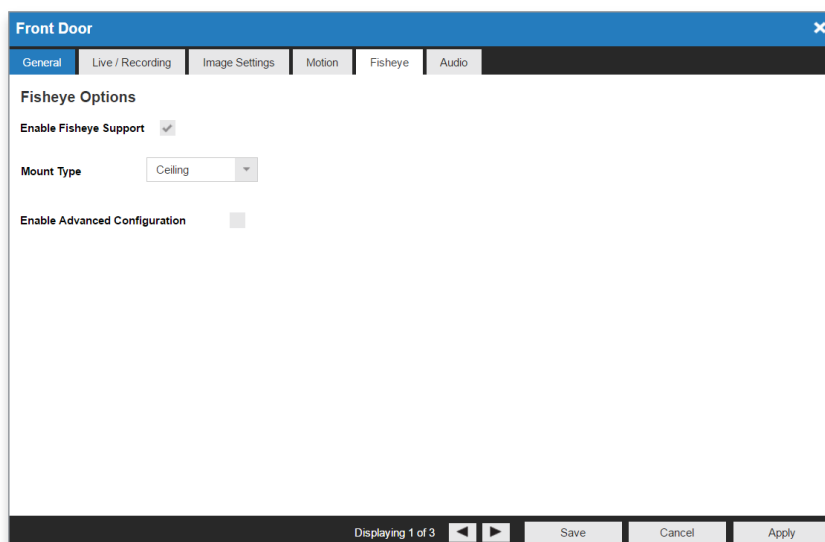
Fisheye

Fisheye Options:

Enable Fisheye Support – Enabling this function will enable 360 dewarping in the VMS software for this camera if supported

Mount Type – Change this setting to Wall or Ceiling based on installation of the camera

Enable Advanced Configuration – This option allows custom tuning of the center and diameter of dewarping done by the software




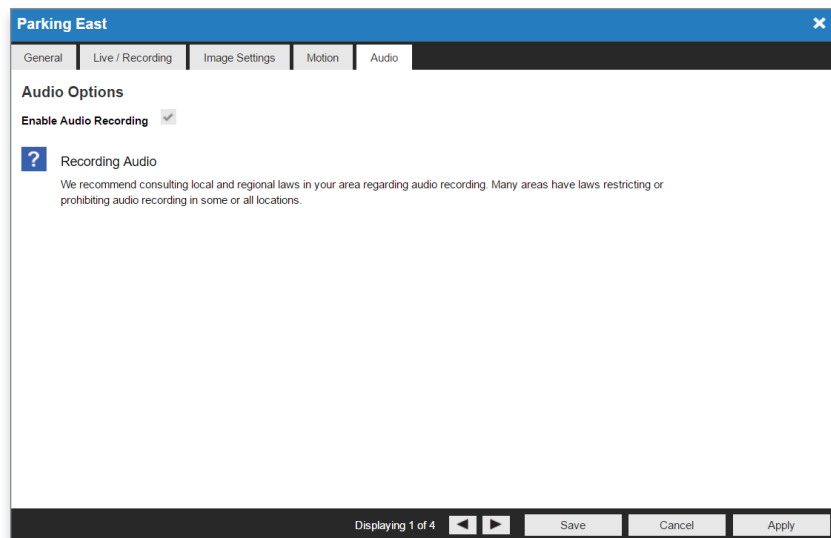
NOTE - Supported cameras typically have optimal settings by default and do not need to be modified with advanced configuration.

Audio

Audio Options:

1. Check **Enable Audio Recording** to enable audio recording on a specific IP camera.
2. Then click **Save** or **Apply**.

 **NOTE** - Audio must be enabled on the IP camera itself with the G.711 or AAC codec for the Server to record audio from the camera. Check the manufactures manual on how to enable audio on the IP camera.



 **NOTE** - We recommend consulting local and regional laws in your area regarding audio recording. Many areas have laws restricting or prohibiting audio recording in some or all locations.

Advanced Camera Management

Cameras set to static IP addresses may not be detected automatically. To configure supported cameras not automatically detected by Server software, follow the steps below.

Discovering Cameras with a Static IP Address (Console):

1. Click **Setup**, and then click **Cameras**.
2. Click **Advanced**.
3. Click **Refresh** in **Network Camera Manager**.
4. Note the discovered **IP address** for the desired camera.
5. Click **Exit** to return to Server software.
6. Follow the steps in the **Adding Cameras Manually** section, typing the **Static IP Address**.



NOTE - You can launch the Arecont Vision IP Utility in Windows to discover cameras by launching the AV icon on the local desktop or in the Start menu. The AV IP Utility is also available in Support Tools on ConteraCMR® Linux® recorders or download on the Arecont Vision website.

Configuring Cameras with DHCP (Linux):

1. Click **Setup**, and then click **Cameras**.
2. Click **Advanced**.
3. Click **Refresh** in **Network Camera Manager**.
4. Select your desired cameras, and **DHCP**, and then click **Apply**.
5. Click **Exit** to return to Server software.
6. Follow the steps in the **Adding Auto-Detected Cameras** section to add the camera.



NOTE - You can configure cameras with DHCP in Windows by launching the Arecont Vision IP Utility from the local desktop or in the Start menu. The AV IP Utility is also available in Support Tools on ConteraCMR Linux recorders or download on the Arecont Vision website.

Adding Third Party Cameras

Third party cameras may require installing a manufacturer camera discovery tool on a separate PC. Once the camera discovery tool is installed, follow the steps for adding a camera with a static IP address or using DHCP as outlined above. On Windows, some third-party camera manufacturer discovery tools are located in C:\Server\3rd Party Software.

Adding Cameras Not Supported by ONVIF

Single and multi-sensor cameras that are not ONVIF compliant must be added using the RTSP stream(s) of the camera. Consult the camera manual for more detailed information regarding RTSP streams. When you know the URL for the RTSP stream(s) of your camera, follow the steps in the *Adding Cameras Manually* section, selecting the RTSP protocol.

System Settings

General Settings

Language

Select the default language from the drop down and then click **Save**.

Time Settings (Linux)

Use the Time Settings section to make changes to the time zone, Network Time Protocol (NTP) server, or the time on the recorder. A Time Zone is required whether or not an NTP server is selected.

Network Time Protocol is a protocol used to synchronize time across a range of computers or recorders to within milliseconds of each other. All recorders should point to the same NTP server to achieve this synchronicity.

To Enable Use of a Network Time Protocol (NTP) Server:

1. Click **Setup**.
2. Click **System Settings** under **General Configuration**.
3. In the **General Settings** tab, check the **Use NTP** checkbox.
4. Enter the URL of the **NTP Server**.
5. Click **Save**.

 **NOTE** - Time settings and NTP are set in Windows and not through Server in the Windows version.

Export/Import Configuration

Export

This function exports configuration settings from this recorder to a file. This file can be imported later to restore the saved settings.

Export

Import

This function imports configuration settings from a file. This will modify the current configuration settings to match those in the file.

☒ **Complete Restore**
 Use this option when restoring to the same recorder or a replacement recorder.

☐ **Partial Restore**
 Use this option when using this configuration file as a template for other recorders. Unique Camera Identifiers will not be copied.

Select Import File **Import** **Cancel**

This function exports most configuration options on the recorder to a file. This file can then be imported as needed to restore the configuration options to the saved state. The Web Services account information is not exported and will therefore need to be manually configured upon import.


To Export Recorder Configuration Settings:

1. Click **Setup**.
2. Select **System Settings** under **General Configuration** and the **General Settings** tab.
3. Click the **Export** button.

 **NOTE** - The Thin Client default location to export the configuration settings .cfg file is the Downloads folder.

To Import Recorder Configuration Settings:

1. Click **Setup**.
2. Select **System Settings** under **General Configuration** and the **General Settings** tab.
3. Click **Complete** or **Partial Import**, and then click **Select Import File**.
4. Navigate to the desired file.
5. Click **Import**.

 **NOTE** - Imports / exports can be performed on the local console, Thin Client, and VMS Software. Console (Linux) exports will require an attached USB storage device.

Remote Assist Session

The Remote Assist Session enables a Technical Support agent to remotely control your recorder, allowing them to assist you with troubleshooting your system.

Remote Assist Session

This function enables technical support to temporarily take control of your recorder to assist with any issues. Once enabled, technical support will provide a connection code which will need to be entered below.

Remote Assist

☐ Enable
 ☒ Disable

Connection Code

Status
Remote Assist is currently disabled

1. Contact Arecont Vision Technical Support at **+1.818.937.0700** and select **option #1**.
2. Once you are connected with a Support agent, click **Enable**, and then enter the **Connection Code** give to you by the Support agent.



NOTE - When a Remote Assist Session is enabled and the session code is entered, the Support agent will have full remote access to your recorder.

3. Click **Connect**.

Console



Automatically log in to the live page



When the recorder is restarted, the console will automatically log in to the Live window. Users will have the ability to view live video and edit other settings that are typically available to all users in live but will be required to log in with a valid account to access Search or Setup.

Export Signing Certificate

Videos, archives and images exported from the Server have an embedded digital signature. This is used to validate that these items have not been tampered with.

To validate the files have not been tampered with, you will need the following:

- The image or video file you wish to validate
- The Arecont Vision Digital Signature Verifier (DSV)
- The Certificate Thumbprint from the recorder

-  **NOTE** - The DSV is a small utility that allows you to validate that the file has not been tampered with. This utility can be downloaded from arecontvision.com.
-  **NOTE** - The thumbprint is a value derived from the certificate that uniquely identifies it; specifically, it is a SHA-1 hash of the certificate. The DSV utility will attempt to verify the exported file, and then present one of two findings:
- Digital Signature Validated: the thumbnail for the recorder will match the thumbnail displayed for the validated file.
- OR:**
- Digital Signature Invalid: this indicates that the file does not contain a valid certificate.

Video Buffer Settings

These settings control buffering of video in the thin client. Some cameras require more buffering to play video smoothly. This increased buffering also increases latency.

Storage

The Storage tab displays all partitions or drives available for recording.

Drive 1 (WDC WD20EURS-63SPKY0 SCSI Disk Device)			(Serial # WD-WCC300987827)
Enable	Volume	Free Space to Leave on Drive	
<input checked="" type="checkbox"/>	D:	2.0 TB	Free Space: 10% 195.7 GB

Drive 2 (WDC WD30EURS-63SPKY0 SCSI Disk Device)			(Serial # WD-WCC1T1316089)
Enable	Volume	Free Space to Leave on Drive	
<input checked="" type="checkbox"/>	F:	3.0 TB	Free Space: 10% 300.1 GB

Drive 3 (WDC WD30EURS-73TLHY0 SCSI Disk Device)			(Serial # WD-WMC4N0154461)
Enable	Volume	Free Space to Leave on Drive	
<input checked="" type="checkbox"/>	G:	3.0 TB	Free Space: 10% 300.1 GB

Save **Cancel**

Adding Storage Space:

1. Click **Setup**.
2. Click **System Settings** under **General Configuration**, and then click the **Storage** tab.
3. Check any drive listed that Server should record to.
4. Click **Save**.

-  **NOTE** - Adding Storage Space only applies to select hardware models running Windows.

Disable Recording Drives:

1. Click **Setup**.
2. Click **System Settings** under **General Configuration**, and then click the **Storage** tab.
3. Uncheck the **Enable** checkbox to disable a specific Drive.
4. Click **Save**.

 **NOTE** - Server will leave 10% free space on a drive by default, it is not recommended to lower this setting below 10%.

Licensing

 **NOTE** - Your Server software will be preregistered from the factory and can pull licenses from the cloud if connected to the internet. The refresh button in licensing will check for any new licenses that have been added to the serial number of the recorder or software only install.

1. Click **Setup**, and then **System Settings** under the **General Configuration**.
2. Click the **Licensing** tab.
3. Click **Add New License**, and then follow the automatic registration on-screen instructions to add a new license.
 - a) In Manual registration, enter the **License Serial Number** and the **Unlock Code**, and then click **Next** to add a license.

Software Upgrade

By default, the Server will allow you to download and install updates direct from ConteraWS Web Services. Updates can also be performed manually via selected files or custom URLs.

Update via ConteraWS:

1. Click **Setup**, and then **System Settings** under **General Configuration**.
2. Click the **Software Upgrade** tab.
3. Click **Check for Update** link.
4. Click **Install** if an update is available.

 **NOTE** - The Server checks for updates on startup, every 6 hours or when the Check for Update link is clicked.

Update via Manually Selected File:

1. Click **SETUP**, and then **SYSTEM SETTINGS** under **General Configuration**.
2. Click the **Software Upgrade** tab.
3. Click **SHOW MORE OPTIONS**.
4. Click **Select File** then navigate to the location of the **.ssp** or **.exe** upgrade file.
5. Click **INSTALL**.

 **NOTE** - Do not leave this page until the update is complete

Update via Custom URL:

1. Click **Setup**, and then **System Settings** under **General Configuration**.
2. Click the **Software Upgrade** tab.
3. Click **Show More Options**.
4. Click **Specify URL**.
5. Specify the **URL** where the upgrade file is located.
6. Click **Install**.

 **NOTE** - Do not leave this page until the update is complete.

Network Configuration

Settings

The Settings tab allows for manual ping of an IP address, edit ports, proxy setup, auto-discovery and video streaming configuration.

The screenshot shows the 'Settings' tab selected in the top navigation bar. The page is divided into two main sections: 'Manually Ping Address' and 'Video Streaming'.

Manually Ping Address: This section includes a text input field for 'Check IP Address' and a 'Check' button. Below this is the 'Edit Ports' section, which contains two rows: 'HTTP Port' with a value of '80' and 'HTTPS Port' with a value of '443'. To the right of each port value is a note indicating the default range (1024-65534) and the default value (80 for HTTP, 443 for HTTPS).

Video Streaming: This section features a 'Transport Type' dropdown menu with 'TCP' selected and 'UDP' as an option.

Proxy: This section is titled 'Proxy' and includes a sub-header 'Apex Server can be configured to use a proxy.' It contains several fields: 'Enable Proxy' with radio buttons for 'Enable' and 'Disable' (selected), 'Proxy IP Address' with a text input field, 'Proxy Port' with a text input field containing '0', 'Authenticate with Proxy Server' with radio buttons for 'Enable' and 'Disable' (selected), 'Username' with a text input field, and 'Password' with a text input field.

Manually Ping Address

Gives the option to ping an IP address over the LAN or WAN.

Edit Ports

The ports used to connect to the recorder can be modified.

Proxy

The proxy can be enabled/disabled and configured.

To Enable a Proxy Server:

1. On the Server console or in the Thin Client, click **Setup**.
2. For VMS, right-click the connected recorder and select **Configure**.
3. Click **Network Configuration** in the menu, and then click the **Settings** tab.
4. At the bottom of the page, click **Enable** in the Proxy section.
5. Enter the **Proxy Address** and **Port Number** used by your network proxy server.
6. Click **Save**.

 **NOTE** - Proxy is HTTP 1.1 compliant.

Video Streaming

Designate the video streaming transport type for global IP network traffic: TPC or UDP.

Adapters

This tab displays the Client Network Interface Card (NIC) and Camera NICs available on Server recorders.


To Make Changes to a NIC (Linux Only):

1. Click **Setup**.
2. Click **Network Configuration** under **General Configuration**, and then click the **Adapters** tab.
3. Click the desired **NIC** and make any necessary changes.

 **NOTE** - The Client NIC must be set to static to manually choose an IP address.

There are 3 network paths used for communication on a NVR with built-in PoE.
(Only 2 on a recorder without built-in PoE.)

1. **The network port labeled “Client” in software and on the physical port.** This port is set to DHCP by default and intended to be used as the primary communication path to the internet, and for users connecting to the system for viewing video. If needed this port can be used to connect to cameras, but Arecont Vision recommends the Camera NIC be used for that whenever possible. This NIC can be set to a static address if needed.
2. **The network port labeled “Camera” in software and on the physical port.** This port is set to 192.168.51.1 / 255.255.255.0 (with no Gateway or DNS so the system does not try to use it to communicate to the internet). This port is intended to connect to cameras running on additional POE devices and/or on the customer's network. This NIC can be changed to a different static address, or set to DHCP if needed.

 **NOTE** - The camera port provides a great way for a field tech to install a recorder without ever needing a monitor, keyboard, or mouse. Set a laptop to 192.168.51.2 and direct connect an ethernet cable from the laptop to the Camera NIC. On the laptop, type in the Camera NIC address in a web browser to gain full access to the recorder to configure cameras and join the recorders to the appropriate ConteraWS account

Additional Network Settings

Client NIC IP Address	Set to DHCP
Camera NIC IP Address	192.168.51.1
IP Address Reserved for PoE*	192.168.50.1 (Internal PoE) 192.168.50.2 (Internal NIC) 193.168.50.11-192.168.50.26 (PoE Ports)

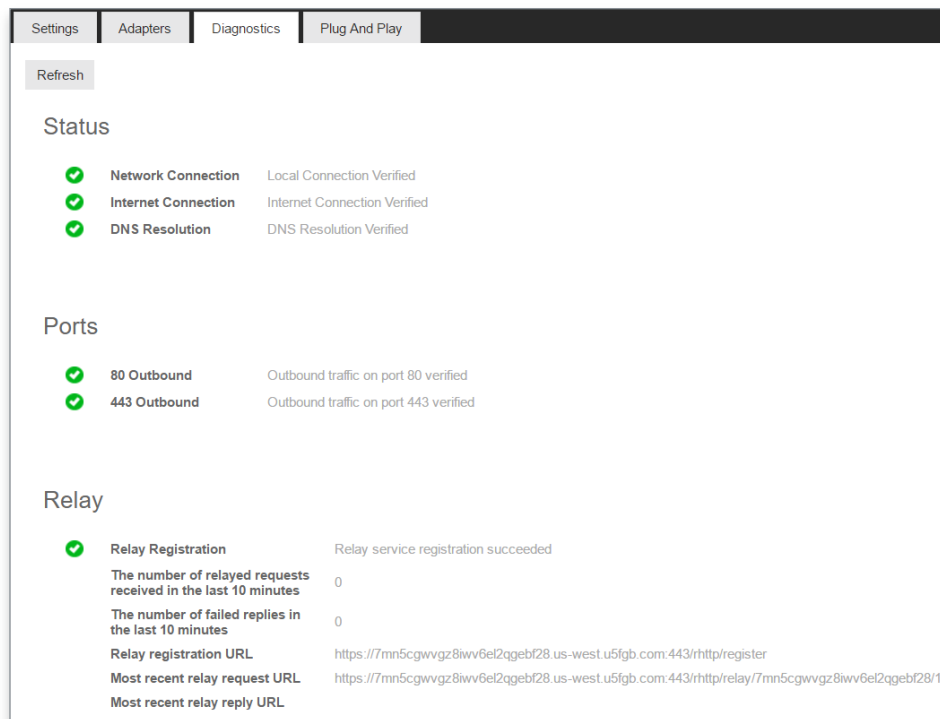
**PoE reserved IP addresses apply to PoE appliances only*

 **NOTE** - Only plug cameras directly into the built-in PoE switch on the ConteraCMR recorder. Connecting PoE ports to a regular network could cause DHCP conflicts to occur.

 **NOTE** - On Windows Server systems, network configuration will be done in Windows Network Configuration.

Diagnostics

The diagnostics tab shows the operational status of various connections, ports, and relays for your recorder. This is a helpful tool for troubleshooting.



Plug And Play

Plug And Play (PnP) allows you to disable automatic add and record for PoE cameras, as well as power cycle individual ports, which will reset the connected camera.



NOTE - Plug And Play is only available on select Server recorders.

To Disable Plug And Play:

1. Click **Setup**.
2. Click **Network Configuration** under **General Configuration**, and then click the **Plug And Play** tab.
3. Uncheck the **Enable Plug And Play** checkbox.


—OR—

Uncheck the **Enable PNP** checkbox for the desired camera.

To Power Cycle the PoE Camera:






1. Click the **Power Cycle** icon in the row for the desired PoE camera.

User Management

 **NOTE** - It is strongly recommended that you manage users through **ConteraWS** rather than on the local recorder. If the device is Web Services enabled, you will need to log in to **Web Services User Management** to manage users who have access to the recorder. Users added this way will have a Web Services account.

User Roles

The default **User Roles** includes **Administrator**, **Controller**, **Live**, **Operator**, and **Super Administrator**. Custom rolls can also be created.

	Administrator Administrator Role. This role allows users access to all features and manage all users below them.	✕
	Controller Controller Role. This role allows users access to all features and configuration except user management.	✕
	Live Live View Role. This role allows users to view live video from all cameras.	✕
	Operator Operator Role. This role allows users to view live and recorded video from all cameras.	✕
	Super Administrator Super Administrator Role. This role has access to all possible permissions in the system.	✕

Add New Custom Role

Custom roles are user roles that have custom selected assigned permissions.

1. Click **Setup**.
2. Click **User Management** under **General Configuration**.
3. Click **Add Role** under **User Roles**.
4. Type the role **Name** and **Description**, and then use the **Assigned Permissions** list to check the appropriate permission boxes.
5. Click **Save**.

Edit Existing Role:

1. Click **Setup**.
2. Click **User Management** under **General Configuration**.
3. Click on the existing role you wish to edit.
4. Edit the **Name**, **Description**, and **Assigned Permissions** list as necessary.
5. Click **Apply**, and then click **Save**.

Administrator

General Information

Name

Administrator

Description

Administrator Role. This role allows users access to all features and manage all users below them.

Assigned Permissions

Video

☒ View Live Video
 ☒ View Searchable Video
 ☒ Export Video
 ☒ View Hidden Cameras
 ☒ Control PTZ
 ☒ Set PTZ Presets
 ☒ Auto Focus (Zoom in/out)

Web Services

☒ Manage Device Activation/Deactivation

Displaying 1 of 5


◀

▶

Cancel

Users

Add System User:

 **NOTE** - Arecont Vision recommends that all User Management be handled through ConteraWS. Users and User Management on the local recorder should **ONLY** be used if the recorder is a standalone system with no connection to ConteraWS.

1. Click **Setup**.
2. Click **User Management** under **General Configuration**, and then click the **Users** tab.
3. Click **Add System User**.
4. Enter the appropriate user information, and then designate a **Username** and **Password**.
5. Check the appropriate box to designate a user **Role**.

 **NOTE** - More than one user role can be selected.

6. Click **Save**.

Add System UserAdd System User

×

Add System User

First Name

M.I.

Last Name

Employee ID

Title

Department

Username

Password

Confirm Password

Select Roles

You can select one or more Roles for this system user.

To add or edit Roles [click here](#).

☐ Super Administrator

Save

Cancel

Adding User Image:

1. Click **Select**, chose a file, and then click **Open**.
2. Once the file is listed under the user image, click **Upload**.
3. Click **Save** to save your changes.

User Portrait

+ Select

⤶ Upload

⌂ Cancel

Delete




Image not available

Macros

 **NOTE** - Under the macro section you can create custom actions based on schedule's and holidays.

Add a Macro:

1. Enter the macro name in the **Macro Name** field.
2. Check the **Enable Macro** box.
3. Select the drop down under the **Schedule** option to modify when a trigger is in effect.
4. Select **Panel, Sensor, Area, Motion, or Zone** under the **Event Class** drop down.
5. Select the appropriate **Event Type** in the Event Type dropdown that corresponds with the desired event class chosen in step 4.
6. Select the source device in the **Source** drop down list.

 **NOTE** - You can setup multiple triggers by clicking the **Add New Trigger** button.

Macros | Schedules | Holidays

Add Macro

Macro Name

Enter Macro Name

Enable Macro

☒

When any of the following happens

Schedule	Event Class	Delete
Always	Select Event Class	<div>⌵</div> <div>✕</div>

Add New Trigger

Take this action

(Drag to reorder)

Order	Schedule	Type	Delete
1	Always	Select Action Type	<div>⌵</div> <div>✕</div>

Add New Action

Setting Up an Action for a Previously Created Macro:

1. Select the desired schedule this action should happen under the **Schedule** dropdown.
2. Select the action type under the **Type** dropdown.
3. Select the command for the action under the **Command** dropdown.
4. Select target object from the **Target Object** drop down.
5. Select the duration of the action under the **Duration** dropdown.
6. If an additional action is added they will happen in **Order**, and can be dragged and dropped to reorder for priority.
7. Click **Save** to complete macro setup.



NOTE - Below is an example: when sensor 1 fires during weekdays the event stream will be recorded for a specific camera the duration of the event.

When any of the following happens

Schedule	Event Class	Event Type	Source	Delete
Weekdays	Sensor	Sensor Activated	Sensor (V) 0 - 1/4	

Add New Trigger

Take this action
(Drag to reorder)

Order	Schedule	Type	Command	Target Object	Duration	Delete
1	Always	Recording	Record Event Stream	OpenEye OE-C6412-R (2f2fa)	Length of Event	

Add New Action

Schedules

Add a Schedule:

1. Click the **Add a Schedule** button.
2. Type the name of the schedule in the **Schedule Name** field.
3. Select the **Start Time** and **End Time** on the desired days, or click the copy button to copy a time range from a previous day.
4. When finished click **Save**.

Macros | Schedules | Holidays

Add a Schedule

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Holiday
Always	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM
Never	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive	Inactive
Weekdays	Inactive	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	12:00 AM - 11:59 PM	Inactive	Inactive
Weekends	12:00 AM - 11:59 PM	Inactive	Inactive	Inactive	Inactive	Inactive	12:00 AM - 11:59 PM	Inactive
Example	Inactive	8:50 AM - 5:15 PM	8:50 AM - 5:15 PM	8:50 AM - 5:15 PM	8:50 AM - 5:15 PM	8:50 AM - 5:15 PM	Inactive	Inactive

Holidays

Add a Holiday:

1. Click the **Add a Holiday** button
2. Type the name of the Holiday in the **Name** field.
3. Select the date from the calendar.
4. Type the year of the holiday or leave the setting at **0** for recurring holiday.
5. Click **Save** to save the holiday.

Sensor/Relay

NOTE - Refer to the hardware manual for the model of your recorder or camera for physical installation instructions of sensors and relays.

When any of the following happens

Schedule	Event Class	Event Type	Source	Delete
Weekdays	Sensor	Sensor Activated	Sensor (V) 0 - 1/4	

Add New Trigger

Take this action
(Drag to reorder)

Order	Schedule	Type	Command	Target Object	Duration	Delete
1	Always	Recording	Record Event Stream	OpenEye OE-C6412-R (2f2fa)	Length of Event	

Add New Action

Sensors

Sensors Relays										
The following is a list of available sensors on this recorder. Enable the sensors you wish to use and type in a descriptive name so they can be easily identified later. Actions based on sensor events can be configured in Macros.										
Enable	Number	Sensor Name	Origin	Current State	Default State	Debounce (ms)	Associated Macros	Associated Camera	Image Offset (sec)	Invert State
<input type="checkbox"/>	1	Sensor (L) 0 - 1/4	Onboard (L) 0 - 1/4	Open	Normally Open	50		Select Camera	0	<input type="checkbox"/>
<input type="checkbox"/>	2	Sensor (L) 0 - 2/4	Onboard (L) 0 - 2/4	Open	Normally Open	50		Select Camera	0	<input type="checkbox"/>
<input type="checkbox"/>	3	Sensor (L) 0 - 3/4	Onboard (L) 0 - 3/4	Open	Normally Open	50		Select Camera	0	<input type="checkbox"/>
<input type="checkbox"/>	4	Sensor (L) 0 - 4/4	Onboard (L) 0 - 4/4	Open	Normally Open	50		Select Camera	0	<input type="checkbox"/>

Enable – Enable or disable a sensor

Number – Sensor number associated with the recorder

Sensor Name – Name of the sensor associated with the recorder

Origin – Origin of the sensor being used by the recorder (typically internal to the recorder)

Current State – Current state of the sensor (open or closed)

Default State – Normally open or normally closed sensor

Debounce – Debounce time in milliseconds is the duration to ignore repeated contacts

Associated Macros – Shows any macros associated with a specific sensor

Associated Camera – Allows the association of a specific camera to a sensor

Image Offset – The delay between the start of a sensor event and the time an event is captured

Invert State – Inverts the state of the sensor

Setting Up a Sensor in the Server:

1. Enable a specific sensor by checking the box in the **Enable** column.
2. Modify the Server sensor number in the **Sensor Number** column if needed.
3. To modify the sensor name, type the new name into the **Sensor Name** box.
4. Set **Normally Open** or **Normally Closed** in the **Default State** drop down.
5. Change **debounce default** in milliseconds if sensor contact is likely to break contact constantly.
6. Associate a camera to record with the sensor by selecting a camera from the **Associate Camera** drop down.
7. Modify the **image offset** value if a delay is required when recording a sensor event.
8. Click **Save**.

Relays

Sensors Relays						
The following is a list of available relays on this recorder. Relays can be configured to trigger in Macros.						
Number	Relay Name	Origin	Current State	Default State	Associated Macros	Duration
1	Relay (V) 0 - 1/2	Onboard (L) 0 - 1/2	Open	Normally Open		1
2	Relay (V) 0 - 2/2	Onboard (L) 0 - 2/2	Open	Normally Open		1

Number – Relay number associated with the recorder

Relay Name – Name of the relay associated with the recorder

Origin – Origin of the relay being used (typically internal to the recorder)

Current State – Current state of the relay (open or closed)

Default State – Normally open or normally closed relay

Associated Macros – Shows any macros associated with a specific relay

Duration – The duration the relay will fire when activated

Setting Up a Relay in the Server:

1. Modify the relay number if needed by clicking the **Relay Number** field and hitting **backspace** until the field is cleared and then type in the new number.
2. Modify the relay name by selecting the **Relay Name** field and hitting backspace until cleared and then type in the new relay name.
3. Set **Normally Open** or **Normally Closed** in the **Default State** drop down.

 **NOTE** - Pushing a button to open a gate would fire a relay that is normally open.

4. Modify the **Duration** if the momentary activation time needs to be modified.
5. Click **Save**.

Intrusion

Zones Tab

Use this tab to enable zones, edit zone number, associate a camera with a zone, set image offset or view zone information.

Zones								
Zones								
The following is a list of available zones on this recorder. Enable the zones you wish to use. Actions based on zone events can be configured in Macros .								
Enable	Number	Zone Name	Origin	Current State	Type	Associated Macros	Associated Camera	Image Offset (sec)
<input checked="" type="checkbox"/>	1		DMP 550 (03924)	Clear	None		Select Camera	0



Areas Tab

Use this tab to view area names, origin, current state, associated macros, associate a camera and set image offset.

Areas						
Areas						
The following is a list of available areas on this recorder. Actions based on area events can be configured in Macros .						
Area Name	Origin	Current State	Associated Macros	Associated Camera	Image Offset (sec)	
	DMP 550 (03924)	Disarmed		Select Camera	0	

Intrusion Panels Tab

Use this tab to add new, view or edit intrusion panels.

Intrusion Panels				
Intrusion Panels				
Add New Intrusion Panel				
Sort By: Name Search				
	DMP 550 (03924) DMP 550 550	IP 10.0.20.120 F/W 171	Enabled	

Add New Intrusion Panel:

1. Click the **Add New Intrusion Panel** button in the **Intrusion Panels** tab.
2. Enter the **name** of the panel.
3. Select the protocol to use in the **Protocol** dropdown.
4. Enter the **IP address** of the intrusion panel.
5. Select the state of the intrusion panel from the **State** drop down.
6. Select the intrusion panel location in the **Location** drop down.
7. Select the camera to associate with the intrusion panel in the **Camera** drop down.
8. Click **Save**.

Add Intrusion Panel

Intrusion Panel

Name

This is a unique title assigned to each panel

Protocol

Select Protocol

IP Address

State

Enabled

Location

Select Location

Camera

Select Camera

Save

Cancel

Apply

Contera™ Web Services

Contera Web Services Tab

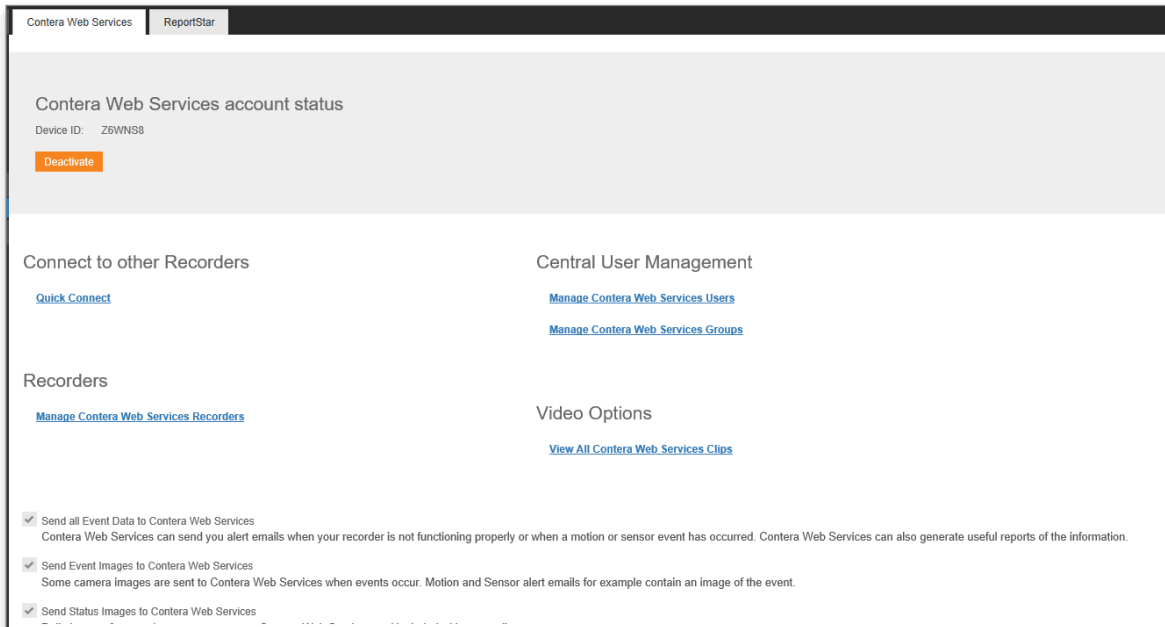
ConteraWS (Web Services) is a cloud based service that enables you to turn your independent recorder and VMS installations into a cohesive platform, with online user and recorder management features.

To begin using ConteraWS, you will need to create a ConteraWS account, and add individual companies to associate with customers. Please contact your Regional Sales Representative to have an account created.

 **NOTE** - Account approval may take 1 to 2 business days.

To Enable Web Services on Your Recorder, Follow the Instructions Below:

1. Click [Setup](#).
2. Click [Contera Web Services](#) under the **Remote Services** section.
3. Enter your **ConteraWS credentials** or **Registration Code**.
4. Modify the **recorder name** if needed (this will be the label in ConteraWS).
5. Click [Connect](#).



Send all Event Data to Web Services – Web Services can send you alert emails when your recording is not functioning properly or when a motion or sensor event has occurred. Web Services can also generate useful reports of the information.

Send Event Images to Web Services – Some camera images are sent to Web Services when events occur. Motion and Sensor alert emails for example contain an image of the event.

Send Status Images to Web Services – Daily images from each camera sent to Web Services and included with your online reports.

ReportStar

ReportStar Tab:

1. Click **Setup**, and then click **ReportStar** under the **Remote Services** section.
2. Check the **Use ReportStar** checkbox.
3. Designate the **Send Report Time**, **Day Image Time**, and **Night Image Time**.
4. Click **Save**.
5. Navigate to <https://www.reportstar.com/NewAccount> to register for ReportStar and receive further instructions for configuration.

The screenshot shows the 'ReportStar' configuration window. It has a 'ReportStar' tab selected at the top. The main content is divided into two sections: 'Default Setup' and 'Advanced Setup'.

Default Setup:

- Use ReportStar:** A checkbox that is currently checked.
- Send Update:** A button labeled 'Send'.
- Below the 'Send Update' button, a note states: 'This button sends a complete daily update to ReportStar. Use this when configuring ReportStar for the first time.'

Advanced Setup:

- MAC Address:** Displayed as '8c:e7:48:93:96:2f'.
- Send Report Time:** A text input field containing '12:00 AM'.
- Day Image Time:** A text input field containing '12:00 PM'.
- Night Image Time:** A text input field containing '12:00 AM'.

Tools/Logs

Log Files

Server log files are loaded or downloaded in this section under three different tabs called System Logs, General Logs and Recording Logs.

Loading and Exporting System Logs in the Server:

1. Select the **System Logs** tab.
2. Select the **Download All** button.
3. Use the **arrow buttons** next to **Page 1** to cycle through the system log pages.

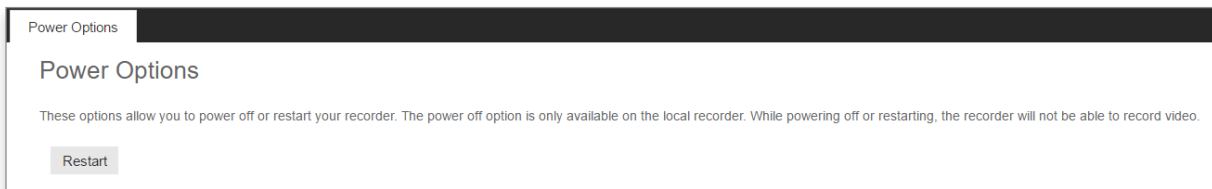
Loading General or Recording Logs in the Server:

1. Select the **General Logs** or **Recording Logs** tab.
2. Select the **Filter by Status** option from the drop down.
3. Select the **Load Current Log File** button.

Exporting General or Recording Logs in the Server:

1. Select the **General Logs** or **Recording Logs** tab.
2. Click the **Select Log to Export** drop down and chose the timeframe of logs to be exported.
3. Click the **Export** button.
4. In web client, the logs will download to the Downloads folder in Windows, and in the Server Console you will be asked to select the location.

Power Options



 **NOTE** - Recorders can be powered off or restarted from the local interface; however, Thin Client and the VMS are limited to remote restarts. On Windows the Server powering off the recorder is done through Windows.

Support Tools (Linux)

Support tools are a set of utilities that allows you to complete the following setup or diagnostic tasks:

Resource Monitor – Diagnoses system resources issues by monitoring memory and processor usage.

Pin Bomgar – Pins a recorder for Bomgar access

Log Viewer – View system logs

Terminal – Linux terminal access

Network Diagnostics – Diagnoses connectivity and network issues by monitoring, recording, and analyzing network traffic.

Video Streaming – Manually connect to video streams to diagnose camera connectivity issues.

Web Browser – Connect to and configure camera firmware, routers, and switches.

Disk Management – Monitor hard drive partitions on the recorder.

Network Camera Manager – Configure network settings for cameras on the Local Area Network or attached to the recorder.

Advanced Resource Monitor – Allows monitoring of memory, processor, I/O, network usage remotely.

 **NOTE** - Linux Support Tools are accessed in the Server Console locally; similar applications are installed in the Start Menu for Windows Server.

Advanced Network Management

LAN Smart Forwarding


 **NOTE** - This feature is enabled by default in ConteraWS.

To optimize local connections, ConteraWS utilizes a feature called LAN Smart Forward (LSF). This feature detects if the client machine is behind the same external IP address as the recorder, automatically switching from a cloud relay connection to a direct connection. This ensures that the fastest connection is being used, even if the recorder is initially accessed through the internet. The following conditions are required for LAN Smart Forwarding:

- Both client and recorder use the same external IP address, or IP addresses within an acceptable range.

To Enable LAN Smart Forwarding:

1. Use a web browser to log in to your ConteraWS account, and then click on your desired **End User Account**.
2. Click **Recorder Management**, and then click **Edit** in the row of the desired recorder.
3. Click the **Remote Network Settings** tab.
4. Set **LAN Smart Forwarding** to **ON**.

 **NOTE** - If your recorder and client machines have different external IP addresses, enter the IP range in which the client and recorder reside.

Direct Connection via Port Forwarding

With port forwarding, traffic bypasses the ConteraWS cloud web services, allowing for optimal connection speeds. Additional setup is required, however, because the routers need to be configured to forward traffic to the correct recorder.

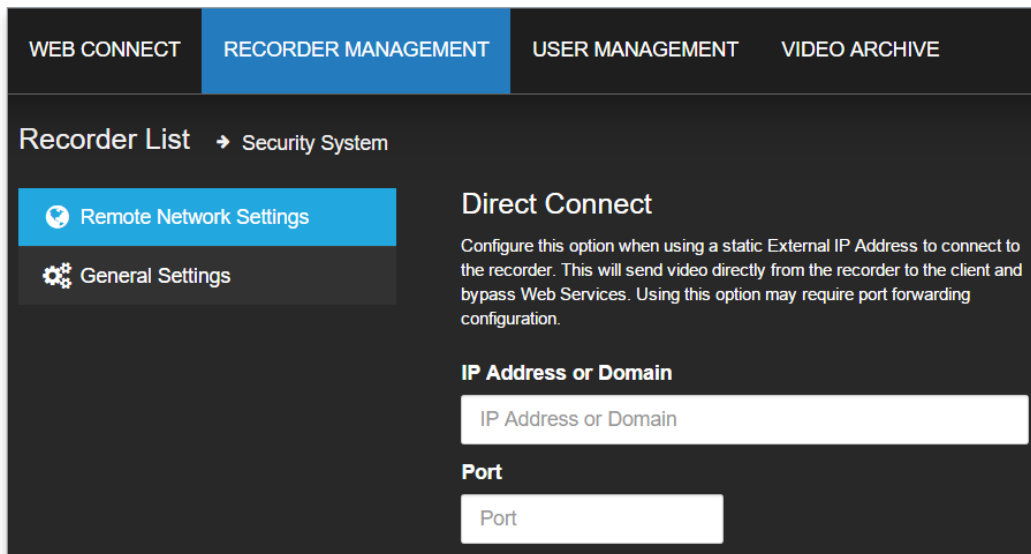
 **NOTE** - Visit http://portforward.com/english/routers/port_forwarding/ for instructions on how to open ports on your particular router.

To Set Up Port Forwarding:

1. Add the Server recorder to ConteraWS using the registration code.
2. Access the router used for internet communication and forward **TCP Port 80** to the internal address of the Server recorder.
3. From ConteraWS, click **RECORDER MANAGEMENT**, and then click **Edit** in the row of the desired recorder.
4. Click **Remote Network Settings**, and then enter the **External IP** or **DNS** entry for the router in the **IP Address** or **Domain** field, and **80** in the **Port** field.

 **NOTE** - Port 80 is the default port.

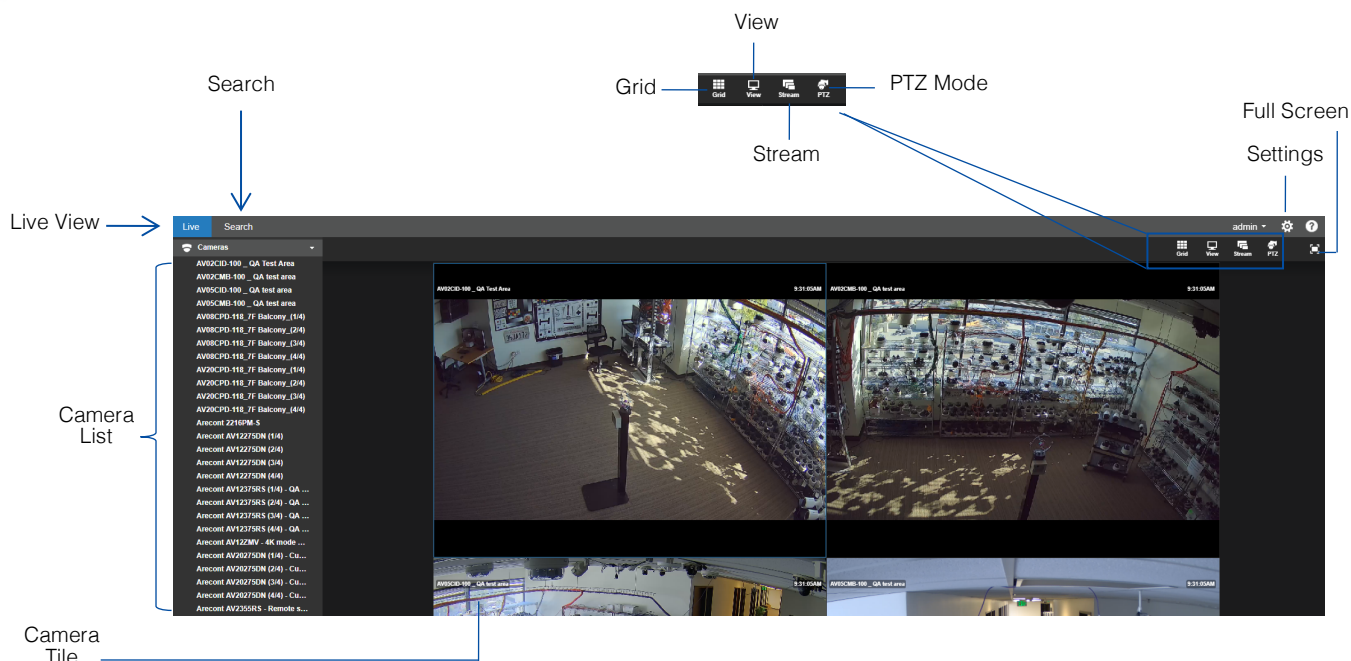
5. Click **Save**.



The screenshot shows the ConteraWS console interface. At the top, there are four tabs: WEB CONNECT, RECORDER MANAGEMENT (which is active and highlighted in blue), USER MANAGEMENT, and VIDEO ARCHIVE. Below the tabs, the breadcrumb path is 'Recorder List' followed by a right arrow and 'Security System'. On the left side, there are two settings buttons: 'Remote Network Settings' (highlighted in blue) and 'General Settings' (with a gear icon). The main content area is titled 'Direct Connect' and contains the following text: 'Configure this option when using a static External IP Address to connect to the recorder. This will send video directly from the recorder to the client and bypass Web Services. Using this option may require port forwarding configuration.' Below this text are two input fields: 'IP Address or Domain' and 'Port'. The 'Port' field is currently empty.

Live Screen Viewing Pane

The Live screen displays the camera list and live video. Customize the Live screen to view specific cameras in different layouts.



Camera List – List of connected cameras, these cameras can be dragged into a camera tile to display live video.



NOTE - The recorder console Live Screen does not display the Camera List.

On-Screen Display – Displays the resolution, video format, bit rate, and frame rate of the camera.

Camera Tile – Individual tile for viewing live video from one camera.

Viewing Pane – Comprised of camera tiles and makes up the viewing space in the Live Screen.

Grid – Designate a screen division (1, 4, 9, or 16) to view live video from cameras in the viewing pane.

View – Drop down selection of Live video viewing options (4:3, 16:9, original (displays original aspect ratio of all cameras), and stretch (stretches camera images to fit Camera Tile).

Stream – Designate the stream quality for cameras in the Viewing Pane.

PTZ Mode – Enter PTZ Mode to enable PTZ mouse controls and control PTZ cameras in the camera tiles.

Full Screen – View live video in full screen mode.

Navigation Bar



Right-Click Menu

Right-clicking on a live camera tile while viewing live or recorded video will display the right-click options menu.

OSD – On-Screen Display (resolution, video format, bit rate, and frame rate).

Remove Camera – Remove the camera from the current Live Screen viewing pane.

Remove All Cameras – Remove all cameras from the current Live Screen viewing pane.

Zoom In – Zoom in on a supported PTZ camera.

Zoom Out – Zoom out on a supported PTZ camera.

How Do I Add/Remove Cameras from the Live Screen Display?

Add Camera

Click and drag a camera from the **Camera List** to the **Viewing Pane** to create a **Camera Tile**.

 **NOTE** - Change the Live screen grid if more camera channels are desired.

—OR—

Click the desired camera on the **Camera List** to automatically add it to the **Viewing Pane** in an available **Camera Tile**. Each subsequent camera clicked will be added to the next available **Camera Tile**.

—OR—

Drag one **Camera Tile** over in the **Viewing Pane** to swap their locations.

Remove Camera

Right-click in the desired camera tile to display the **right-click menu**, and then click **Remove** or **Remove All**.

—OR—

Move the mouse to the top of the camera tile to display the **tile toolbar**, and then click the red **X**.

How Do I Adjust the GRID of Camera Tiles in the Viewing Pane?

The Live screen display can be adjusted to show live video for 1, 4, 9, or 16 camera tiles.

1. In the **Live Screen**, click **GRID**.
2. Click on the desired **screen grid**. The screen grid will automatically apply.
3. Adjust the **camera tiles** to display the desired cameras.

How Do I Adjust the Live Screen View?

The Live screen view affects the camera tiles and the aspect ratio / format of the live video being displayed.

1. In the **Live Screen**, click **VIEW**.
2. Click the desired **view**. The Live Screen view will automatically apply.

 **NOTE** - Choose from aspect ratios of 4:3 or 16:9, and choose a format of Stretch or Original.

How Do I Adjust the Live Video Stream Quality?

The Stream Quality option affects the resolution of live video as seen on the Live Screen. The stream resolution can be set to low, medium, high, or automatic.


1. In the **Live Screen**, click **STREAM**.
2. Click the desired **streaming resolution (Low, Medium, or High)**. The Live Screen will automatically adjust.

 **NOTE** - The available streaming resolutions are dependent on camera setup.

How Do I Enable and Control PTZ?

1. In the **Live Screen**, click **PTZ**.
2. Select the PTZ camera.
3. Hold the **left mouse cursor down** on the **video pane** and drag the arrow icon to move.

How Do I Enable and Disable Fullscreen?

1. In the **Live Screen**, click the **Fullscreen** icon .
2. Click the **Fullscreen** icon again to disable.

How Do I Turn the OSD On/OFF?

The On-Screen Display (OSD) shows the video resolution, video format, bitrate, and frames per second on top of the live video feed. The OSD can be turned on / off per-camera or for all cameras.

Toggle OSD for All Viewing Panes


Right-click on any viewing pane to display the **right-click menu**, and then click **OSD**.

Toggle OSD Per-Camera

Move the mouse to the top of the desired viewing pane to display the **pane toolbar**, and then click **OSD**.

Digital Zoom

Digital zoom can be used in the Live screen or the Search screen.


 **NOTE** - Digital Zoom is currently only supported in the Server Thin Client and VMS.

1. Click to select the desired **Camera Tile**.
2. Using the scroll wheel on your mouse, **scroll up to zoom in**.
3. **Scroll down to zoom out**, or use the **Right-Click Menu** to **Reset Zoom** per camera tile or **Reset All Zoom**.

 **NOTE** - Layouts will save Digital Zoom settings.

Performing a Search

Perform a **Timeline Search**, **Event Search** or a **Thumbnail Search** to review recorded video, including playback and export of images and video clips.

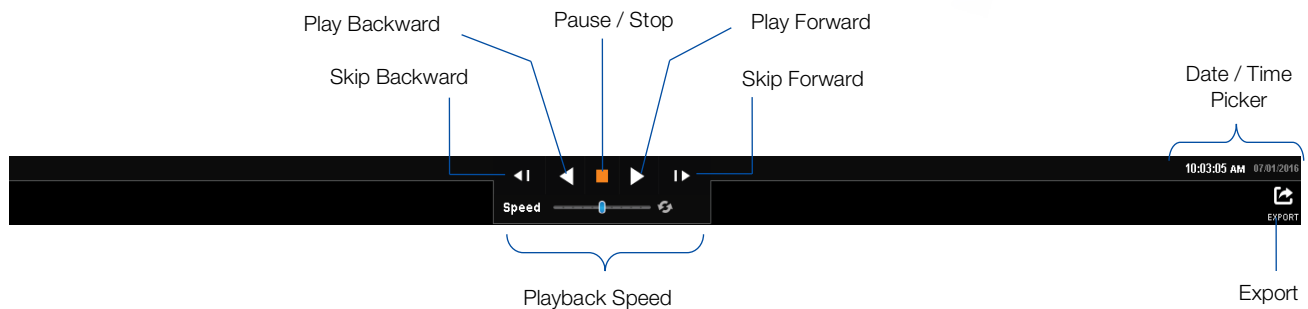
 **NOTE** - Timeline, Event, and Thumbnail searches are currently only available in the Server Thin Client and VMS.

Four Different Searches Are Available in the Server Software:

- **Date/Time Search** – standard search feature available only through the local recorder (Server Console).
- **Timeline Search**, **Event Search** and **Thumbnail Search** – advanced methods only available through the Server Thin Client and VMS.

How Do I Perform a Date/Time Search Via a Recorder (Server Linux Console)?

Date / Time Search Bar Playback Controls



Add Camera(s) to the Date / Time Search Viewing Pane

When the Search Screen is opened, the cameras that were in the Viewing Pane in the Live Screen will appear, however, cameras can be arranged separately in the Search Screen to facilitate the desired search.

To Add Cameras to the Search Screen:

In the **Search Screen**, click a camera in the **Camera List**.

—OR—

Click and drag a camera from the **Camera List** to the **Viewing Pane**.

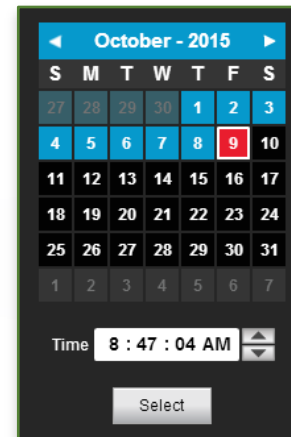
Customize the Camera Tile Grid

Changing the **Grid** of the viewing pane allows for viewing multiple cameras. All cameras will begin playback of recorded video at the time designated on the horizontal **Timeline Search Bar**.

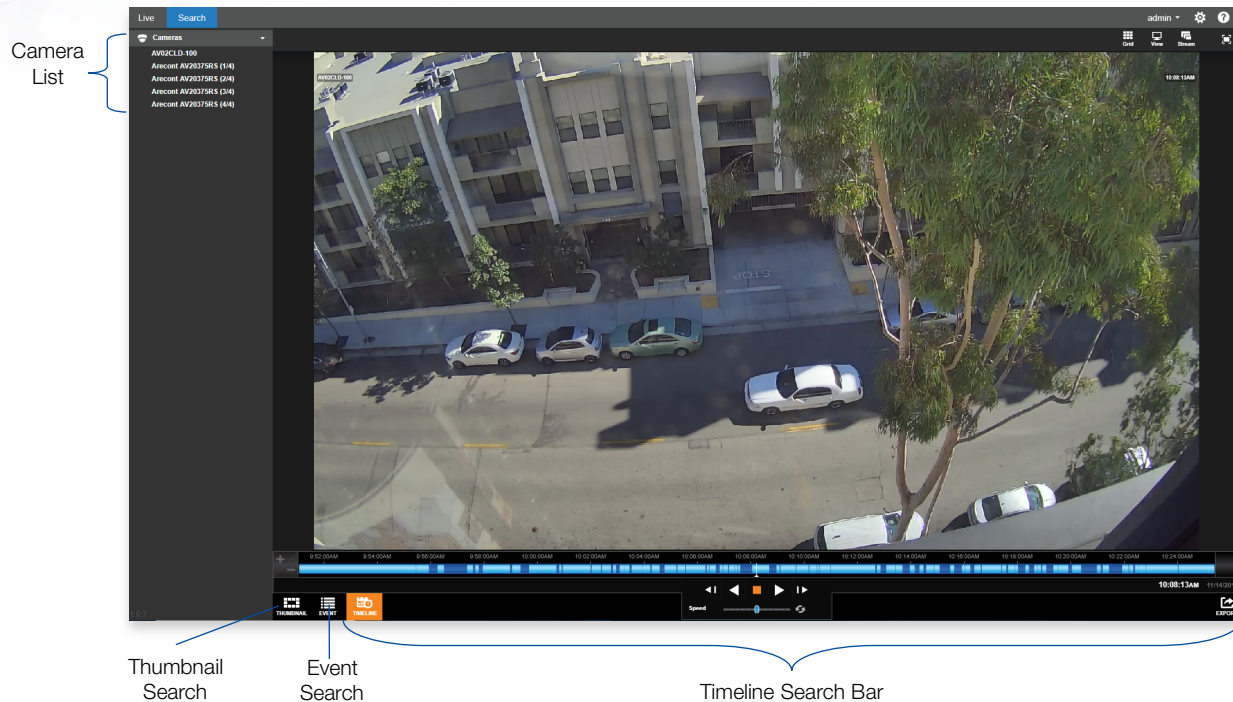
1. Click the **GRID** button.
2. Click on the desired **grid**.
3. Assign the available cameras to the desired **camera tiles**.

Perform a Date / Time Search:

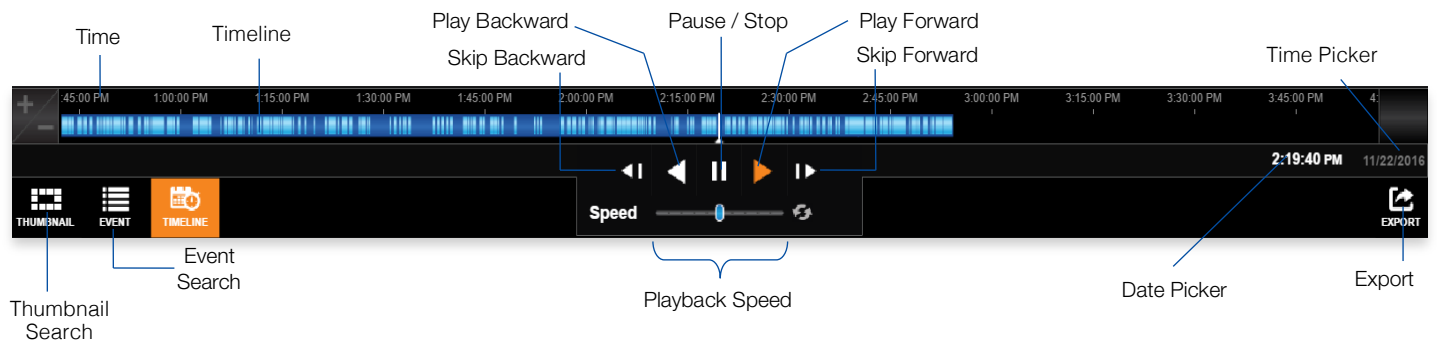
1. Customize the camera tile grid in the **Search Screen Viewing Pane** if desired.
2. In the **Search Screen**, click the **Date / Time Picker**.
3. Select a **date** from the calendar, and then designate a **time** if desired.
4. Click **Select**.
5. Click **Play**.



How Do I Perform a Timeline Search?



Timeline Search Bar Playback Controls



NOTE - The example Timeline Search Bar shows recorded video that is based on Continuous + Motion recording, meaning the higher resolution motion video is only recorded when a motion event is triggered. This results in video automatically switching between the lower resolution and higher resolution video. Motion video is shown in light blue, and non-motion video is shown in dark blue.

Timeline – Continuous recording is represented by dark blue lines on the Timeline Search bar, with light blue lines on the Timeline Search bar representing Motion events.

Skip Backward – Move to the previous frame of recorded video.

Play Backward – Play recorded video backward.

Pause / Stop – Pause / Stop video playback.

Play Forward – Play recorded video forward.

Skip Forward – Move to the next frame of recorded video.

Playback Speed – Control the speed of video playback.

Timeline Previewer – Hovering over the timeline will show a preview of the recorded video.

Export – Export recorded video as seen in the current search playback.

Date and Time Picker – Use to designate a date and time to search recorded video.

Add Camera(s) to the Timeline Search Viewing Pane

When the **Search Screen** is opened, the cameras that were in the **Viewing Pane** in the **Live Screen** will appear, however, cameras can be arranged separately in the Search Screen to facilitate the desired search.

To Add Cameras to the Search Screen:

In the **Search Screen**, click a camera in the **Camera List**.

—OR—


Click and drag a camera from the camera list to the **Viewing Pane**.

Customize the Camera Tile Layout

Changing the layout of the viewing pane allows for viewing multiple cameras. All cameras will begin playback of recorded video at the time designated on the horizontal **Timeline Search Bar**.

1. Click the **GRID** button.
2. Click on the desired **grid**.
3. Assign the available cameras to the desired **camera tiles**.

Perform a Timeline Search

1. Customize the **camera tile grid** in the **Search Screen Viewing Pane** if desired.
2. Select a **date** (and time) from the **Timeline Search Date Picker**.
 - a) On the **Thumbnail Search Bar**, click the **Timeline Search Date Picker**.
 - b) Select the desired **date (and specific time)**, and then the timeline will update automatically.
3. Use the **Play/Pause, Stop, Play Forward/Backward, and Skip Forward/Backward** playback controls  to control video playback during your search.

How Do I Perform an Event Search?

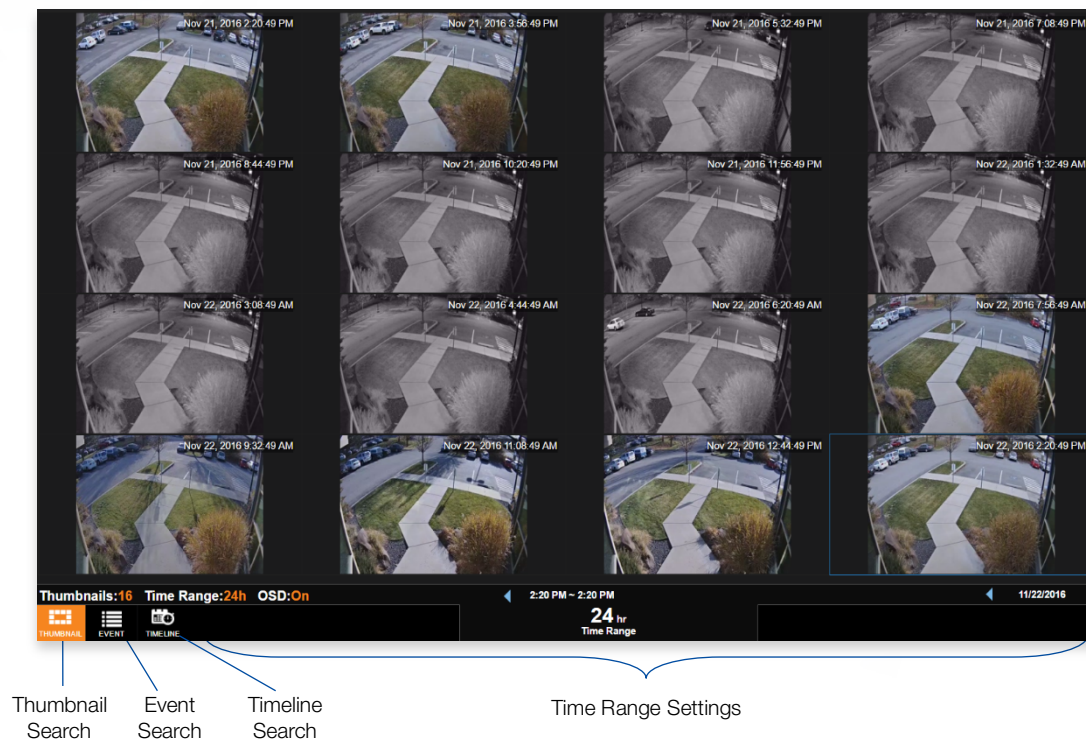
The screenshot displays the Arecont Vision console's Event Search functionality. On the left, there are filters for 'DATE / TIME' (Start: 11/15/2016 11:05 AM, End: 11/16/2016 11:05 AM, Duration: 00:00:05), 'EVENT TYPE' (Motion), and 'CAMERA' (a list of locations like Inventory Foam, Inventory Main, etc.). The central table lists search results with columns for Event, Source, Date, and Duration. The event 'Motion' at 'Parking Front West' on '11/15/2016 4:24 PM' with a duration of '00:00:05' is highlighted. On the right, a preview window shows three camera views of the parking area, with a metadata box displaying 'Date: 11/15/2016', 'Time: 4:24 PM', 'Event: Motion', 'Camera: Parking Front West', and 'Duration: 00:00:05'.

Perform and Event Search:

1. Under **Date/Time** select the **Start**, **End** and **Duration**.
2. Select **Motion**, **Sensor** or **Intrusion** in the **Event Type** drop down.
3. Check cameras, sensors or intrusion options to search for events in the left tree view.
4. Click **Apply Filter**.
5. Select an event in the **event table** to review.
6. Click the **Preview Image** and the **Play** icon to review this video in **Timeline Search**.

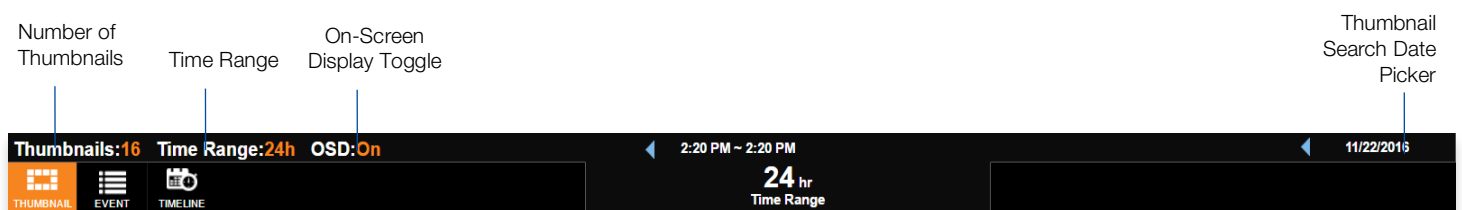
 **NOTE** - Hitting the back button on the browser in timeline search will load the previous event search results when switching between the two.

How Do I Perform a Thumbnail Search?



Thumbnail Search Bar Playback Controls

The Thumbnail Search bar displays the number of thumbnails displayed in the **Viewing Pane**, the **Time Range** interval between the first and last thumbnail, and the overall **Video Interval**.



Number of Thumbnails – Number of thumbnails distributed across the Time Range.

Time Range – Time interval between the first and last thumbnail.

Video Interval – Display of the exact start and end time for the designated interval.

On-Screen Display Toggle – Toggle the on-screen display on or off during search.

Thumbnail Search Date Picker – Calendar display tool for choosing Thumbnail Search Dates.

Perform a Thumbnail Search:

1. Select a camera from the **Camera List**.

 **NOTE** - Thumbnail searches allows for only one camera displayed at a time.

2. Select a Date from the **Thumbnail Search Date Picker**.
 - a) On the **Thumbnail Search Bar**, click the **Thumbnail Search Date Picker**.
 - b) Select the desired **Date**, and then the thumbnails will update automatically.
3. Select the **Number of Thumbnails**, the **Time Range**, and turn the **OSD On/Off** as desired.

Your combination of thumbnail quantity and time range will determine the time interval between each snapshot displayed. For example, 25 thumbnails in a 24 hour time range will result in 1 hour time intervals between displayed pictures.

4. Left-click on the desired thumbnail to **narrow the time interval**, opening new thumbnails.

 **NOTE** - When the thumbnail is narrowed to the smallest time interval, left-clicking again will begin recorded video playback in the Timeline Search Screen.

5. Right-click the desired thumbnail to expand the time interval, opening new thumbnails.

How Do I Export From Search?

 **NOTE** - Exports during Search are only available from the Timeline Search Screen. Thumbnail Searches must be narrowed to the Timeline Search Screen before an export is possible.

- During a **Timeline Search**, you have the option to **export an image or a video clip**.
- Resulting **image files** can be saved **locally**.
- Resulting **video files** can be saved **locally OR remotely** to your **ConteraWS Web Services** account where they can be viewed and managed remotely.

Export an Image Locally:

1. In the **Search Screen**, perform the desired **Timeline Search**.
2. Click **Export**.
3. In the **Image** tab, click **Save Locally**.

 **NOTE** - Locally exported images are saved in the **Downloads** folder as **JPEG files**.

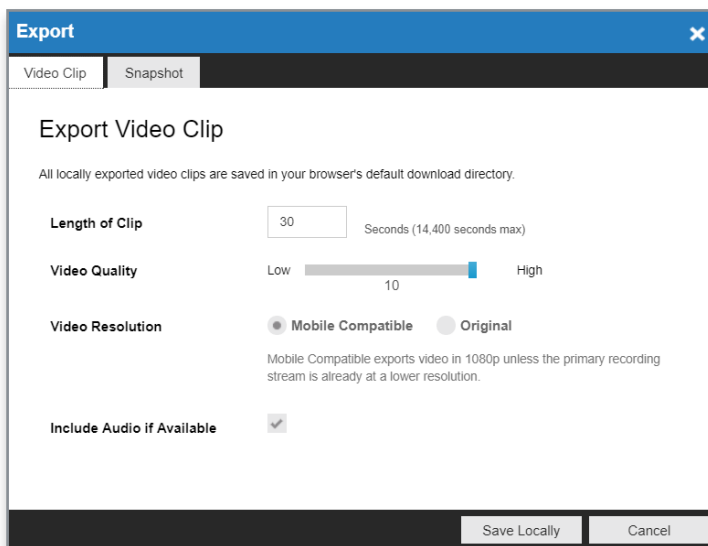
Export a Video Clip Locally:

1. In the **Search Screen**, perform the desired **Timeline Search**.
2. Right-click and select **Export**.
3. In the **Video Clip** tab, designate the **Length of Clip** and **Video Quality**.

 **NOTE** - Larger **Length of Clip** and higher **Video Quality** will result in larger video files.

4. Click **Save Locally**.

 **NOTE** - Locally exported video clips are saved in the **Downloads** folder by default as **MP4 files**.



Export

Video Clip | Snapshot

Export Video Clip

All locally exported video clips are saved in your browser's default download directory.

Length of Clip Seconds (14,400 seconds max)

Video Quality Low High

Video Resolution ☒ Mobile Compatible ☐ Original

Mobile Compatible exports video in 1080p unless the primary recording stream is already at a lower resolution.

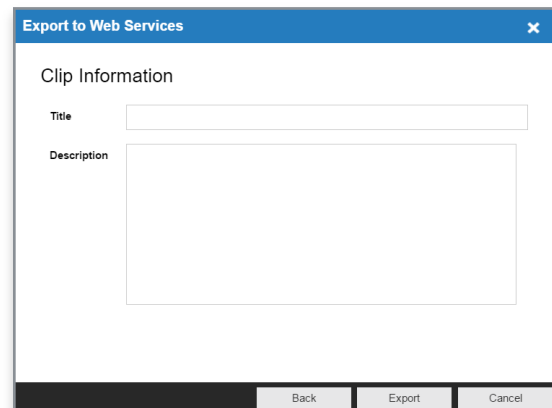
Include Audio if Available ☒

Save Locally **Cancel**

Export Video Clip to Cloud Video Archive

Exporting a video clip remotely saves the clip in your **Web Services** account. For more information regarding viewing exported video clips, see the *How Do I View Exported Video Clips in Web Services* section on the next page.

1. In the **Search Screen**, perform the desired **Timeline Search**.
2. Click the **Export** button.
3. In the **Video Clip** tab, designate the **Length of Clip** and **Video Quality**.



Export to Web Services

Clip Information

Title

Description

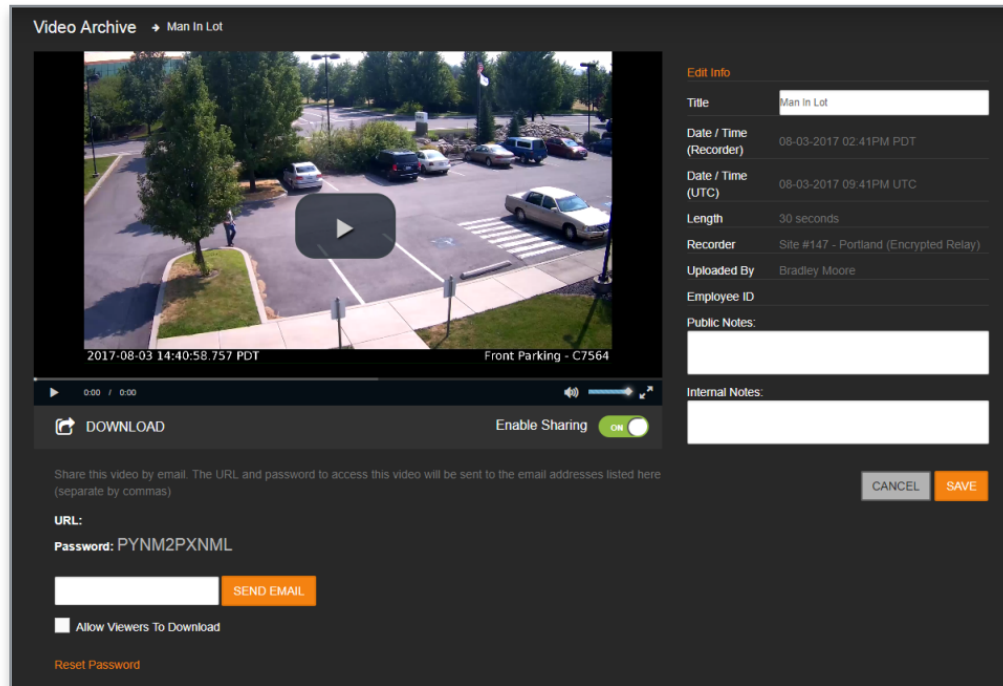
Back **Export** **Cancel**

 **NOTE** - Larger **Length of Clip** and higher **Video Quality** will result in larger video files.

4. Type the desired **Clip Information**.
5. Click **Export**.

How Do I View Exported Video Clips in Web Services?

Web Services allows you to view video clips exported during a search. These clips are stored in the **Video Archive** and can be watched, shared, and downloaded.



1. Navigate to **Web Services** and **login**.
2. Click **Video Archive**.
3. Select the desired video clip, and then click the **Play** icon.

NOTE - If desired, Share the video clip. A URL will be provided with an access password which can then be distributed to others.

NOTE - If desired, download the video clip to your default download location.



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