



# LifeSize<sup>®</sup> UVC Video Center<sup>™</sup> Deployment Guide

# LifeSize UVC Video Center

LifeSize UVC Video Center records and streams video sent by LifeSize video systems enabled for recording. It can also record SIP calls to and from video systems that do not have built-in recording capability. Viewers access these videos and live streams through a browser on their computers.

Deploying LifeSize UVC Video Center	Plan for and perform initial configuration.
Recording and Streaming	Configure recording and streaming and learn how to manage videos.
Maintaining LifeSize UVC Video Center	Monitor server health, current calls, and transcodes; and back up and restore videos and associated data.

Related documentation is available from [lifesize.com/support](https://lifesize.com/support).

# Section 1: Deploying LifeSize UVC Video Center

Prepare firewalls to accommodate recording and streaming.	<a href="#">Planning for Firewalls</a>
Complete installation and initial configuration.	<a href="#">Initial Configuration</a>
Check for software updates and upgrade to the latest UVC software versions.	<i>LifeSize UVC Platform Installation and Deployment Guide</i>
Configure UVC Video Center for your network.	<a href="#">Network Considerations</a>
<i>Optional:</i> Configure UVC Video Center to use network attached storage (NAS).	<a href="#">Using NAS</a>
<i>Optional:</i> Configure UVC Video Center to subscribe to content published by another UVC Video Center.	<a href="#">Federation</a>
<i>Optional:</i> Customize the logo and favicon displayed in the user interface.	<a href="#">Customizing the LifeSize UVC Video Center Interface</a>
<i>Optional:</i> Use the UVC Video Center API to integrate UVC Video Center into corporate intranets, payment gateways, or content management systems.	Access API documentation at: <a href="http://&lt;videoCenterIP or hostname&gt;/api/v1">http://&lt;videoCenterIP or hostname&gt;/api/v1</a>

## Planning for Firewalls

You can place UVC Video Center in the LAN, in the DMZ, or in a third party data center. Depending on UVC Video Center's placement in your environment relative to those viewing streams from it or recording streams to it, you may need to open certain ports on your firewalls. If all recording devices and viewers are within the same LAN as UVC Video Center, no action is necessary.

If viewers or recorders use VPN from the Internet or use a site-to-site VPN tunnel, ensure that your VPN bandwidth can accommodate the maximum number of viewers or recorders at one time.

If your environment includes UVC Access and UVC Transit, ensure that you review the deployment scenarios in the *LifeSize UVC Transit Deployment Guide* for guidance on placing them in the network.

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**NOTE** LifeSize recommends opening port 1720 on your firewall even though no UVC Video Center services run on that port. If port 1720 is open and a video device does not specify a protocol (and uses H.323 to contact the server), UVC Video Center rejects the packets. This error can trigger a fallback to SIP on the video device sooner when the port is open.

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Following are common network deployments that require you to open ports on your firewall.

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**NOTE** For deployments that require a static NAT IP address for UVC Video Center, navigate to **Platform Administration > System Settings > Network Settings > IP addresses – Edit**. Enter the public IP address in **NAT public IP address**.

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UVC Video Center Location	Viewer and Recorder Location	Firewall Implications
In the LAN	Viewers in the Internet	The internal and external firewalls must allow incoming access to the following ports: <ul style="list-style-type: none"> <li>• 80 (HTTP)</li> <li>• 443 (HTTPS/SSL/TLS)</li> </ul> And allow incoming and outgoing access to the following port: <ul style="list-style-type: none"> <li>• 1935 (RTMP, Apple HTTP live streaming)</li> </ul>
	Recording video devices in the Internet	The internal and external firewalls must allow incoming access to the following ports: <ul style="list-style-type: none"> <li>• 443 (HTTPS/SSL/TLS)</li> <li>• 554 (RTSP)</li> <li>• UDP: 50000 to 52000</li> </ul>
Hosted in a third party data center	Viewers in the LAN	The internal and external firewalls must allow outgoing access to the following ports: <ul style="list-style-type: none"> <li>• 80 (HTTP)</li> <li>• 443 (HTTPS/SSL/TLS)</li> <li>• 1935 (RTMP, Apple HTTP live streaming)</li> </ul>
	Recording video devices in the LAN	The internal and external firewalls must allow outgoing access to the following ports: <ul style="list-style-type: none"> <li>• 443 (HTTPS/SSL/TLS)</li> <li>• 554 (RTSP)</li> <li>• UDP: 50000 to 52000</li> </ul>
	Recording video devices in the DMZ	The external firewall must allow the DMZ recorders outgoing access to the following ports: <ul style="list-style-type: none"> <li>• 443 (HTTPS/SSL/TLS)</li> <li>• 554 (RTSP)</li> <li>• UDP: 50000 to 52000</li> </ul>

UVC Video Center Location	Viewer and Recorder Location	Firewall Implications
In the DMZ	Viewers in the LAN	The internal firewall must allow outgoing access to the following ports: <ul style="list-style-type: none"> <li>• 80 (HTTP)</li> <li>• 443 (HTTPS/SSL/TLS)</li> <li>• 1935 (RTMP, Apple HTTP live streaming)</li> </ul>
	Recording video devices in the LAN	The internal firewall must allow outgoing access to the following ports: <ul style="list-style-type: none"> <li>• 443 (HTTPS/SSL/TLS)</li> <li>• 554 (RTSP)</li> <li>• UDP: 50000 to 52000</li> </ul>
	Viewers in the Internet	The external firewall must allow incoming access to the following ports: <ul style="list-style-type: none"> <li>• 80 (HTTP)</li> <li>• 443 (HTTPS/SSL/TLS)</li> <li>• 1935 (RTMP, Apple HTTP live streaming)</li> </ul>
	Recording video devices in the Internet	The external firewall must allow incoming access to the following ports: <ul style="list-style-type: none"> <li>• 443 (HTTPS/SSL/TLS)</li> <li>• 554 (RTSP)</li> <li>• UDP: 50000 to 52000</li> </ul>
In any network	Non-recording video devices in a different network (using dial out recording)	The firewalls must allow incoming and outgoing access to the following ports: <ul style="list-style-type: none"> <li>• UDP: 5060 to 5100</li> </ul>
	Non-recording video devices in a different network (using dial in recording)	The firewalls must allow incoming and outgoing access to the following ports: <ul style="list-style-type: none"> <li>• 5060 UDP</li> <li>• 5060 TCP</li> </ul>

# Initial Configuration

Perform initial configuration on UVC Platform.

Complete the following procedures	Read more
<ol style="list-style-type: none"> <li>1. Install UVC Platform. Ensure that the disk space is set to 1 TB if you use local storage for recordings.</li> <li>2. Activate a license for UVC Video Center.</li> </ol>	<a href="#">LifeSize UVC Platform Installation and Deployment Guide</a>
<ol style="list-style-type: none"> <li>3. Enable UVC Video Center.</li> </ol>	<a href="#">Enabling LifeSize UVC Video Center</a>

## Enabling LifeSize UVC Video Center

1. Open a browser and log in to UVC Platform. The default administrator credentials for UVC Platform and all enabled applications are:

**Username:** *administrator*

**Password:** *admin123*

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**NOTE** Create additional administrator accounts as described in step 4.

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2. Ensure that an IP address is available for configuring UVC Video Center:
  - a. Navigate to **System Settings > Network Settings > IP addresses – Edit**.
  - b. Click **Add address**.
  - c. Enter the new IP address.
  - d. If you are configuring an IP address that uses 1:1 static NAT, enter the public IP address in **NAT public IP address**.

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**NOTE** Press **Tab** to automatically complete the remaining values, or enter each remaining value. Review any values entered by the server.

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- e. Click **Apply Changes**.

### 3. Enable UVC Video Center.

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**NOTE** You must activate a license for UVC Video Center before performing these steps. Refer to the *LifeSize UVC Platform Installation and Deployment Guide*.

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- a. Navigate to **Operations and Maintenance > Applications enabled – Edit**.
  - b. In **Enable new application**, select **Video Center**.
  - c. Select the IP address.
  - d. Click **Enable Application**.
4. *Optional*: Create an administrator account for UVC Video Center.
- a. Navigate to **User Management > Users – Add**.
  - b. Enter a username and password.
  - c. Click **Save**.
  - d. In **Video Center Permissions**, select **Content Administrator**.
  - e. Click **Save**.

## Registering with a SIP Registrar

UVC Video Center can register with a SIP registrar, allowing other registered devices to dial in (using a name or extension number) to UVC Video Center through a SIP proxy.

Enable SIP registration as follows:

1. *From the SIP registrar*: Create a user account for UVC Video Center. Ensure that the account uses local credentials.
2. *From UVC Video Center*: Navigate to **Administer > System Settings > SIP Settings > SIP registrar – Edit**.
3. Click **Enable SIP registration**.
4. Configure the SIP registrar settings:

<b>Registrar hostname</b>	IP address or hostname of the SIP registrar.
<b>Registrar port</b> (for both TCP and UDP)	Typically 5060.
<b>SIP username</b> <b>Authorization name</b>	User ID of the UVC Video Center account you created on the SIP registrar.
<b>Authorization password</b>	Password for the UVC Video Center account you created on the SIP registrar.

5. Click **Apply Changes**.

## Network Considerations

Recording bit rate	Ensure that the recording bit rate for individual recordings is set properly for your network to avoid packet loss. From UVC Video Center, access the bit rate settings in <b>Administer &gt; Content Management &gt; Default recording properties – Edit</b> .	<a href="#">Default Recording Properties</a>
Aggregate bit rate	If necessary for your network, set aggregate bit rate limits in UVC Video Center in <b>Administer &gt; System Settings &gt; Bandwidth limits – Edit</b> . These settings determine the total allowed simultaneous recordings and live streams.	<a href="#">Bandwidth Limits</a>
Firewalls	If any content viewers or recording-enabled LifeSize video systems are outside the LAN or DMZ in which UVC Platform resides, you must adjust firewall and VPN settings to ensure proper operation.	<a href="#">Planning for Firewalls</a>
Multicast	If you plan to stream video to a multicast address, you must configure UVC Video Center for multicasting.	<a href="#">Multicast</a>

## Using NAS

By default, UVC Video Center stores the videos recorded to it on local hard drives. You can configure UVC Video Center to use NAS instead.

1. From UVC Video Center, select **Administer > System Settings**.
2. In **Network Storage Server Settings**, click **Edit**.
3. Select the server access protocol: **NFS** or **CIFS**.
4. Enter the NAS server's hostname or IP address.
5. Enter the directory from which to mount the server. For example, if the mount point is `\\<NAS server hostname or IP address>\sharedfolder`, enter `sharedfolder`.
6. If you are using CIFS, enter the username and password to access the NAS.
7. Click **Update Configuration**.

UVC Video Center enters maintenance mode and attempts to mount the NAS location you specified. If the process is successful, UVC Video Center copies the entire local storage image to the NAS server. After the copy is complete, UVC Video Center exits maintenance mode and continues normal operation.

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**NOTE** Learn how to back up and restore content on NAS at [Backing Up NAS](#) and [Restoring from a NAS Backup](#).

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## Creating a Shared Directory for NFS v4

The NFS v4 access protocol requires that the client and server use the same user ID. UVC Video Center uses the `www-data` (`uid=33` and `gid=33`) user as the owner of the shared folder that is mounted on the network storage location. Complete the following steps to create the NFS v4 shared directory on the server:

1. If the user `www-data` does not exist, create it on the NFS server.
2. Assign `uid=33` and `gid=33` to the `www-data` user.
3. Create the local share directory and use `chown` to change owner and group owner to `www-data`.

## Changing NAS Locations

1. Enter maintenance mode and manually copy the contents of the current network storage location to the new network storage location.
2. Edit the NAS properties in UVC Video Center to point to the new server location:
  - a. Select **Administer > System Settings**.
  - b. In **Network Storage Server Settings**, click **Edit**.
  - c. Enter the NAS server's hostname or IP address.
3. Click **Update Configuration**.

UVC Video Center attempts to mount the NAS location you specified, and reports *Success* or *Failure*. After UVC Video Center synchronizes its content database with the NAS contents, it exits maintenance mode and continues normal operation.

## Reverting to Local Storage

Revert to local storage if local disks have the capacity to store the data on the NAS:

1. Select **Administer > System Settings**.
2. In **Network Storage Server Settings**, click **Edit**.
3. Click **Switch to local storage**.

UVC Video Center enters maintenance mode, and copies the NAS image to the local disks, unless the local disks do not have the capacity necessary, and you receive an error message. When the copy is complete, UVC Video Center exits maintenance mode and continues normal operation.

# Customizing the LifeSize UVC Video Center Interface

Administrators can customize the appearance of the UVC Video Center interface in **Administer > System Settings > Appearance > Logos and messages – Configure**.

Element	Description
Logo	<p>By default, <b>LifeSize UVC Video Center</b> appears on every page of the UVC Video Center interface. Clear <b>Use default logo</b> and browse to locate a custom logo. Requirements for the custom logo are as follows:</p> <ul style="list-style-type: none"><li>• JPG, GIF, or PNG format</li><li>• 300x40 pixels maximum size; larger images are scaled to fit</li></ul>
Favicon	<p>By default, the LifeSize favicon appears in the browser URL line. Clear <b>Use default favicon</b> and browse to locate a custom favicon. Requirements for the custom favicon are as follows:</p> <ul style="list-style-type: none"><li>• ICO format</li><li>• 16x16 or 32x32 pixels</li></ul> <p>NOTE: If the new favicon does not appear, clear the browser cache.</p>
Login page message	Specify text to include on the login page. HTML markup is allowed.
Page footer text	Specify text to include in the footer of all pages. HTML markup is allowed.

## Section 2: Recording and Streaming

Configure UVC Video Center for recording and streaming by completing the following tasks:

Create and manage recording keys.	<a href="#">Configuring Recording Keys</a>
Manage global permissions.	<a href="#">Users and Global Permissions</a>
Configure recording: <ul style="list-style-type: none"> <li>• Create channels.</li> <li>• Configure default recording properties.</li> <li>• Set bandwidth limits.</li> <li>• Configure multicasting.</li> <li>• Create federated nodes.</li> <li>• Enable chat.</li> </ul>	<a href="#">Configuring Recording</a>
Learn how to record on UVC Video Center with video systems that cannot initiate recordings.	<a href="#">Dial Out and Dial In Recordings</a>
Edit videos and their properties and attributes. Upload, download, and embed videos. Create supplemental versions of existing videos for low bandwidth and mobile users.	<a href="#">Managing Videos</a>
Enable recording on supported LifeSize video systems. Alternatively, you can use the auto provisioning tool in UVC Platform to configure enabled video systems.	Refer to the documentation for the video system. Read more about auto provisioning in the <i>LifeSize UVC Platform Installation and Deployment Guide</i> .

### Configuring Recording Keys

UVC Video Center uses recording keys to manage video recording. A recording key is a number of up to 10 digits that is required to start recording or streaming from a LifeSize video system. Depending on your login credentials, create and edit recording keys as follows:

Task	User	Location in User Interface
Creating a recording key	Administrator	<b>Administer &gt; Content Management &gt; Recording keys – Add</b>
	User with permission	<b>Manage &gt; My Recording Keys &gt; Create a new recording key</b>
Editing a recording key	Administrator	<b>Administer &gt; Content Management &gt; Recording keys – Edit</b>
	User with permission	<b>Manage &gt; My Recording Keys</b> and click <b>Edit</b> for the appropriate key

When you create a recording key, its properties are associated with the recorded video (or series of videos).

Property	Description
<b>Recording key</b>	<p>A number of up to 10 digits required to start recording or streaming. Administrators can define the recording key. Leaving the field empty instructs the system to generate a key.</p> <p>Administrators can specify the length of a key that the system generates. Read more at <a href="#">Configuring the Length of the Default Recording Key</a>.</p> <p>Administrators can also enable a blank recording key, which allows users to record without entering a key value. Read more at <a href="#">Enabling a Blank Recording Key</a>.</p> <p>You can configure the LifeSize video system to use a specific, default recording key. In this case, users are not prompted to enter a key when recording. Refer to the video system's user and administrator guide for more information.</p>
<b>Owner</b>	By default, the user who created the recording key. Administrators can change the owner.
<b>Name</b>	Descriptive name of the recording.
<b>Channel</b>	<p>By default, <b>Main</b>. Administrators and recording key owners can assign the recording to a different channel.</p> <p>When you select a channel other than <b>Main</b>, the channel's default values are used for <b>Share with all</b>, <b>Viewers</b>, and <b>Viewer groups</b>. You can edit these values. If you edit an existing recording key and change the channel, the channel's default values are not used.</p>
<b>Description</b>	Descriptive details.
<b>Tags</b>	Descriptive terms that help users find videos recorded with the key.
<b>Share with all</b>	Clear the checkbox to specify users and groups who can view videos recorded with the key.
<b>Stream live</b>	Select to create live streams with the key. Live streams are available to view during the call.
<b>Record stream</b>	Records the stream. Recorded calls are available to view after the recording is complete. With both <b>Record stream</b> and <b>Stream live</b> selected, the stream is available to view during the call.
<b>Default recording layout</b>	<p>Determines whether video from the near end, far end, or both are recorded. Defaults to <b>Use the video system setting</b>.</p> <p>NOTE: Selecting <b>Far video only</b> in a multiway call records only the first far end caller.</p> <p>The setting in the recording key overrides the setting on the LifeSize video system initiating the recording.</p>
<b>Recording bit rate</b>	Specifies the bit rate (in kb/s) to use when recording.
<b>Low bit rate version</b>	Generates an additional version of the recording at the bit rate specified for PC viewers whose bandwidth cannot support the bit rate of the primary version. UVC Video Center automatically determines which version to send to PC viewers based on the quality of their Internet connection.
<b>Mobile stream 1</b>	Generates combined main and presentation video for mobile devices at the bit rate specified. Set this to the highest bit rate the device can sustain with a good Internet connection.

Property	Description
<b>Mobile stream 2</b>	Generates a second combined main and presentation video for mobile devices at the bit rate specified. Set this to the lowest rate to ensure mobile devices with slower Internet connections can experience uninterrupted streaming. The client automatically determines the version to use based on the network connection.
<b>Mobile stream layout</b>	Appears only when a mobile stream is enabled. Specify the layout of the combined main and presentation video in the stream. The viewer cannot change the layout.
<b>Presentation quality</b>	Defaults to <b>Low</b> . Use a higher setting to improve the readability of small text or detail in a presentation. The frame rate for presentations remains 5 f/s.
<b>Enable multicasting</b>	Appears only when multicast is configured on UVC Video Center. Read more at <a href="#">Multicast</a> . Select this option to stream the live video to a single multicast address. You must also select <b>Live stream</b> and at least one mobile stream layout.
<b>Allow commenting</b>	Appears only when <b>Allow commenting on videos</b> is enabled globally. Clear this option to disable commenting in videos created with this key. Refer to <a href="#">Users and Global Permissions</a> .
<b>Allow download</b>	Appears only when <b>Allow video downloads</b> is enabled globally. Clear this option to prevent users from downloading videos created with this key. Refer to <a href="#">Users and Global Permissions</a> .
<b>Enable chat</b>	Appears only when chat is enabled globally and <b>Stream live</b> is enabled. Clear this option to disable chat in live streams using this key. Refer to <a href="#">Chat</a> .

Creating low bit rate or mobile streams uses additional storage and reduces the capacity for simultaneous recordings. Refer to [Transcoding](#) for more information about transcode scheduling.

Mobile streams use the industry standard Apple HTTP Live Streaming protocol, which supports live and recorded streams, and streams at different bit rates.

## Recording Key Strategies

Administrators control who can create and edit recording keys and can reassign recording key and video ownership to any user. Because the system provides full flexibility, consider the workflow of your organization before assigning user permissions. As you plan your strategy for managing recording keys, use the following scenarios as a guide.

### Example: Highly Controlled Environment

In a controlled environment, administrators can restrict recording key creation to themselves. Administrators then communicate to users the keys to use for each conference, and fulfill requests when new keys are needed.

Administrators can also create keys and then assign key ownership to a trusted user, who can then edit the assigned keys, but not create new keys. These trusted users own the videos created with these keys and are responsible for their maintenance.

Administrators can configure a LifeSize video system to enable recording with a default recording key. All recordings made from that video system use that default recording key. Users are not prompted for a key when they record. This method simplifies recording. However, every video recorded from that system uses the same key and, therefore, has the same title (appended with a timestamp). To make differentiating the videos easier, the video owner must then edit details for the videos.

### Example: Distributed Environment

Large organizations may give trusted users permission to create recording keys. For example, in an educational setting, 30 instructors may teach three classes each and need three recording keys for their classes. Instead of one administrator configuring recording keys for 30 instructors, instructors are allowed to create their own.

### Example: Flexible Environment

Rather than creating many recording keys, small organizations may decide to allow users to record using a blank recording key. Alternatively, they may create recording keys for regularly scheduled meetings and use the blank key for events that do not fit those keys. If the blank key is enabled, the user can create a recording from a system enabled to record by selecting **Start** when prompted for a recording key.

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**NOTE** The blank key cannot be used on a video system configured to use a default recording key. If a default key is defined, the system does not prompt for a recording key.

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The advantage of this approach is that users can record without knowing the key. The disadvantage is that all videos recorded with the blank key, regardless of their subject matter, are associated with just one recording key and therefore share the same title, description, and user permissions. To make these videos easier to consume, someone must provide distinguishing information by editing each video's details after recording.

## Enabling a Blank Recording Key

Instead of requiring a recording key to start recording, administrators can enable an empty key that allows a user to select **Start** when prompted for a recording key. This setting provides the least restrictive use of recording, because users are not required to know the recording key.

With the blank recording key enabled, you can continue to define and use recording keys with numeric values. Administrators enable the blank recording key as follows:

1. Select **Administer > Content Management > Recording keys – Edit**. The page displays the status: **The blank recording key is disabled**.
2. Click **Edit**.
3. Select **Enable** and specify additional settings for the key.
4. Click **Save Blank Key Settings**.

All videos created with the blank recording key are tagged with the information you provide. The titles for each video differ only by their timestamps. For a distinctive name, description, set of tags, and user permissions, the video owner must edit the properties of each video.

## Configuring Recording Key Permissions

Administrators set permissions for creating recording keys at the following levels:

- **Global**. Administrators manage site wide permission to create recording keys by editing global authorization properties. By default, content creators can create recording keys. Refer to [Users and Global Permissions](#).
- **Group**. If the global permission to create recording keys is enabled (the default), administrators can grant individual groups permission to create recording keys. Users who belong to the group inherit the group permissions.

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**NOTE** If user and group permissions differ, the more permissive permission applies. For example, if a user who does not have permission to create content belongs to a group that does, the user inherits the permission to create content.

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- **User**. If the global permission to create recording keys is enabled (the default), administrators can grant individual users permission to create recording keys.

For more information about group and user permissions, refer to the *LifeSize UVC Platform Installation and Deployment Guide*.

## Changing Recording Key Ownership

By default, the user who creates a recording key is the owner of the key. If only administrators create recording keys, only administrators own recording keys and the videos created with them. However, an administrator can specify a content creator or another administrator as the owner of a key.

Administrators change recording key ownership in **Administer > Content Management > Recording keys – Edit**. Click the desired key name and select a different owner.

When logged in, the recording key owner can access the **Manage** tab. The key appears in **My Recording Keys**, and any video created with the key appears in **My Videos**. The owner can edit or delete the recording key. If videos were recorded with the recording key, the owner can edit video details, view video statistics, or delete the video.

## Configuring the Length of the Default Recording Key

Administrators can change the length of recording keys that the system generates. Select **Administer > Content Management > Recording keys – Edit** and click **Set key length** to enter a value from 3 through 10. Keys generated after changing this setting reflect the new length. Previously generated keys are unaffected.

## URLs to Live Streams and Recordings

Recording key owners can reserve a URL that points to the live stream, if available, or the latest video recorded with the key. Navigate to **Manage > My Recording Keys** and in the recording key's profile, click **Display URLs** to generate two URLs: one URL that requires login authentication and another URL that does not require authentication. Use the URL that does not require login authentication to make private videos accessible without logging in to UVC Video Center.

When you use the recording key for a new live stream or recording, click **Reset** to generate new URLs. The previous URLs remain associated with the previous recording created with the key.

## Users and Global Permissions

UVC Video Center includes four user roles:

<b>Anonymous Users</b>	Anonymous users either have not logged in or do not have a user account. They can view public videos (videos that have not been restricted to specific users or groups), but cannot post comments.
<b>Registered Users</b>	Once logged in, registered users can watch all videos to which they have been granted permission and can post comments. Registered users cannot create recording keys or own content.
<b>Content Creators</b>	<p>Once logged in, content creators can own videos and recording keys, create recordings with existing keys, and upload videos. Administrators grant users access to the <b>Manage</b> tab by selecting <b>Recording</b> when setting up or editing the user account (from UVC Platform). Administrators grant permission to publish live and recorded content to another federated UVC Video Center by selecting <b>Content subscription</b> when managing the user account.</p> <p>If the <b>Allow users to create recording keys</b> global permission is selected, content creators can also create recording keys.</p> <p>NOTE: Read more about user management in the <i>LifeSize UVC Platform Installation and Deployment Guide</i>.</p>
<b>Administrators</b>	Once logged in, administrators have the same access as the UVC Video Center administrator account, and must be trusted users. In large organizations, multiple administrators may be the most efficient distribution of labor.

Administrators can globally restrict options for non-administrator users in **Administer > Content Management > Global authorization properties – Edit**.

Global Setting	Description
<b>Allow commenting on videos</b>	Allows users to comment on videos. Clear this checkbox to disable commenting on all videos. Existing comments remain visible.
<b>Allow video downloads</b>	Allows registered users to download video content. Clear this checkbox to prevent users from downloading content they do not own. Content owners (and administrators) can always download their own content.
<b>Allow users to create recording keys</b>	Allows content creators to create recording keys. If you clear this checkbox, only administrators can create recording keys.
<b>Allow content creators to generate reports with private user data</b>	Allows a content creator to generate reports with private user data for videos that the content creator owns. Administrators are always allowed to generate reports with private user data for any video.
<b>Allow format selection</b>	Allows content creators to specify video formats in recording keys, including low bit rate and mobile device versions. If you clear this checkbox, only administrators can specify video formats and create multiple streams.
<b>Allow subscriptions from federated nodes</b>	Allows another UVC Video Center to subscribe to and watch live and recorded videos published by the current UVC Video Center.
<b>Allow only the author or administrators to embed and share videos</b>	Select this option to prevent users from embedding content they do not own.

# Configuring Recording

Configure recording by completing the following tasks:

- Create [Channels](#)
- Configure [Federation](#)
- Enable [Chat](#)
- Configure [Multicast](#)
- Configure [Default Recording Properties](#)
- Set [Bandwidth Limits](#)

## Channels

UVC Video Center includes a predefined channel, **Main**, to which all videos are assigned by default. Creating additional channels categorizes videos to make them easier to manage and locate.

For example, in an academic setting, you might create two channels: *Lectures* and *Staff Meetings*. Videos for student users are available on the *Lectures* channel, and videos for school staff are available on the *Staff Meetings* channel.

Administrators can create a channel in **Administer > Content Management > Channels – Add**. When you create a channel, **Share with all** is selected by default. Clearing this option allows you to grant specific users and groups permission to view videos on this channel.

When you select a channel for a recording key, the channel's default sharing is used. You can override the channel permissions by setting a different sharing mode for the recording key.

Setting a different sharing mode at the recording key (restricting access through the key permissions) allows you to maintain fewer channels. Consider the academic example: By default, all students can have access to the *Lectures* channel. However, a recording key for an individual class might restrict video access to the students in that class.

## Federation

With federation, a UVC Video Center (node 1) subscribes to another UVC Video Center (node 2). Node 1 viewers can access live streams originating on node 2 from their node 1 UVC Video Center. Because viewers on node 1 access only one live stream from node 2, bandwidth use on node 2 is limited.

Federation also allows viewers on the subscriber node to access recorded (on demand) videos available from the publisher. The video on the subscriber node is a copy. Therefore, editing the video on one node does not modify the video on the other node.

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**NOTE** The recording log for a video uploaded from a federated node does not include recording data. To view the recording data for a video, access the recording log from the publisher node.

---

The viewing permission of the subscriber determines which live streams and on demand videos are accessible from the publisher. The video's viewing permission (on the publisher) transfers to the subscriber. If **Share with all** is not set, UVC Video Center grants viewing permissions to users and groups with matching names on the subscriber.

To configure federation, administrators must set properties on both the subscriber and publisher nodes.

### Configure the Publisher Node

1. Configure UVC Video Center to allow subscriptions: Select **Video Center > Administer > Content Management > Global authorization properties – Edit** and select **Allow subscriptions from federated nodes**.
2. Configure an authorized user on the publisher: Select **Platform Administration > User Management > Users - Add** (or **Edit**) and grant the user **Content subscription** permission.

### Configure the Subscriber Node

1. Configure federation on the subscriber UVC Video Center: Select **Video Center > Administer > Content Management > Federation configuration – Add**.
2. Enter the IP address or domain name of the publisher.
3. *Optional:* Select **Use HTTP proxy**. Use this option if the subscriber is in a LAN with restricted Internet access. You must configure the proxy on UVC Platform in **System Settings > Network Settings > Proxy settings**. Only on demand videos are available through a HTTP proxy. Live streams cannot be viewed through a proxy.
4. Enter the credentials for the remote user with **Content subscription** permission.
5. Click **Save**.
6. Configure the subscription:

Subscribed content	Select from <i>Live Only</i> , <i>On Demand Only</i> , and <i>Both</i> .
Channels	Subscribe to all or select channels on the publisher node.

7. Click **Save**.

One of the following status messages appears:

OK	The federated connection is successfully configured.
Unreachable	The subscriber node cannot ping the publisher node.
Authentication failure	The credentials you entered for the remote user are invalid.

## Chat

Administrators enable chat in **Administer > Content Management > Chat configuration – Edit**. With chat enabled, viewers of live streams can exchange rich text messages in a chat window that accompanies the live video. When the live stream is terminated, users can see the chat history during video playback. Up to 1000 chat participants are allowed, whether in one or across multiple simultaneous live streams.

## Multicast

Multicast allows UVC Video Center to stream video to a single multicast address to which multiple networks can subscribe. Administrators configure multicast in **Administer > Content Management > Multicast configuration – Edit**.

<b>Multicast IP address</b>	One or more multicast addresses that UVC Video Center can use for multicasting. UVC Video Center selects one multicast IP address and streams video to that address. Clients subscribe to the multicast IP address to receive the stream.
<b>Port range</b>	Range of ports that are available to the specified multicast IP addresses.
<b>TTL</b>	Time to live (TTL) for the multicast packets.
<b>Client addresses</b>	List of network IP addresses that are capable of receiving a multicast stream. A client address must be a unicast address. Clients in other networks receive the unicast version of the stream.

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**NOTE** You must install the QuickTime player to view a multicast stream. The QuickTime player plug-in does not support full screen viewing.

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## Default Recording Properties

Default recording properties define default limits for individual recordings when the corresponding limits are not set at the user or group level (in UVC Platform). For example, if the disk quota has been set to a higher or lower value for a user or one of the user's groups, that value applies for the user. If the disk quota for the user and all of the user's groups is set to **Use defaults** (at the user and group level in UVC Platform), the default value applies.

Administrators define default recording properties in **Administer > Content Management > Default recording properties – Edit**.

Global Setting	Description
<b>Disk quota</b> (in MB)	Sets the maximum amount of disk space a user can use for recordings and file attachments. The default is the capacity of the UVC Video Center. You can set a lower limit in the text box. Refer to <a href="#">Monitoring the Server</a> for information about monitoring disk usage.
<b>Recording length</b> (in hours)	Sets the maximum recording length for a single video. The default is 8 hours. You can raise or lower this limit in hours and fractional hours. For example, enter 3.75 to represent three hours and 45 minutes.
<b>Maximum recording bit rate</b> (in kb/s)	Sets the maximum recording bit rate. The default is 1152 kb/s.
<b>Default recording bit rate</b> (in kb/s)	Sets the default recording bit rate. The default is 400 kb/s.  Lower bit rates consume less disk space and bandwidth, but also reduce video quality. Settings of 256 or 384 are appropriate for videos viewed remotely on the Internet. Videos viewed on the LAN can safely use higher bit rates.

## Bandwidth Limits

Administrators can set aggregate bit rate limits in **Administer > System Settings > Bandwidth Limits – Edit**. These limits determine the number of simultaneous recordings and live streams that are allowed. For example, setting **Recording bit rate** to 1536 allows the following:

- Two simultaneous recordings at 768 kb/s
- Three simultaneous recordings at 512 kb/s
- Six simultaneous recordings at 256 kb/s

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**NOTE** The number of simultaneous recordings that are allowed is dependent also on the number of recording licenses activated on your system. A site with three recording licenses is unable to host six simultaneous recordings.

---

Lowering bandwidth limits does not affect streaming and recording that is in progress. New limits apply to all activity after the change is made. Setting bandwidth limits is optional. Change these settings only if your network cannot support the number of simultaneous recordings and live streams that UVC Video Center supports.

Bandwidth Limit (in kb/s)	Description
<b>Recording bit rate</b>	<p>Sets the total bit rate limit for recordings (incoming and dial out). Valid values are 0 to 16000. A value of 16000 is equivalent to 40 standard definition (SD) or 20 high definition (HD) recordings. Setting the limit to 0 disables recording.</p> <p><b>NOTE:</b> The number of recording licenses activated on the system determines the upper limit of allowed recordings.</p> <p>The <b>Recording bit rate</b> includes both incoming streams and dial out recordings, so that the number of dial out recordings in progress affects the recording capacity for incoming streams. For example, with 3 HD dial out recordings in progress, the capacity for recordings initiated by the video system is 17 HD recordings.</p>
<b>Encoding bit rate</b>	<p>This setting applies to SIP dial out recordings, SIP dial in recordings, and video transcoding used to create dual streams and mobile formats.</p> <p>Sets the total bit rate limit. Valid values are 0 to 3840. A value of 3840 is equivalent to 5 HD recordings or transcodings. Setting the limit to 0 disables dial out recording, dial in recording, and transcoding.</p> <p>Dial out recordings, dial in recordings, and transcoding use the UVC Platform CPU. The bit rate is limited to conserve CPU resources. If your UVC Video Center is deployed on a virtual machine (VM), set this value according to the VM's CPU capacity.</p>
<b>Viewing bit rate</b>	<p>Sets the total bit rate limit for videos (live and recorded) with viewing in progress. Valid values are 0 to 1600000 (1600 Mb/s). Setting the limit to 0 disables viewing. The default is 800000 and recommended for single NIC configurations. Dual NIC configurations can use higher rates.</p> <p>The <b>Viewing bit rate</b> includes both live and on demand viewing, so that on demand viewing reduces the bandwidth available for viewing live streams.</p>

Bandwidth Limit (in kb/s)	Description
<b>On demand viewing bit rate</b>	<p>Sets the total bit rate limit for recorded videos with viewing in progress. Valid values are 0 to 268800. A value of 268800 is equivalent to 350 HD streams. Setting the limit to 0 disables on demand viewing.</p> <p>The total on demand viewing bit rate depends on the read capacity of the hard drives. If your UVC Video Center is deployed on a VM, limit this value according to the disks used.</p>

## Dial Out and Dial In Recordings

Dial out and dial in recordings allow you to initiate recordings with UVC Video Center from or to video devices that do not support streaming and recording. Using dial out or dial in recordings sets up a SIP call and starts the recording. UVC Video Center inserts key frames, allowing viewers to locate a specific section of the video more quickly.

For multiway calls with three or more participants (including UVC Video Center), the SIP call between UVC Video Center and the video system that initiates the recording appears in the video system layout as a call participant and is embedded in the video recording. In two-way calls (including UVC Video Center), the recorded stream does not show UVC Video Center as a call participant.

Because dial out and dial in recordings require UVC Video Center to perform additional processing, LifeSize recommends that you use dial out and dial in recordings only if the video system does not support recording and streaming to UVC Video Center.

For a list of systems that support streaming and recording and a list of systems that support dial out and dial in recordings, refer to the release notes for UVC Video Center at [lifesize.com/support](https://lifesize.com/support).

### Dial Out Recording

Users (with permission to record) and administrators can record directly from UVC Video Center.

1. Select **Manage > Dashboard (or My Videos) > Record Video**.
2. Specify the IP address or SIP URL of a video system that can stream H.264 video and G.711 audio.
3. Enter a name for the recording. Additional optional properties include recording key options (refer to [Configuring Recording Key Permissions](#)). You can enter a recording key you own to specify these properties for the dial out recording.
4. Click **Call**.

## Dial In Recording

Use one of the following dial strings (where <UVC Video Center> is the IP address or hostname) to initiate a dial in recording:

Dial String	Action
sip:<UVC Video Center>	At the prompt, select <b>Record</b> , and enter a recording key.
sip:record@<UVC Video Center>	At the prompt, enter a recording key.
sip:record:<recording key>@<UVC Video Center>	The recording begins using the specified recording key.
sip:<prefix><recording key>@<UVC Video Center>	If required, configure a prefix in <b>Administer &gt; System Settings &gt; SIP Settings</b> . UVC Video Center ignores the prefix and uses the rest of the string as the recording key. Read more at <a href="#">Configuring a Recording Key Prefix for Dial In Recording</a> .

### Configuring a Recording Key Prefix for Dial In Recording

A SIP registrar might require a prefix to forward a dial string to UVC Video Center. Configure a recording key prefix for dial in recording in **Administer > System Settings > SIP Settings > Recording key prefix – Edit**.

The prefix indicates the beginning of the recording key in SIP dial strings for dial in calls. UVC Video Center ignores the prefix and uses the rest of the string as the recording key. The SIP URI must include a username. Consider the following example:

Prefix	SIP Dial String	Result
111	sip:111222@vc.yourcompany.com	UVC Video Center uses 222 as the recording key.

---

**NOTE** UVC Video Center does not use this prefix for recording keys you create in **Administer > Content Management > Recording keys – Add**.

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### Dial In Recording through UVC ClearSea

When UVC Video Center is registered with UVC ClearSea, a UVC Video Center contact appears in the contact list of all registered ClearSea Clients. The contact takes the form:

sip:VideoCenterUsername@ClearSeaAddress. Calling this contact allows you to initiate an out-of-call dial in recording.

1. *UVC ClearSea Server*: Create user accounts for UVC Video Center and every ClearSea Client in **Manage > Users > Add**.
2. *UVC Video Center*: Register with UVC ClearSea Server in **Administer > System Settings > SIP Settings > SIP registrar**. Enter the IP address of the UVC ClearSea Server and user ID and password of the UVC Video Center account you created on UVC ClearSea Server.

3. *ClearSea Client*: To initiate an out-of-call dial in recording, click **call** for the UVC Video Center contact. A prompt appears for you to enter the recording key.

If UVC ClearSea Server is configured for multiway calling with UVC Multipoint, the client can initiate a dial in recording while in a call with another ClearSea Client. In addition to the preceding configuration steps 1 and 2, complete the following steps:

1. *UVC ClearSea Server*: Add UVC Multipoint in **Manage > MCUs > Add**. Select **Enable MCU Integration**.
2. *UVC ClearSea Server*: Add a call routing rule in **Manage > Call Routing** that forwards the dial string to the UVC Video Center address.
  - a. **Condition**: Set **Field** to *Dial String*; **Operation** to *Contains*; and **Value** to a recording key prefix.
  - b. **Action**: Set **Type** to *Forward* and **Destinations** to `<dialstring>@UVCVideoCenterIPAddress`.
  - c. **Called Transformation**: Set **Display String** to `<dialstring>@UVCVideoCenterIPAddress`.
3. *UVC Video Center*: Configure a recording key prefix in **Administer > System Settings > SIP Settings > Recording key prefix**. Use the same value you defined in the call routing rule in UVC ClearSea Server. A prefix-based route instructs the MCU to pass the recording key to UVC Video Center (through UVC ClearSea).
4. *ClearSea Client*: Create a local contact for UVC Video Center that includes the prefix and recording key: `sip:PrefixRecordingKey@ClearSeaAddress`. For example, `sip:999123@clearsea.com` includes the prefix 999 and recording key 123.
5. To initiate a dial in recording from the client, click **add** for the local UVC Video Center contact. If the client is in a call, UVC ClearSea Server escalates the call to UVC Multipoint.

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**NOTE** You can use the local UVC Video Center contact for both out-of-call and in-call recording.

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## Managing Videos

Manage a video from the video's view page. Access the video's view page by clicking the thumbnail displayed in **Watch** or, if you are a video owner, in **Manage**.

Administrators can also view a video in **Administer > Content Management > Videos – Edit**. Filter the displayed video names by recording date, channel, or both. Some filters also include more detailed options. Clicking **This year** displays additional filters for any month in the current year in which a minimum of one recording was created. Click **View** to display the video's view page.

A video's view page includes the following options. Available options depend on your user role.

Option	Description
Adding captions	<p>If enabled, allows administrators and video owners to add closed captions to videos in a variety of supported languages in the followings ways:</p> <ul style="list-style-type: none"> <li>• Upload a caption file to a video</li> <li>• Add captions to a video manually</li> <li>• Add captions to a live stream manually</li> </ul> <p>Enable captions in <b>Administer &gt; Content Management &gt; Closed caption configuration – Edit</b>.</p>
Adding chapters	<p>Allows administrators and video owners to add chapters to videos to simplify internal navigation.</p>
Commenting	<p>If enabled, allows registered (logged in) users to post a comment.</p>
Attaching files	<p>Allows you to upload files from your computer and associate them with the video. You can only attach as many files as you have room for under your storage quota.</p>
Embedding and sharing a video	<p>Allows users to copy the code for embedding the video into a web site.</p> <p>You can also copy the link to the video to allow recipients to view the video from UVC Video Center. To share a private video without requiring logging in to UVC Video Center, select the video link that does not require login authentication.</p> <p>Administrators and video owners can access this feature from the following locations:</p> <ul style="list-style-type: none"> <li>• The video's properties page</li> <li>• <b>Watch &gt; Recent Videos</b></li> <li>• <b>Watch &gt; Featured Videos</b></li> <li>• <b>Manage &gt; My Videos</b></li> </ul>
Deleting a video	<p>Allows administrators and video owners to delete the video.</p> <p>Administrators and video owners can also delete a video from the video's properties page.</p> <p>NOTE: Delete a video only when the system is idle to avoid affecting ongoing recordings or live streams.</p>
Editing a video's properties	<p>Allows administrators and video owners to complete the following tasks:</p> <ul style="list-style-type: none"> <li>• Edit the video's name, tags, and description. Edits you make to these sections can help users find the video easily.</li> <li>• <i>Administrators only</i>: Assign a new owner.</li> <li>• Assign the video to a different channel.</li> <li>• Specify who can view the video.</li> <li>• Embed and share the video.</li> <li>• Allow commenting. This only appears if commenting is configured globally. If you clear this option, existing comments are displayed.</li> <li>• Allow download. This only appears if downloading is configured globally.</li> <li>• Manage video formats, such as adding a mobile device version of the video. Read more at <a href="#">Managing Video Formats</a>.</li> <li>• Delete the video.</li> </ul>

Option	Description
Featuring a video	Allows administrators to add a video to the main channel's <b>Featured Videos</b> . Featured videos for the main channel appear in <b>Watch &gt; Home</b> . If the video is assigned to another channel, you can also feature the video on that channel's page.
Downloading a video from UVC Video Center	<p>If enabled, allows users to download a video to their computers. Enable video downloads for all users in <b>Administer &gt; Content Management &gt; Global authorization properties – Edit</b>. Read more at <a href="#">Users and Global Permissions</a>.</p> <p>Download the archive to include all associated files, including transcoded low bit rate and mobile versions. Long recordings are stored as a series of videos, each no longer than an hour in length. A presentation is stored as a separate file. Recordings can have multiple files if the resolution changes during recording, with each file maintaining a constant resolution. You can upload this archive to any UVC Video Center that supports uploading an archive.</p>
Uploading a video to another UVC Video Center	Allows content creators to upload a video to another UVC Video Center.
Viewing a video's statistics	<p>Allows administrators and video owners to view the following information about a video:</p> <ul style="list-style-type: none"> <li>• Total number of times the video was viewed.</li> <li>• Number of views by date.</li> <li>• Number of views by segment of the video.</li> <li>• Number of views by segment of the video for the 10 most recent viewers.</li> <li>• Viewer summary data, including the username, name, date, and percentage of the video viewed. This information is available to download in CSV format. Administrators manage permission for content creators to generate viewer summary data in <b>Administer &gt; Content Management &gt; Global authorization properties</b>.</li> </ul> <p>NOTE: Downloaded viewer summary data does not include data for anonymous users. Because the total view count includes anonymous users, the total can be higher than the number of rows in the viewer summary.</p> <ul style="list-style-type: none"> <li>• If the video was streamed live, you can view the live telecast statistics and generate a report showing who watched the telecast, when they joined, and when they left.</li> </ul> <p>Administrators and video owners can also download statistics in <b>Watch &gt; Recent Videos</b>, <b>Watch &gt; Featured Videos</b>, and <b>Manage &gt; My Videos</b>.</p>
Changing the thumbnail	Allows administrators and video owners to specify the video segment to capture for the thumbnail that appears on UVC Video Center.
Trimming a video	<p>Allows administrators and video owners to set a new start time and end time for the video. The video is trimmed to the nearest key frame, which occurs at 10 second intervals in videos recorded from LifeSize systems. Specify the trim times in multiples of 10 seconds. UVC Video Center creates a backup (overwriting the previous backup) before trimming the video.</p> <p>Undoing a trim within 24 hours restores the video to the version before the last trim. When you restore the video, all changes you made after trimming are lost (including changes to video formats, chapters, captions, and statistics).</p> <p>NOTE: Trim or undo a trim only when the system is idle to avoid affecting ongoing recordings or live streams.</p>
Viewing a video's recording log	<p>Allows administrators to view a video's recording log.</p> <p>NOTE: Uploaded videos do not have an associated recording log.</p>

## Video Playback

Administrators can manage video playback in **Administer > Content Management > Playback settings – Edit**:

Option	Description
<b>Enable autoplay</b>	By default, videos start playing when a user navigates to the video page. Clear this option to turn the feature off.
<b>Enable secure streaming</b>	Streams all video on secure connections using RTMP over SSL (RTMPS). Enabling this option reduces streaming capacity.  NOTE: Secure streaming requires that you configure UVC Platform with a valid SSL certificate in <b>System Settings &gt; SSL Configuration</b> .

## Uploading Videos

Users (with recording permission) and administrators can upload external videos from **Manage > My Videos**. Administrators can upload external videos from **Administer > Content Management > Videos – Edit**. Video uploads must be QuickTime (.mov) or MP4 files with H.264 video and AAC-LC audio. Additionally, you can upload a video archive that was downloaded from UVC Video Center.

You can manage an uploaded video in the same way that you manage a video recorded with a LifeSize video system.

## Managing Video Formats

Administrators and content owners can create multiple versions of a recording or live stream by using recording key settings. Refer to [Configuring Recording Keys](#). They can also add versions of the recording by clicking **Manage video formats** on the video's **Edit properties** page. New versions are created from the original video as resources become available.

Video Format	Description
<b>Low bit rate version</b>	Generates an additional version of the recording at the bit rate specified for PC viewers whose bandwidth cannot support the bit rate of the primary version. UVC Video Center automatically determines which version to send to PC viewers based on the quality of their Internet connection.
<b>Mobile stream 1</b>	Generates combined main and presentation video for mobile devices at the bit rate specified. Set this to the highest bit rate the device can sustain with a good Internet connection.
<b>Mobile stream 2</b>	Generates a second combined main and presentation video for mobile devices at the bit rate specified. Set this to the lowest rate to ensure mobile devices with slower Internet connections can experience uninterrupted streaming. The client automatically determines which version to use based on the network connection.
<b>Mobile stream layout</b>	Appears only when a mobile stream is enabled. Specify the layout of the combined main and presentation video in the stream. The viewer cannot change the layout.

Click **Add selected formats** to schedule the transcoding of the new versions. The page refreshes to show the versions of the video, their resolution, bit rate, type, disk usage, and whether they are available or pending creation. You can delete rarely used or otherwise unwanted versions at any time from this page. Read more at [Transcoding](#).

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**NOTE** Creating low bit rate or mobile streams uses additional storage and reduces capacity for simultaneous recordings. Mobile streams use the industry standard Apple HTTP Live Streaming protocol, which supports live and recorded streams, and streams at different bit rates.

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## Reports

Administrators can create reports of UVC Video Center activity in **Administer > Reports**.

1. Select **User Video Views** to see a particular user's viewing activity or select **Total Video Views** to see viewing activity for all users.
2. Click **Date Range** to list standard date ranges and date options you can set yourself using an interactive calendar.
3. In **Group By**, select *Day*, *Month*, or *Year* for the range of your report.
4. *Optional:* Save the graphical report to a PDF or CSV file.
5. To regularly generate a report and have it emailed to a list of users, click **Schedule**. Enter the frequency and time of day at which to generate the report and enter the email accounts to which to send the report.

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**NOTE** You must establish an email account on UVC Platform from which these emails originate. Navigate to **Platform Administration > User Management > Accounts > Email – Add**.

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## Section 3: Maintaining LifeSize UVC Video Center

### Monitoring the Server

Administrators can monitor the server in **Administer > System Status**.

Property	Description
<b>Storage</b>	<b>Disk Usage</b> shows the percentage used and hours remaining at the default recording bit rate specified in <b>Administer &gt; Content Management &gt; Default recording properties</b> . If NAS is configured, network storage usage appears.
<b>Connections</b>	Displays current streaming, recording, transcoding, and uploading activity.
<b>Port Usage</b>	Displays the ports used for each process. For information about ports and firewall settings, refer to <a href="#">Planning for Firewalls</a> and <a href="#">Network Considerations</a> .

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**NOTE** The **Storage** section appears in **Administer > Content Management** also.

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### Connections and Bandwidth

Administrators can monitor and control video activity in **Administer > System Status > Connections**.

<b>Videos being watched</b>	Displays the status of video activity, including the number of connections and the bandwidth used. Click <b>Disconnect</b> to terminate playback. Use this feature to ensure that a preferred video has access to the maximum bandwidth. <b>NOTE:</b> Details do not include video activity on embedded players.
<b>Recordings and transcodings in progress</b>	Displays the status of recordings and format conversions.
<b>Video uploads in progress</b>	Displays the status of uploads to other instances of UVC Video Center.

### Transcoding

Creating low bandwidth and mobile versions of videos and performing dial out and dial in recordings are processor intensive tasks that require UVC Video Center to transcode video. The server creates low bandwidth and mobile video versions by transcoding the primary video sent to it from the recording capable LifeSize system. For dial out and dial in recordings, the server performs all of the processing.

If requests for transcoding exceed processor capacity, the requests are queued and processed in sequence. Dial out and dial in recordings take precedence. To view in process and pending format conversions, navigate to **Administer > System Status > Connections > Recordings and transcodings in progress – View Details**.

## Monitoring Recording Statistics

Select **View recording statistics** from the live video window to show information about calls that use transcoding: dial in recording, dial out recording, and live streams.

UVC Video Center records a transcode timeout during a call if internal transcode limits are exceeded. UVC Video Center deployed on virtual machines without adequate CPU resources might encounter issues in calls that use video transcoding. If you encounter transcode timeouts, increase the CPU allocation to UVC Video Center or initiate a recording from a video system that supports recording and streaming to UVC Video Center.

*Supported with LifeSize devices only:* Additionally, UVC Video Center recovers lost video packets and reports the status during a call. Values in **Packet Loss** and **Cumulative Packet Loss** represent packets that UVC Video Center could not recover. **Pre-recovery Packet Loss** is the actual network loss. UVC Video Center cannot recover packet loss over 2%; nor does UVC Video Center recover packet loss from presentation video.

## Performing Server Maintenance

LifeSize recommends that you put UVC Video Center in maintenance mode before backing up, restoring, or implementing NAS. Maintenance mode terminates streaming and recording activity and prevents non-administrators from logging in.

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**CAUTION** UVC Video Center does not warn streaming and recording users before their activity is terminated, but a message alerts users that their activity has been terminated by an administrator. Use another method, such as email, to forewarn users.

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Enter maintenance mode as follows:

1. Select **Administer > Operations and Maintenance > Maintenance mode**.
2. Click **Shut Down Services**. Current streaming activity is terminated and users receive a message that an administrator has terminated services.

Ensure that you exit maintenance mode and restore services after your tasks are complete.

## Backing Up Videos and Settings

You can use the local RAID configuration on UVC Video Center or NAS to store videos and associated data. Whatever option you use, consider regularly backing up the content to external servers to prevent losses in case of disk failures or accidental deletion of content.

Learn how to configure UVC Video Center to back up to NAS at [Using NAS](#).

Use the backup option to create a copy of the videos, comments, and all settings in the **Content Management** page.

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NOTE System settings and application software are not backed up.

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### Backing Up Local Storage

1. Select **Administer > Operations and Maintenance > Back Up**.
2. Enter the IP address for the FTP host.
3. Enter your FTP username and password.
4. *Optional:* Enter an FTP backup directory.
5. Click **Create Backup**.

If you previously backed up the server to this path, subsequent backups are incremental, replacing only data that has changed since the previous backup.

### Restoring from Local Storage Backup

1. Select **Administer > Operations and Maintenance > Restore**.
2. Enter the IP address for the FTP host.
3. Enter your FTP username and password.
4. Enter the FTP backup directory, if you used one during the backup.
5. Click **Restore From Backup**. UVC Video Center validates the backup image and lists the recordings located in the backup image.
6. To restore selected videos, select one or multiple video names and click **Restore Videos**.

-or-

To restore all videos, users and groups, channels, and recording keys, click **Restore All Content**.

Because users and groups may have permissions associated with LifeSize UVC services other than UVC Video Center, restoring all content restores only users and groups that are missing from the UVC Video Center database. Restoring all content does not affect existing users and groups.

### Backing Up NAS

1. Select **Administer > Operations and Maintenance > Back Up**.

UVC Video Center enters maintenance mode and copies the content databases to the network storage location, including recently recorded media still in local storage. When the content flush is complete, UVC Video Center exits maintenance mode.

2. Manually back up the NAS location with tools of your choice.

## Restoring from a NAS Backup

1. Enter maintenance mode.
2. Manually copy the backed up contents to the currently configured storage location.
3. Click **Restore From Backup**.

UVC Video Center enters maintenance mode and synchronizes its content database with the NAS contents. When the synchronization completes, UVC Video Center exits maintenance mode and continues normal operation.

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**NOTE** You cannot select specific videos to restore from an NAS backup.

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