Discover Video

User Guide

June, 2020
V4.9.1

DiscoverVideo
www.discovervideo.com

PURPOSE **7**

GENERAL DESCRIPTION **7**

SYSTEM DESCRIPTION AND ARCHITECTURE **8**

BASIC CONCEPTS **9**

ACCOUNTS 9
ACTIVE DIRECTORY 9
SECURITY GROUPS 10
MEDIA SETTINGS 10
CATEGORIES 10
CHANNELS 10
DELEGATES 10
TEAM SHARE 10
ENCODERS 10
STREAMING PROTOCOLS 11
VIDEO FILE TYPES 11
AUDIO FILES 11
PLAYERS 11
PLAYER QUESTIONS / TESTING 11
DIGITAL SIGNAGE 11
SCHEDULING 11
DOCUMENTS 12
IMAGES 12
PODCASTING 12
PRESENTATIONS 12
PRIORITY ALERT 12
REPORTS 12
MULTI-PLAYER 13
LEARNING PATH 13
INVITATIONS 13
SMS / TEXT MESSAGES 13
SET TOP BOX 13
CAPACITY 13
SIGNAL FLOW & NETWORK CAPACITY PLANNING 14
CLUSTERING 15
PUBLIC INTERNET 15
ENCRYPTION 15

INSTALLATION **16**

DEVOS HARDWARE 16
DEVOS SOFTWARE ON YOUR SERVER OR VIRTUAL SERVER (VM) 16
DEVOS CLOUD 16
INSIDE, OUTSIDE, AND DMZ 16
PORTS 16

GETTING STARTED **18**

ADMINISTRATION **19**

ACCOUNT SETTINGS 19
Profile *19*
Account Settings *20*
Change Password *20*

Dropbox *20*
Invitations *20*

SUPER PORTAL **22**

DEVOS SETTING 22
General Settings *22*
Landing Page Settings *23*
Transcoder Settings *25*
Notification Settings *25*
Default Media Settings *26*
Security Settings *26*
Manage Priority Alert Zones *27*
Media Categories *27*
Licenses *28*
TV Channel Guide *29*
System Language *30*
StreamPump *31*
Closed Caption & Google Analytics *32*
Google Analytics *32*
About & Update *33*
ACTIVE DIRECTORY 33
Active Directory Groups *34*
USERS 35
PRIVILEGES 36
Signage Approval *36*
TEAM SHARE 36
ADMIN STYLE 37
MASS TRANSFER 38
EMAIL CONFIGURATION 38
CLUSTER SETTING 39
AWS IOT 39
ADVANCED OPTIONS 40
Pull *40*
Push *40*
SYSTEM CONTENT 41

MANAGE CHANNELS **42**

COMMUNITY CHANNEL SHARE 43
CHANNEL EMBED CODE & API 44
API *44*
HOW TO CREATE OR MODIFY AN CHANNEL IN TREE VIEW 44
Organizing Channels *46*
Adding/Removing Content In Channels *47*
USING CHANNELS 48
Understanding Channel Map and Sub-Channels *48*
Simple Channel Manager *49*
SYSTEM CHANNEL LANDING PAGE 49
Channel Search *50*
Categories *50*
Closed Captions *50*

MEDIA **51**

MEDIA SETTINGS 51

QUICK WIZARD 52
ENCODERS 52
Add New Encoder *53*
Streamsie: *54*
Mantis: *55*
StreamEngine *55*
YouTube *56*
..... *56*
Facebook *56*
CDN *56*
Remote Encoder Control *57*
LIVE STREAMS 58
Multi-Player *60*
Live Chat, Attendance, Questions, and Polling *60*
Multi-Player Recording *64*
Edit Live Video *65*
Live Viewer Report *65*
Live Questions *65*
VIDEO ON DEMAND 66
Add New (YouTube/Vimeo) Video *66*
Upload Video *68*
Download Video *68*
Captions *68*
Bookmarks *69*
Insert Questions Into Video *69*
Edit Video *70*
Video Trim *70*
Video Information *71*
Report *71*
Video Embed Code *71*
Restore Recorded VoD *72*
PRESENTATIONS 73
Live Presentations *73*
Giving A Live Presentation *76*
Polls *78*
VoD Presentations *80*
Viewing Presentations *81*
Live Presentation Viewing *81*
MANAGE IMAGES 82
POWERPOINT 83
MANAGE DOCUMENTS 84

LEARNING PATH 85

NEW COURSE DIALOG 85
LESSON TYPES 86
Image Lesson *86*
Video/Audio Lesson *87*
Image & Questions *88*
Video/Audio & Questions *89*
Document & Questions *91*
EXAMPLE COURSE WITH 10 LESSONS 93
MANAGE ASSIGNMENT 93
LEARNING PATH TIPS 95

SCHEDULE **96**
SCHEDULING STREAMS AND RECORDINGS 96
Live Stream *96*
Encoder *97*
Multi-Player *97*
REMOVE SCHEDULE 98
IOT CONTROL AND SCHEDULING 98
Setting Up Brands *99*
IR Control *100*
Setting Up Devices *101*
Setting Up Functions *101*
Setting Up Groups *101*
Testing iTach Devices *102*
RS-232 Control *102*
SIGNAGE **103**
CREATE SIGN 103
Example Entry For Template 1 ..... *104*
Mix Template *105*
GOOGLE SLIDES 106
DISPLAYING SIGNS 107
Signage Media Player & SignStick® *107*
Web Browser *107*
CONTROLLING YOUR SIGN 107
MASTER SIGNAGE 107
SCHEDULE SIGNAGE 108
POWERPOINT ADD-IN 108
PRIORITY ALERT **109**
UNDERSTANDING ALERTS 109
SMS TEXT MESSAGE 111
SECURITY **112**
MANAGE GROUPS 112
REPORTS **113**
SYSTEM REPORT 113
RECORDING LIVE STREAMS **114**
ROKU SET TOP BOX **115**
EXTERNAL PLAYER, PRIORITY ALERT, AND DVPLAYER **116**
HOW TO UPLOAD A VIDEO USING WEB UPLOAD **117**
HOW TO VIEW LOW DELAY VIDEO **118**
HOW TO VIEW ON TV USING CHROMECAST **118**
HOW TO UPLOAD A VIDEO USING FTP **119**
HOW TO UPLOAD VIDEOS USING DROPBOX **120**
HOW TO STREAM A LIVE EVENT **121**
HOW TO ADD TEST QUESTIONS TO A VIDEO **122**

HOW TO RECORD A DESKTOP LECTURE 123
HOW TO RECORD A CLASSROOM LECTURE / SINGLE STREAM 124
HOW TO RECORD A CLASSROOM LECTURE / MULTIPLE STREAMS 125
HOW TO MONITOR AREAS FOR SECURITY 126
HOW TO DISPLAY DIGITAL SIGNAGE IN A LOBBY 127
HOW TO STREAM LIVE OR RECORD FROM IPAD OR IPHONE 129
HOW TO DISTRIBUTE TV 130
HOW TO DISTRIBUTE LIVE VIDEO USING IP MULTICAST 131
HOW TO DO LIVE MORNING ANNOUNCEMENTS 132
HOW TO CONTROL A BROADCAST REMOTELY 133
HOW TO CONDUCT A LIVE "WEBINAR" 134
HOW TO DIGITIZE A VCR TAPE OR DVD 135
STREAMSIE PRO 135
HOW TO MASS LOAD CONTENT FROM YOUTUBE 135
HOW TO GIVE A LIVE VIDEO POWERPOINT PRESENTATION 136
STEP 1 136
STEP 2 136
STEP 3 136
STEP 4 136
HOW TO USE 3RD PARTY ENCODER FOR LIVE STREAMING 138
Encoder RTMP Push 138
Server Pull 138
HOW TO SETUP LECTURE CAPTURE WITH MULTI-PLAYER 139
HOW TO STREAM TO YOUTUBE AND FACEBOOK AT THE SAME TIME 140
COPYRIGHT ISSUES 141
ENCODING CONTENT FOR VOD 142
ENCODING PARAMETERS 142
QUICK RESPONSE (QR) CODES 143
WEB FILTERS 143
CLOSED CAPTIONS 144
END-USER LICENSE AGREEMENT 145

Chapter 1: Introduction

Purpose

The DiscoverVideo DEVOS is a powerful, multifunction, live and on-demand visual communications platform for offices, schools, corporations, departments, government agencies, and other enterprises. In addition to providing live and on-demand video to desktops, Smartphones, Set Top Boxes and other devices, DEVOS provides a learning path, “IPTV” TV distribution, an emergency communications system called "Priority Alert", provides Digital Signage, performs live broadcast on the public Internet, and supports IoT and scheduling and control. DEVOS delivers content to virtually all modern devices including PC, MAC, iPhone, iPad, Android, and Roku boxes, and it can accept uploads of live and VoD content from desktops and mobile devices.

General Description

DEVOS consists of a physical server, VM, or Cloud, and is available in multiple sizes and capacities. Any number of optional low cost Streamsie PC/Mac/iOS, StreamEngine, Mantis, Spider, or 3rd party encoders, may be used to create live or recorded video streams that are distributed to viewers via the DEVOS server. The system is self-contained and requires no special integration. It is generally "plug and play", allowing you to be up and operational in minutes. It is used and managed via its web page interfaces which are compatible with virtually all modern browsers.

System Description and Architecture

The DEVOS system consists of one or more DEVOS servers, one or more Streamsie, StreamEngine, Mantis, Spider, or other live encoders, and existing desktop computers, Smartphones and tablets, iPads/iPhones, and other clients.

The DEVOS Media Server provides live and Video-on-Demand (VoD) delivery via HTTP, RTMP, RTSP, HLS, HDS, DASH, and progressive download technologies. It is the heart of the system and provides all database, administration, storage, control functions, and user interfaces.

Live video streams are created using the DiscoverVideo Streamsie, Mantis or Hornet which can be controlled by DEVOS. Other live video streaming encoders may also be used, as well as compatible existing public video streams. Video files are created using encoders when capturing live events or when encoding a file from other sources.

Viewing of live video uses HTML5 or optionally Flash player (Version 11 or above), while VoD content is viewed via HTML5.

PC Desktops may be equipped with the DiscoverVideo Priority Alert program and DEVOS may then issue video, text, or web page alerts to one, some, or all desktops without the desktop user needing to take any action. Desktops may also be equipped with DVPlayer to display video, including IP multicast, in a stand-alone app.

DEVOS supports Digital Signage using the DiscoverVideo SignStick®, Signage Media Player, or the built-in Digital Signage web player. Digital Signage allows you to display any live or VoD content, PowerPoint, Images, etc. on unattended TV's or computer monitors and to display text, RSS feeds, or web pages.

DEVOS allows you to add YouTube and Vimeo videos to your VoD list, and to incorporate many public live streams into your live video lineup. You may also synchronize (download) your videos from a YouTube account automatically.

DEVOS supports Active Directory and allows you to give publishing privileges to multiple administrators, and to enable viewers to log in using their existing credentials.

DEVOS configurations allow StreamPump® to be deployed at remote branch offices to distribute live and VoD content. Each StreamPump then delivers the content to office viewers locally rather than those viewers each consuming bandwidth and capacity from the DEVOS master. This arrangement provides a highly scalable solution for video distribution, even on bandwidth limited networks. StreamPump is completely automatic. Just plug them in and they contact the DEVOS and exchange information. When a viewer in a location with a slave watches a live video, it is automatically delivered from the StreamPump rather than from the master.

Clustering allows DEVOS to scale to virtually any size. When Clustering is used, multiple DEVOS servers automatically replicate content and automatically balance the load between the servers in a cluster.

DEVOS supports Internet of Things (IoT) to control virtually any device that can be controlled using IP or IR (and using SignStick or 3rd party devices, RS232).

The DEVOS system supports full scheduling of streaming, recording, and control of 3rd party devices. Scheduling allows you to start recording on the server, locally in the encoder (StreamEngine, Hornet, Mantis, Streamsie PC), or both, and to publish the recording to a specified channel automatically. Scheduling allows you to control devices.

Basic Concepts

Accounts

The system operates with user accounts. Each user account has certain privileges. Among the possible privileges is "Super", which provides access to the global system configuration features, including user setup. *There is no single "Super Administrator" account.* Rather, one or more users may become a Super Administrator. This allows you to designate an alternate user to administrator the system, especially in cases where the primary Super Administrator is not available. You should limit the Super Admin privilege to a small number of trusted, trained, users. Accounts can be from your Active Directory, from the DEVOS system, or from both.

An account may be set to have only certain privileges. For example, user A may be allowed to publish VoD only, while user B may be allowed to publish VoD and broadcast live video.

Each user has their own account. If a user has privileges to publish content, create Digital Signage, create Channels, and other functions, then that content or function is "owned" by that user and other users cannot modify it. Team Share feature allows common control of selected content.

Active Directory

Active Directory is a Microsoft directory for Windows domains and is an implementation of the LDAP protocol. DEVOS supports Active Directory so that users may be automatically added to the system when they log in using their domain credentials.

DEVOS supports multiple AD domains, and AD groups and will parse many levels of sub-groups.

Once AD groups are identified, they may be added to a DEVOS security Group. Local uses (that is, users not within AD) may co-exist with AD users. DEVOS operates with or without AD.

Security Groups

DEVOS allows you to create any number of Security Groups. A Security Group is simply a list of desired AD groups and/or local users. A Security Group may be applied to any video or channel. For example, you may create a Security Group called "Group 1" and add AD group "Smith", AD group "Jones", and some number of local users. When this group is applied to a video, only members of that group may access the content.

Media Settings

The Super Administrator may create Media Setting used by users, and each user may create multiple Media Settings. Media Settings are simply a collection of values that control the behavior of a video, including whether the video will allow viewers to comment or rate it, whether the video requires a viewer to log in to view it, etc. This convenience allows you to select a pre-configured collection of commonly used settings for your videos. For example, you may publish some content using a Media Setting called "Private Content", and another template called "Public Content", etc.

Categories

The Super Administrator may create categories and sub-categories. Once created, a user that publishes a video may select a category for that video to make it possible for a viewer to search and select videos by category.

Channels

Channels are collections of content and a landing pages where users can publish their content. For example, you may create a Channel called "Science" where you publish all science content. You may create sub-Channels to further organize your content. For example, you can create a Channel called "Physics" under the "Science" Channel.

Delegates

A user may assign another user to manage certain features. For example, an executive with a DEVOS account may delegate the management of VoD to an assistant.

Team Share

The Super can create “Team Share” accounts and can include specified users in the team. Those members can then use a common “Team” account for such things as Digital Signage, VoD, etc. Each member’s privilege limits their capabilities in the team.

Encoders

DEVOS controls and manages Streamsie PC, Streamsie Mac, OBS Plugin, StreamEngine, Spider, and Mantis encoders. DEVOS also supports 3rd party encoders.

A DEVOS system can be authorized to support any number Streamsie accounts. These Streamsie accounts can then be assigned to specific users. If more Streamsie accounts are needed, they can be easily added by entering a product code by a Super Administrator. If a Streamsie account is no longer needed by a user, the Super Administrator can reassign it. Streamsie license is controlled by

DEVOS and *the license is portable* and may be used on any number of computers. For each Streamsie account, only one Streamsie may be active at the same time.

A Streamsie account may be used with OBS encoders with the DiscoverVideo plugin.

Third-party encoders are supported by DEVOS, provided they support industry standard H264/AAC, RTMP, RTSP, or AVC over TS.

Streaming Protocols

DEVOS delivers live video via streaming, and VoD via HLS, RTMP, or progressive download (HTTP/HTTPS). Live stream ingest is RTMP (using port 1935). Video is delivered on port 80. Low delay mode for web pages uses port 8410 and low delay for DVPlayer uses port 9999.

Video File Types

The system supports H.264/AAC video in .mp4 container. Most other popular video file formats may be uploaded and the server will automatically convert / transcode them for delivery.

Audio Files

Uploaded audio files in .mp3, .m4a, and .wav format are automatically combined with a simple image and converted to .mp4 video files.

Players

DEVOS uses HTML5 player, and optionally Flash for live. *No special plug-ins, ActiveX controls, or downloads are required.* When using the DVPlayer, multiple protocols are supported including IP multicast and low delay websocket.

Player Questions / Testing

Questions may be added to any video. Multiple-choice or textual questions may be inserted at any point of a video, and the viewer is presented with your questions at the proper point. The viewer has a certain time to answer the question and continue to view the video until the next question. DEVOS automatically calculates the score for each viewer and allows you to view the scores and details. Questions can be used for learning or for actual testing and can also be used to ensure and validate that a viewer has actively viewed your content.

Digital Signage

An unlimited number of dynamic, template-based Digital Signs may be created by each user with Digital Signage privilege. A sign may include a playlist of live and VoD content, images (including PowerPoint slides), web pages, or text. Sign templates may include news feeds from RSS providers. Digital Signage may be displayed using a SignStick or Media Player (physical box) or using web browsers. SignStick is the recommended player for Digital Signage.

Scheduling

DEVOS supports scheduling of server-side and local recording of live video. You may schedule a live video to be recorded once, daily, weekly, monthly, or yearly. The system will automatically start a

running Streamsie PC, or Mantis at the scheduled time. Scheduling is ideal to automatically record classroom lectures, live TV programs, etc. Scheduling of multi-view streaming and recording is also supported. DEVOS also supports time-of-day scheduling of Digital Signage.

Documents

You can upload documents, such as PDF, DOC, PPT, PPTX, etc. to the DEVOS system. Once uploaded, you can include documents with a video, thus allowing a viewer to download additional materials.

Images

You can upload images to DEVOS. Once uploaded, you can use an image for any video thumbnail icon, for a Channel icon, etc. You can also specify an image from a URL (e.g. an image found from a web search), and DEVOS will automatically download the image and add it to your image library. You can also upload PowerPoint and the server will convert your PowerPoint presentations.

Podcasting

Video podcasting is supported for channels. Videos uploaded to DEVOS (not external video links or YouTube videos) are automatically added to a channel podcast when enabled. This allows viewers to subscribe to your video podcast and automatically receive new videos ("episodes") when you add them to a channel. Video podcasting can eliminate streaming bandwidth concerns because the video is downloaded to the podcast reader and can be viewed at any time, even when the viewer is offline.

Presentations

DEVOS supports synchronized video with PowerPoint slides. You can instantly give a live presentation to your audience or create a new VoD presentation. Live presentations includes audience questions, chat, polling, and recording.

Priority Alert

Priority Alert allows you to cause live video, VoD, text messages, or a web page, to appear on one, some or all computers without user action. It is used for emergency communications, or to force target viewers to tune in (for example, for a live "Morning Announcement" or corporate "CEO Address"). Priority Alert is based on zones, and you can alert all zones, one zone, or some zones. A small Priority Alert program is easily installed on target computers (PC and Mac) to facilitate this function. Priority Alert also appears on one, some, or all Digital Signage displays. At the conclusion of an alert, it automatically closes desktop alerts, and Digital Signage displays return to prior state.

Reports

DEVOS provides several built-in reports. Users can see statistics on their content and can drill down to see who has viewed what, and when. Content with questions/tests have reports that show detailed test results. Super Users can access reports to monitor all content and discover how content is being published and consumed. Reports also allow you to download a CSV file so you can make your own custom report in Excel or import to your own database.

Multi-Player

DEVOS supports up to four simultaneous live and on-demand videos in a user-adjustable, synchronized player. Multi-player is used for lecture capture, performance assessment applications, security and monitoring, and other uses.

Learning Path

Learning Path is an optional feature that empowers you to create training/educational courses that takes a user through a defined sequence of lessons within a course. Learning Paths may be assigned to individuals or groups and you can track and monitor their progress.

Invitations

Any video or presentation can be sent to viewers via an Initiation, available from each item and from the video owner's profile. Invitations are sent via email using your SMTP email settings.

SMS / Text Messages

Optional SMS ("Short Message Service") is built-in to DEVOS. Any live or on-demand video may be selected and instantly sent to cell phone numbers.

Set Top Box

DEVOS supports a DiscoverVideo Set Top Box (STB). The STB operates as a conventional STB where the user can use an IR Remote Control to simply select the live video they wish to view.

Capacity

System capacity is a function of available network bandwidth, network I/O, CPU, and for VoD delivery, the disk storage system. In most cases you would reach network capacity before the other items become meaningful factors. DEVOS is delivered as hardware systems or as software for your server or virtual machine, and actual capacity depends on the performance of the underlying hardware and network.

DEVOS is typically capable of supporting 2,500 or more streams. The actual number is determined by network I/O capacity, CPU use, and by other processes. To increase simultaneous live streaming capacity, use clustering, StreamPump, or lower the streaming rate (see below).

DEVOS places no limits on the number of accounts, users, streams, content, signage, Channels, or other features and functions. However, unlimited does not mean "infinite", and actual capacity depends on hardware, network, and various configuration options.

Signal Flow & Network Capacity Planning

Live video streams flow from a remote live encoder to the server, and then from the server to the viewers. For example, a Streamsie PC may be sending a live video stream at 500,000 bps to the server. In this case, the uplink speed from the Streamsie encoder to the server is important.

When a viewer accesses a player, the server delivers the 500,000 bps stream to each viewer. In this case the downlink speed from the server to the viewer is important. The following table illustrates *theoretical* network utilization for a 500 Kbps live stream:

Number Of Viewers	Network Bandwidth
1	0.5 Mbps
10	5.0 Mbps
100	50 Mbps
1,000	500 Mbps (0.5 Gbps)
5,000	2500 Mbps (2.5 Gbps)
10,000	5000 Mbps (5 Gbps)

Because of network protocol overhead and other factors, this theoretical usage should be supported by a network capacity that is 20% to 50% higher. For example, to support 5,000 live viewers the network should support 3 to 3.75 Gbps, *plus network capacity for users to perform other routine network actions*. Also note that this example uses a single stream at 500 Kbps. The number doubles if the stream is 1 Mbps, and consideration must be made for the total number of live streams available.

Experience shows that while there may be 5,000 possible viewers, the actual number at any given instant is typically much smaller (because viewers tend to come-and-go, and not all possible viewers actually participate). It is therefore possible to be completely successful in a de-rated configuration. Live streaming capacity can be greatly increased by placing DiscoverVideo StreamPump® at strategic locations. StreamPump will automatically receive the live stream and distribute it to viewers within a network, vastly reducing both the server's load and the network utilization.

Viewing of Video-on-Demand is the same as live, except usage tends to be spread out over time (there is no compelling reason to tune in "now"). Actual network usage cannot be well predicted because it will be different for each use case, and network professionals should monitor network usage and adjust as needed. Generally, it is good practice to provide enough bandwidth capacity for the worse-case usage, but experience is the best guide.

For very large live streaming events, DEVOS also supports IP multicast, allowing an unlimited number of viewers to view live streams using the bandwidth of only one.

Clustering

Clustering increases performance by allowing multiple servers to behave as one. When you add an additional DEVOS server to your system, the content is automatically duplicated on all servers in your cluster and requests for viewing are automatically spread out via "round robin" load balancing. Thus, if the capacity of one server is 4 Gbps, the capacity of two such servers is 8 Gbps. Clustering also provides increased resilience. Clustering can be configured for local on-premises servers, or for off-premises hybrid premises/Cloud configurations.

Public Internet

If your DEVOS is available to viewers on the public Internet (e.g. home viewers, consumers, etc.), then you should be concerned about WAN access bandwidth usage. Your ability to serve many such viewers will be limited by how much public Internet access capacity you have. For example, if your WAN is limited to 5 Mbps, then you cannot deliver more than ten 500 Kbps streams to such viewers (and under this condition, all other services that use a WAN will slow). Be sure you have enough access bandwidth to serve your intended audience.

You can increase your streaming capacity to public Internet viewers by using optional Arcus service, DEVOS Cloud clustering, or of course by increasing your WAN bandwidth.

Encryption

You can install a certificate on DEVOS to enable https and configure the server to use http/https or only https in the system settings. Https (SSL, Secure Sockets Layer) provides end-to-end encryption. Contact DiscoverVideo support for assistance.

Chapter 2: Installation

Installation

Please review the DEVOS Installation and Planning Guide. This is provided to all customers prior to installation.

DEVOS Hardware

DiscoverVideo provides a complete turn-key server configuration. In this case, you need only provide adequate physical space (i.e. rack or table top) and the static IP address.

DEVOS Software on Your Server or Virtual Server (VM)

DiscoverVideo can install DEVOS on your virtual machine or stand-alone server hardware. The server must be Windows 2016 Server, must have at least 120G storage for Drive C, and adequate storage for content on Drive D (suggest start with at least 1 TB). Minimum of 2 CPU's, 32G RAM, and adequate network I/O (e.g. at least 1G).

DEVOS Cloud

DiscoverVideo Cloud is very popular when the viewers are geographically dispersed, and when purely "behind the firewall" security is not mandatory. DEVOS Cloud can be augmented with on-premises DEVOS StreamPump to provide distribution of content to many viewers inside your LAN. For DEVOS Cloud, DiscoverVideo provides a domain URL to access the system.

Note that all DEVOS installations require that the server can access the public Internet periodically for license and maintenance purposes.

Inside, Outside, and DMZ

The IP address assigned to DEVOS may be purely an inside address (e.g. 192.168.1.100), an outside IP address, or an address in your DMZ.

Commonly, the DEVOS is installed on an inside address and this address is NAT'ed to an outside address.

Ports

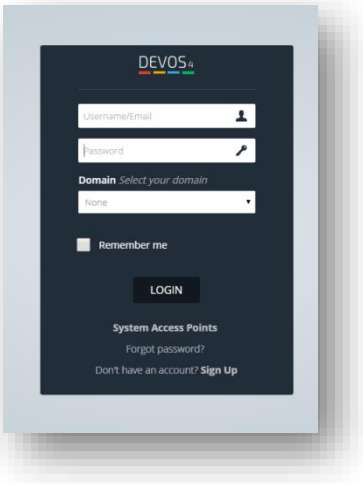
The following IP ports are used by the system:

- 80, (8410 for low delay live video) HTTP

- 443, HTTPS (optional, if you have certificate)
- 1935, RTMP
- 21, FTP (plus passive FTP ports)
- 3389, RDP (for maintenance)
- 9999 for optional low delay live video via DVPlayer

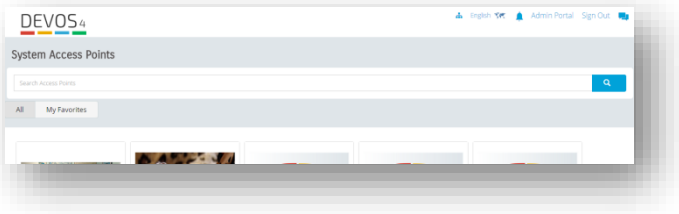
Chapter 3: Operation

Getting Started



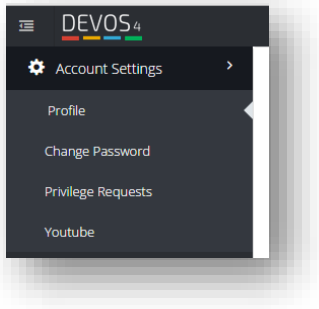
Log in to DEVOS by entering the system's IP address or URL in a browser. Depending on system settings, this will bring you to a default landing page. The default landing page may be a listing of Channels, a specific Channel, or a login screen. If not the login screen, select "Login". For username, enter "super@discovervideo.com". For password, enter "asdasd". You should change this password after logging in for the first time. Leave Domain blank and select "Login". This logs you in as initial setup user. You should not use this account except for system administration.

Depending on system settings, login will bring you to a content landing page. Because you have logged in with an account that has special privileges, you may select "Admin Portal" to begin to administer the DEVOS system.



Administration

All functions are accessible from the left menu panel. Selecting an item from the menu will expose additional functions.

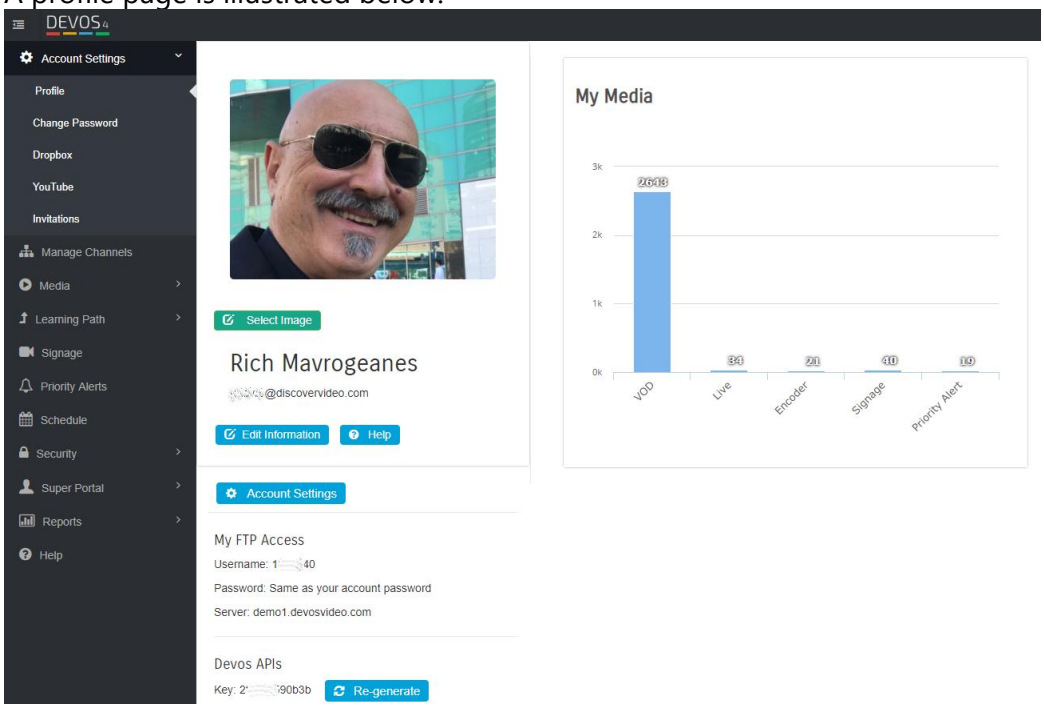


Account Settings

Every user has their own profile in the DEVOS system.

Profile

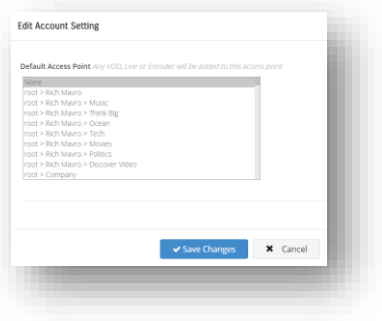
A profile page is illustrated below.



- Shows information about their media
- Allows user to change their profile picture and edit their profile
- Shows FTP credentials for the user account
- Provides access to all functions that they are authorized to perform (unauthorized functions do not appear in the menu).
- USERS SHOULD EDIT THEIR INFORMATION TO INCLUDE THEIR CELL PHONE NUMBER

Account Settings

The account settings allow the user to set a default Channel for new content. Content is always available in the user's account, and they may add content to any of their Channels manually. By setting a default Channel, new content will be added to the selected Channel automatically.

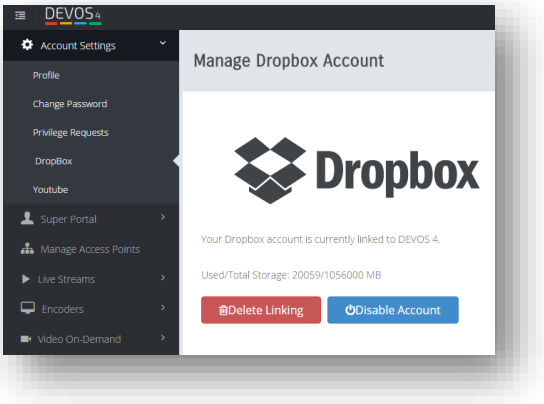


Change Password

The user may change their password (for non-Active Directory accounts).

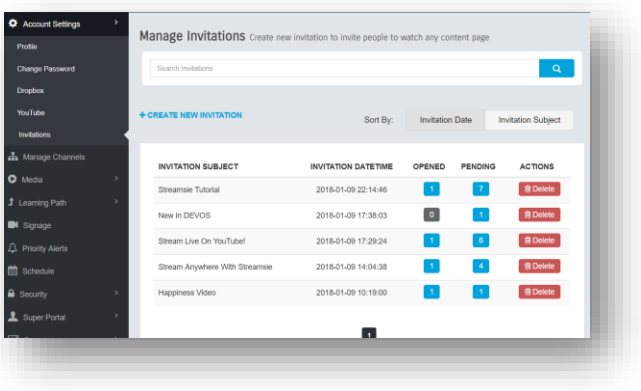
Dropbox

You can link your Dropbox account to DEVOS. Select Dropbox and follow instructions to link your account (disable popup blockers). Once linked, you can create a folder in Dropbox called "devos", and any video content you drop there will be automatically added to your DEVOS Video-on-Demand account.



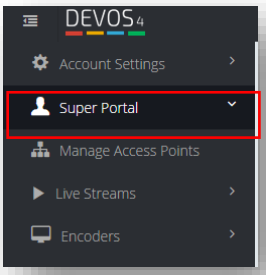
Invitations

The profile shows all invitations that have been sent, and allows you to create new email invitations.


Account Settings
Profile
Change Password
Dropbox
YouTube
Invitations
Manage Channels
Media
Learning Path
Signage
Priority Alerts
Schedule
Security
Super Portal
Manage Invitations
Create new invitation to invite people to watch any content page
Search Invitations
+ CREATE NEW INVITATION
Sort By:
Invitation Date
Invitation Subject
INVITATION SUBJECT
INVITATION DATETIME
OPENED
PENDING
ACTIONS
Streamsie Tutorial
2018-01-09 22:14:46
1
7
Delete
New in DEVOS
2018-01-09 17:38:03
0
1
Delete
Stream Live On YouTube!
2018-01-09 17:29:24
1
6
Delete
Stream Anywhere With Streamsie
2018-01-09 14:04:38
1
4
Delete
Happiness Video
2018-01-09 10:19:00
1
1
Delete

Super Portal

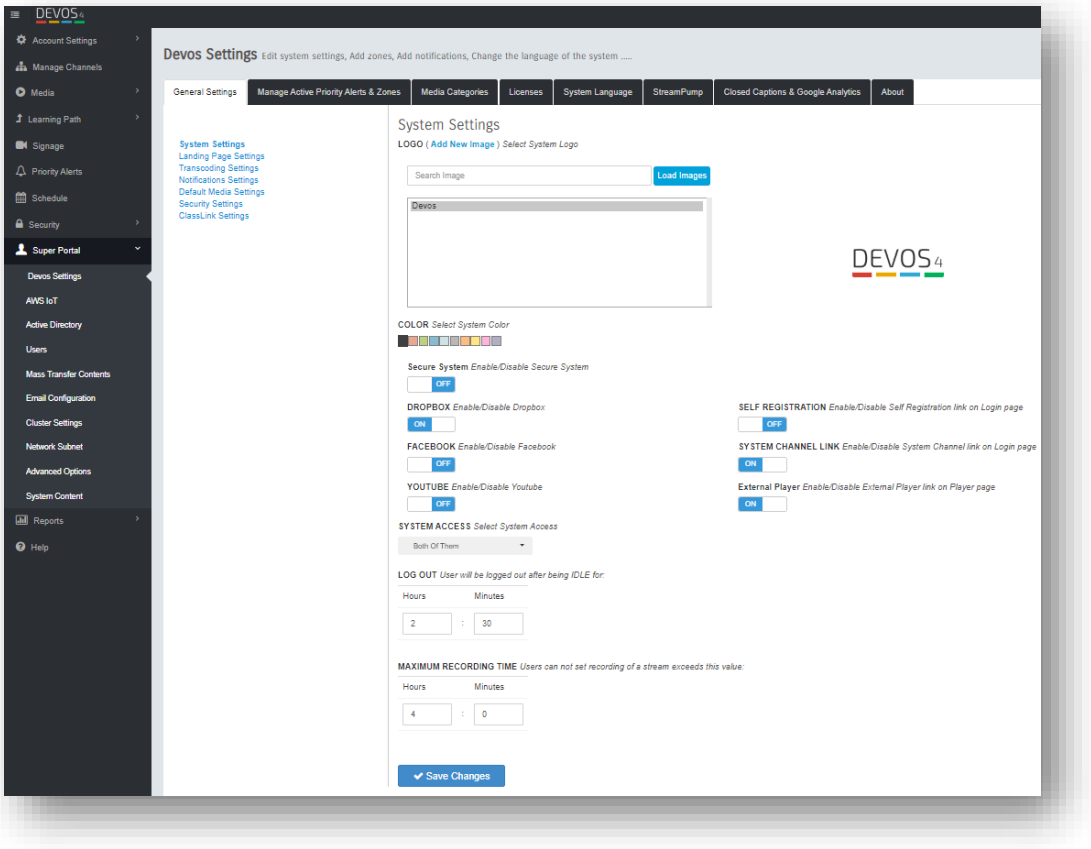
If the logged in user has Super Portal Privilege, then the Super Portal menu option appears.



Devos Setting

General Settings

General Settings are the global system configuration values for the DEVOS system.

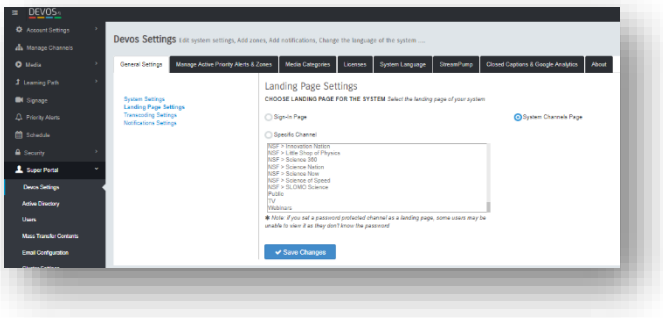


- System Logo -- Select an image to be used for the system logo. You can upload new or select an image that you previously uploaded.
- Color -- Select a color theme for the system.

- Secure System – On enables global SSL. Only used if SSL certificate is installed.
- Dropbox -- On enables users to synchronize their Dropbox account with their DEVOS account.
- Facebook -- On allows posting of video links to social media Facebook.
- YouTube -- On allows users to link their YouTube account with DEVOS.
- Self-Registration – When set to ON, then the login page shows link for a user to create a DEVOS user account.
- System Channel Link – Sets whether the login page has a link to the System Landing page.
- External Player – On makes an external player button to appear on all video viewing pages. DVPlayer must be installed for the button to function. The player is for Windows computers (only) and is available for download from the help screens.
- System Access -- Select to configure the system to use Active Directory only, DEVOS users only, or both (recommend "Both").
- Logout -- Sets the duration for automatic user logout if no user activity.
- Maximum Recording Time -- Sets the maximum server-side recording duration (prevents disk filling up due to user not stopping a recording).
- Save – Saves settings.

Landing Page Settings

You may set the initial DEVOS landing page.



- Sign-in Page -- User is presented with login screen.
- System Channel Page -- User is presented with listing of all Channels.
- Specific Channel -- User is presented with one Channel page.

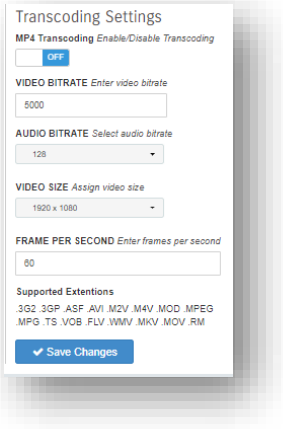
Examples:

- You have created a Channel with content for the general public and set this as default. Anyone reaching your DEVOS will be presented with this page. Users with a DEVOS account (whether via Active Directory or local DEVOS user) can still log in to gain access to authorized content.

- You have created many Channels, some for the general public, some require login. You set System Channels Page as default.

Transcoder Settings

The transcoder allows users to upload videos that are not in H264/AAC format, and the server will convert them automatically.



MP4 Transcoding – if off, then any video with .mp4 file extension will not be transcoded. This allows for high bandwidth (e.g. 4K video) to be uploaded and delivered at its original size and rate

Video and Audio Bitrate -- sets the max bit rate for converted video

Video Size -- sets the max size of the converted video

Frames Per Second -- sets the max FPS of the converted video

Accepted Extensions -- the acceptable file extension types they may be uploaded

After upload, the video will appear in the video-on-demand manager and its status will display. A few moments after upload, the transcoding process will begin, and the status of the file will change to "transcoding". If the process fails, the status will indicate error. When transcoding is complete, the file will become available for viewing. The transcoder won't repair a bad video file.

Transcoding is done on a first-come-first-serve basis. If other admin's videos are being transcoded, you will have to wait. Generally, transcoding requires the same run time as the source video.

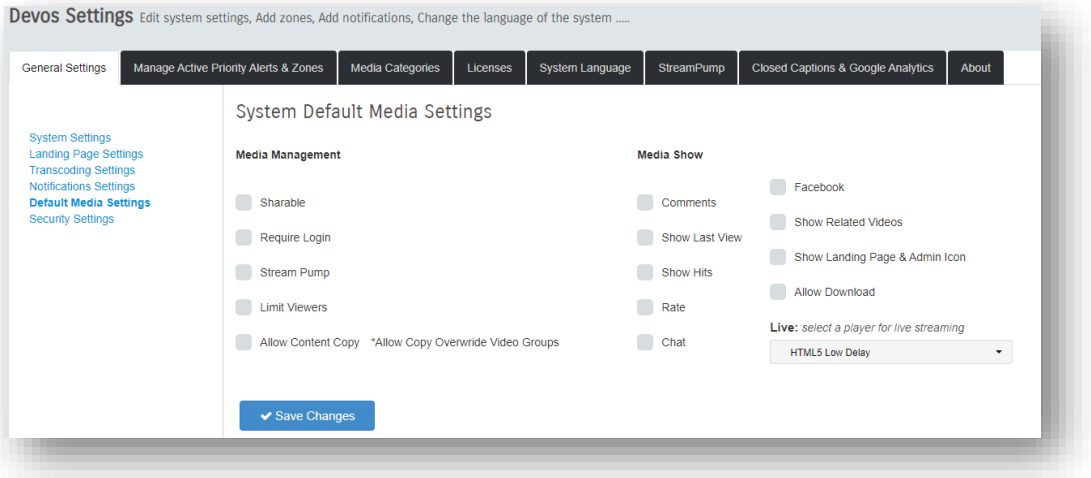
The transcoding function operates on both web and FTP uploaded video.

Notification Settings

The Super Administrator may wish to notify all users of a system-wide event, such as a scheduled system maintenance or update. The Super may create a notification and a red "Bell" icon appears on all user screens where they may view such messages.

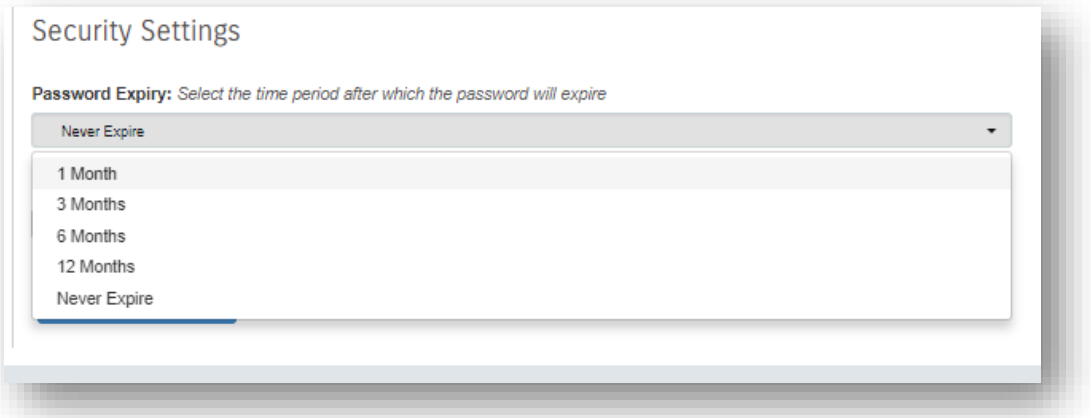
Default Media Settings

The Super Administrator can create Media Setting that are available to all users.



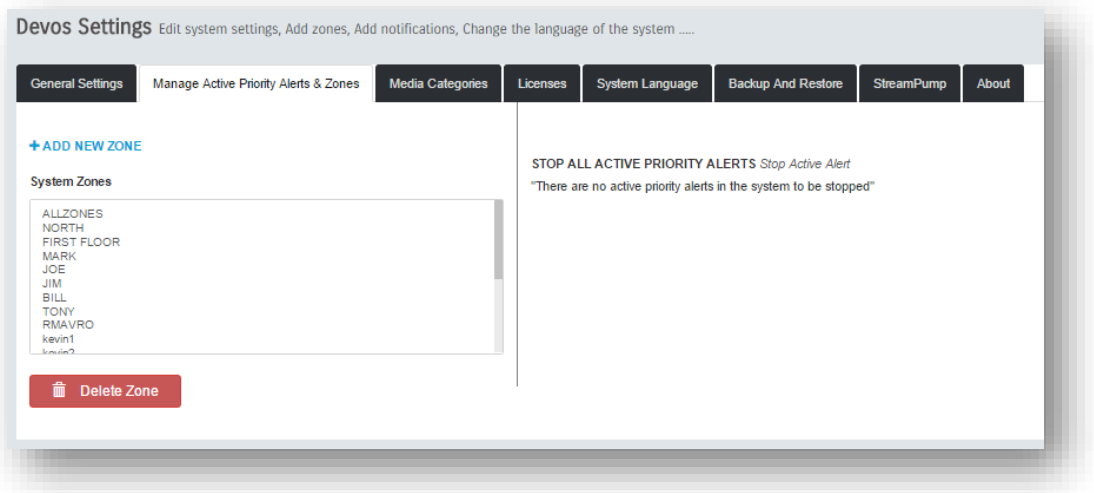
Security Settings

Security Settings allow you to cause (non-AD) passwords to automatically expire, and to optionally set minimum password complexity requirement (at least 8 characters, upper and lower case, at least one numeric, no special characters).



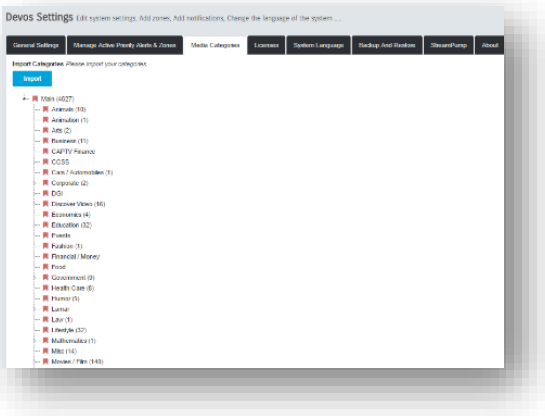
Manage Priority Alert Zones

Priority Alert operates on zones. You may add or delete zones here. These zone definitions are available for users to use in their Priority Alert configurations. You may also use this function to stop any active alert, regardless of who issued it.



Media Categories

Categories allow publishers to select from a list of possible categories that the Super Admin creates. This makes category selection uniform and makes content easy to find.



To create categories, right-click on the "Main" icon and select "Create New Category", then rename the new category as desired. To create a sub-category, simply right-click on an existing icon and select "Create New Category", then rename that.

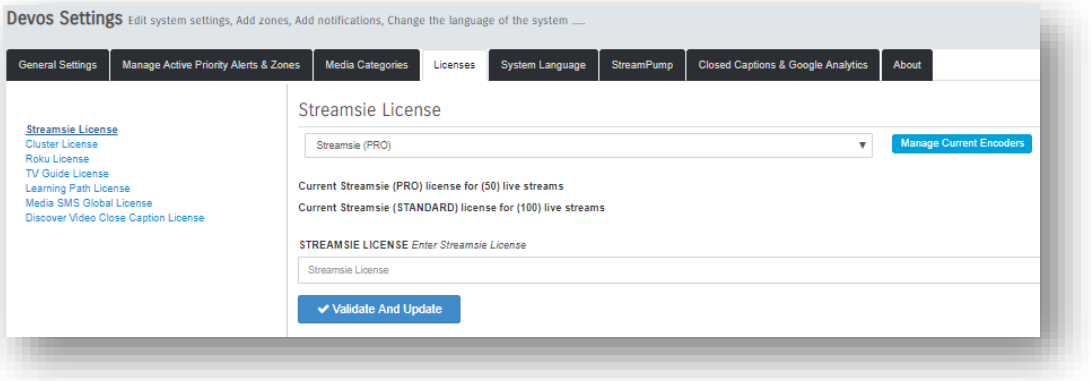
You may also upload a text document to define categories.

The form of the document must be one new category per line, with pipe separating sub-category. For example, create a text file as “category.txt” and add:

Science
Science|Physics
Science|Physics|Astrophysics

Licenses

Optional license keys may be entered using the Licenses tab. Adding licenses is a simple copy-and-paste of a code provided by DiscoverVideo.



Optional licenses include:

- Streamsie / Streamsie Pro -- The Streamsie License defines how many Streamsie Accounts may be created on DEVOS. You can manage Streamsie licenses by selecting "Manage Current Encoders" to expose the current owners, and you can delete any assignment thus making that license available for reuse.
- Clustering – allows multiple servers to load balance
- Roku – allows Roku devices to be used
- TV Guide – enables display of program data for TV programs (see below)
- Learning Path – enabled Learning Path feature
- Media SMS Global License – enables SMS / Text Message feature and shows how many are available. Adding a new license increments the available number.
- DiscoverVideo Closed Caption – enables DiscoverVideo Closed Caption service. The license is for the number of minutes available system-wide.

Streamsie licenses are assigned on a first-come-first serve basis. If a user has encoder privilege and creates a Streamsie account, they have consumed one license. You delete a license from a user.

SMS license determines the number of SMS messages available. Each SMS message sent decrements the total available, and you can add a new license (e.g. increase the number of messages) at any time by adding a new license.

DiscoverVideo Closed Caption license determines the total number of minutes of run-time video that the Closed Caption service will process.

TV Channel Guide

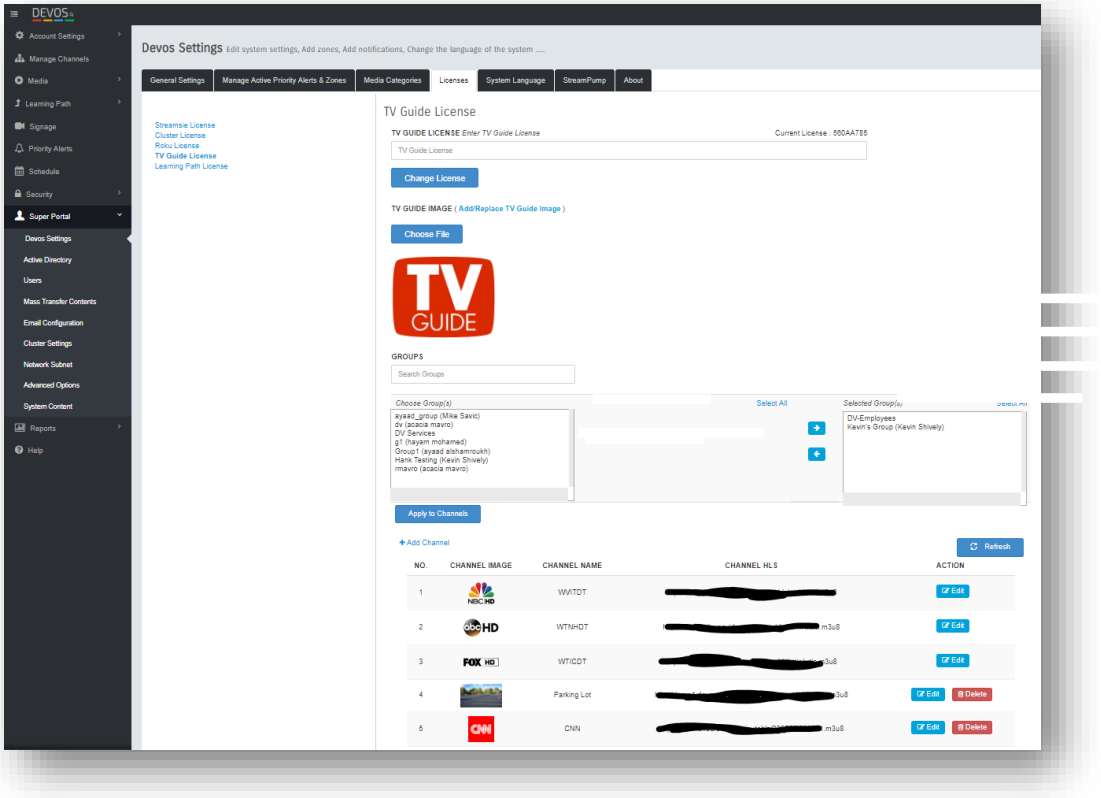
The TV Channel Guide provides an optional TV channel listing service that allows viewers to tune in to a provided TV channel and to see "what's on" now and for up to 6 days in the future (7 days total).

To enable the service, the customer must provide:

- U.S. Zip code (e.g. 06492)
- Content Provider (e.g. "Comcast Digital", "Dish", etc.)
- Up to 10 TV Channel Identifiers (e.g. "WTNH", "CNN", etc.)

With this information, DiscoverVideo can then generate a license that is unique to your DEVOS system. Simply paste this license code into the System / TV Guide option field.

TV channels are setup and controlled by a use with Super privilege. If enabled, TV channels appear as the first channel on the system landing page.

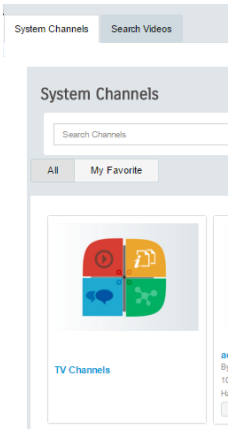


After entering the code, your channels will appear. Select Edit for each channel and enter the live HLS stream URL's (same as you would enter for a live stream). For example, if you are sending a live stream from StreamEngine, Mantis, or 3rd party encoder to DEVOS using rtmp://123.1233.123.123/live/channel1, then enter http://123.123.123.123/autohls/channel1/channel1.m3u8 for the Channel HLS.

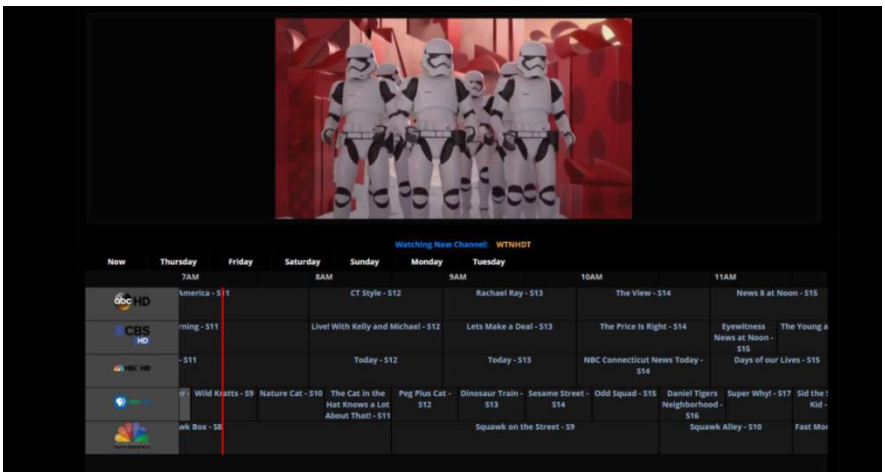
You may select "+Add Channel" to add a channel that is not part of the weekly (licensed) program guide, such as a local PEG channel or any other live stream. It is also possible to insert a VoD as a channel.

You may limit the viewing of the TV Channel Guide by applying Group permission. When no groups are selected, anyone may view the TV channels. If you add Groups, then you are limiting the viewers only to members of those groups. The available groups are those created by all administrators, along with the owner of that group.

When TV Channel Guide is enabled, the first channel on the system landing page is "TV Channels".



Opening this channel shows the live TV Channel Guide, illustrated below.



The TV Channel display shows the live TV and a full program guide for each TV channel. A red line indicates "now". Mouse-over any time slot to reveal program information, and click on any time slot to reveal program details.

If the viewer has logged in to the system and they have VoD privilege, then when they click on a program, a Record button is available.

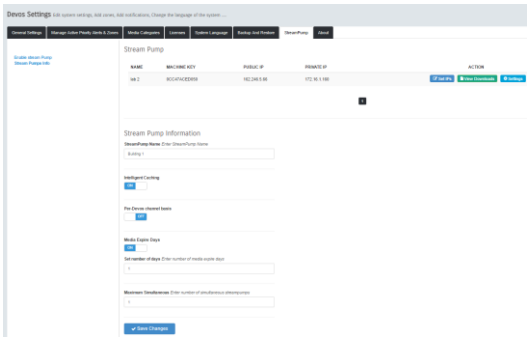
Recording a program causes that program to be added to that user's Media / Video on Demand manager. From this page they may view the program and/or add that video to a channel.

System Language

If you have multiple language packs installed, the user may select their desired language. The system setting for language simply sets the default language for initial login. Ask DiscoverVideo about language packs.

StreamPump

If you have StreamPump(s) configured, and if "Allow Remote" is enabled on the StreamPumps, they will appear in the StreamPump sections, and you may manage them from this page. Select StreamPump Info, and then Settings for each StreamPump.



- Name – change the name
- Intelligent Caching – when set to ON, the StreamPump will cache content as needed.
- Per-Devos channel basis – when on, any channel that as "StreamPump" enabled will have that content downloaded to the StreamPump at the specified time (the time setting is shown when you select On).
- Media Expire Days – When On, any content on the StreamPump will be removed this number of days after it was downloaded to the StreamPump.
- Maximum Simultaneous – sets the number of simultaneous downloads the StreamPump may use. Default is 1.

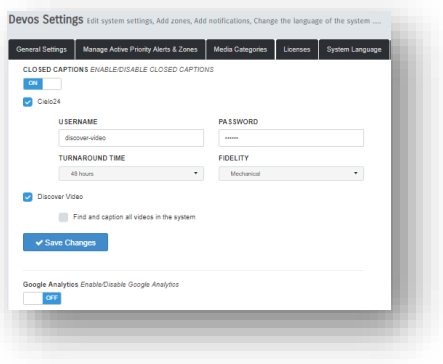
Select "Set IP" for each StreamPump if to set the range of addresses the StreamPump will serve, for example: 192.168.1.2-192.168.1.254

This allows you to specify the portions of your network to be served by this StreamPump. If all viewer come from a common "outside" network address, then enter that address, for example: 123.123.123.123-123.123.123.123.

StreamPumps must be on unique networks for them to be uniquely identified by DEVOS. For example, you cannot have StreamPump 1 at 192.168.1.100 and another at 192.168.1.200 if they share a common gateway.

Closed Caption & Google Analytics

DEVOS supports optional VoD caption services. The services allow an admin content owner to select the caption service. The DEVOS then uploads the file to service, obtains the captions, and automatically adds the captions to the video.



Celio24 – DiscoverVideo partner provides 99% accurate captions. By entering your existing Cielo24 account username and password, the system will upload selected video files to the provider and then automatically add closed captions for that video. Contact the Cielo24 for terms and account details. DiscoverVideo customers receive a substantial discount.

DiscoverVideo – provides AI (machine based) transcription that is reasonably accurate for good quality audio, common English words, and performs well for searching within a video for key words and phrases. The license key is entered under "Licenses" and sets the number of minutes available for all users. Minutes are the run-time length of a submitted video regardless of how many words may be present.

If "Find and caption all videos in the system" is checked, then the DiscoverVideo service will automatically add captions to all videos in the system (all user accounts). Use with care.

Both DiscoverVideo captions and Cielo24 captions are a per-user privilege: user A may have no caption service available, user B may have DiscoverVideo Caption available, user C may have Cielo24 available, and user D may be both DiscoverVideo and Cielo24 available.

DiscoverVideo option is listed even if you have not entered a license. If you do not have a license, the option will not work.

Google Analytics

If you use Google Analytics, you may enable it in DEVOS and enter your UA code. Analytics will then be reported by DEVOS to your Google account.

About & Update

The About tab provides system information and automatic system update capability. Select "Check Now" to learn if a new system software update is available. The system will show if an update is available, and what is new in the update. If an update is available, "Update Now" button will appear and you can perform the update by selecting this button when you are ready. After update, use the "verify Installation" link to confirm your update.

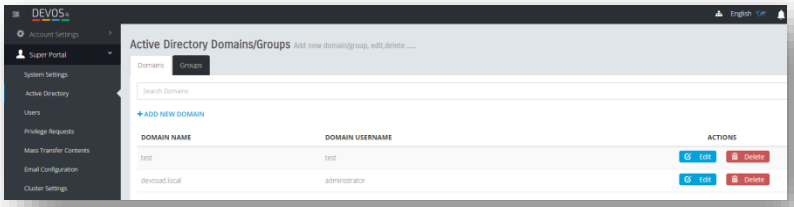
You may wish to use the System Notification feature to alert users that you will do a system update. It is usually a good idea to conduct the update when the system is not in use (e.g. evenings).

Be sure to enter proper email address(s) to be notified about new updates.

Most system updates complete in less than 60 minutes, but you should use the displayed message as your guide.

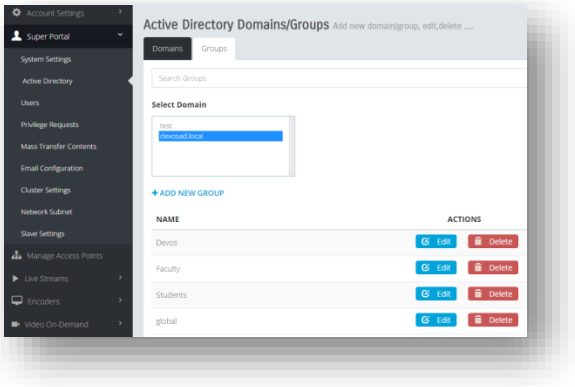
Active Directory

You may add one or more Active Directory domains to DEVOS. Simply select Add New Domain, enter a name for the domain and the domain Username and Password. You can edit or delete any domain.



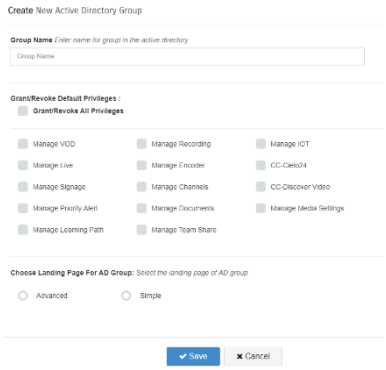
Active Directory Groups

Once you have added a domain, you may then add Groups. For example, if you have an AD group called "Devos", select Add New Group, type in "Devos", and save. You can edit or delete any group.



To add <u>all users</u> in a domain, in most cases you can use key word "**Domain Users**".

DEVOS parses deep into groups and will add all subgroups. For example, if you have a structure "one:two:three:four:five", and add it as group "one", then all users in group two, three, four, five will be included; if you add group "two" then group two, three, four, and five will be included, etc. Providing granular group definitions in your Active Directory can be useful because it can allow DEVOS Security Groups to achieve granular user group access. For example, if you create a group called "Mr. Jones" and populate it only with members that belong to Mr. Jones', then that group can become a unique security group in DEVOS.

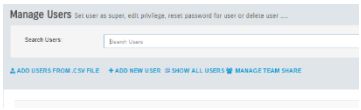


When you create or edit a Group, you may assign default privileges. This feature gives all members of that Group the desired privileges without your needing to edit each user manually. These group privileges will be applied <u>only</u> the first time a user logs in. You cannot revoke privileges as a group (if someone has a privilege assigned by this group and they log in, removing that privilege from the group will not remove it from that user).

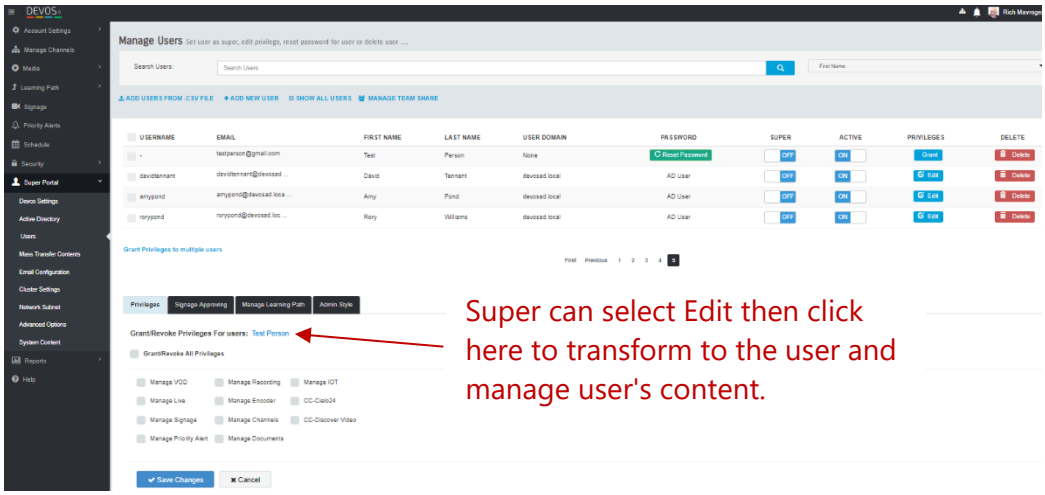
Users

The Users function allows you to create, delete, and manage users and user privileges.

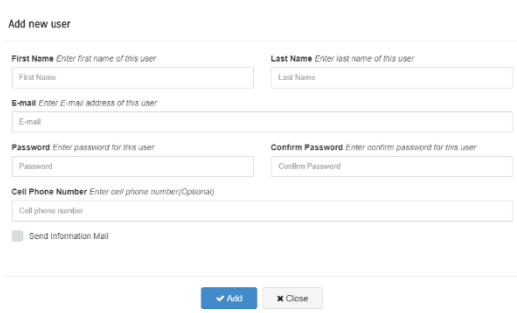
To manage a user, simply enter the first few letters of their first name, last name, username, or email (select search style from the dropdown box). Email search and name search do not operate the same way.



Select the user found and you can reset password, give the user Super Privilege, make them Active/Inactive, Edit their privilege, or delete the user.



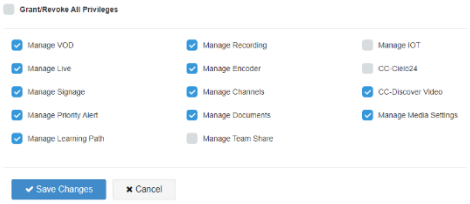
You can add a new user to the DEVOS system by selecting Add New User and entering their information:



Cell Phone Number is used for SMS, and the user can update it in their profile.

Adding users to the system does not affect Active Directory accounts. If using AD and you want to add a local user, then you must set system to "Both Of Them".

Privileges



The Super can grant privileges to each user. For example, the user may or may not have access to Priority Alert, Manage Encoders, IoT, etc. Note: for Active Directory users, initial privileges can be set using the Active Directory settings.

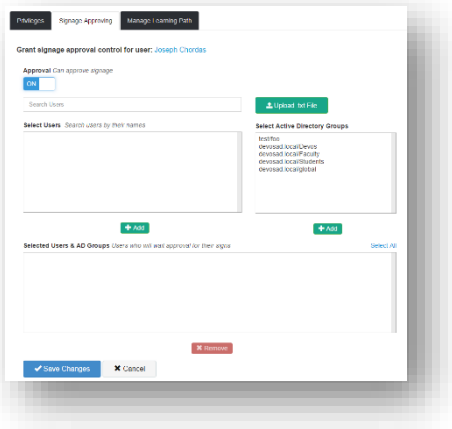
Note that for CC privileges, the license must be active. If you do not have a license you should not grant the privilege.

Note that if a user does not have "Manage Media Settings" privilege, they may only select the media setting managed by the Super Administrator.

Signage Approval

Setting Signage Approval for a user determines *which* user will require approval from *this* user.

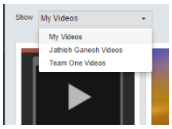
You can enter individual users, select a group of users, or upload a .txt file which contains a list of users.

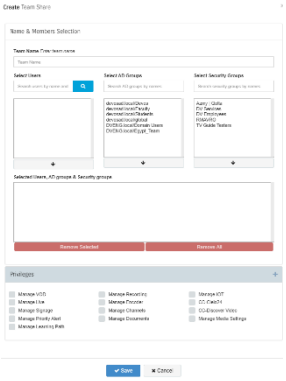


Team Share

Create a new Team Share, give it a name, and search for users that you wish to add to the team. You can add users, AD Groups, and/or Security Groups. You can then assign desired privileges to the members of the group.

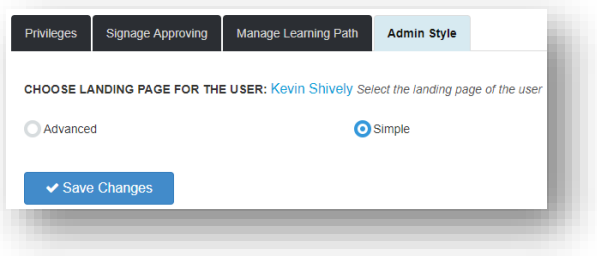
These users will be able to select the team name when they upload or manage content, signage, etc.



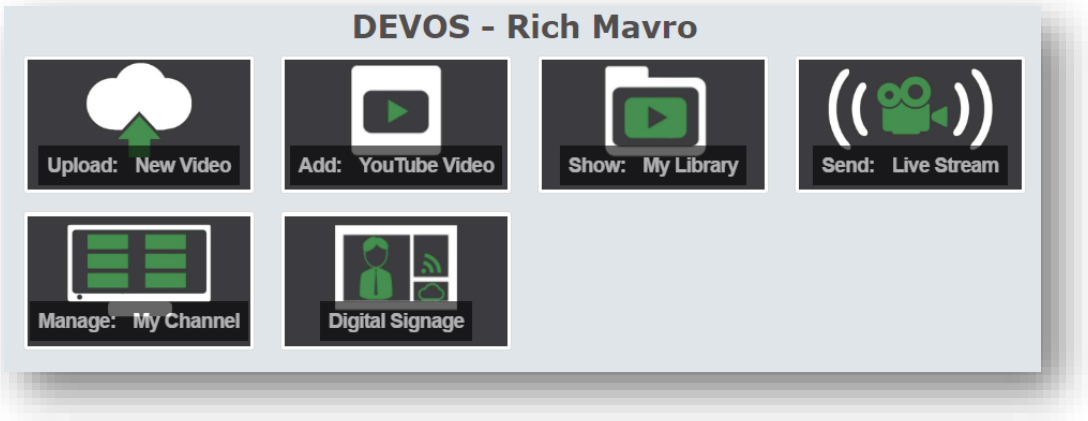


Admin Style

A user account may be configured to use a simplified administration interface that presents simple buttons to access the functions available to that user.



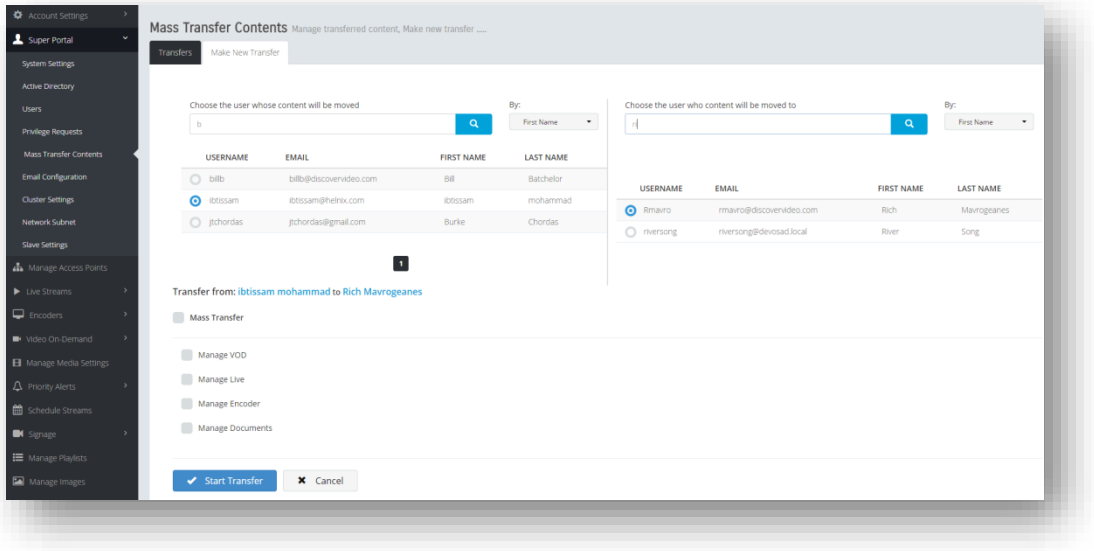
Simple Admin Style:



Mass Transfer

It is possible that a user of the system has left the organization or has been denied privileges. In this case, their content may be abandoned because it has no owner. DEVOS provides a Mass Transfer capability where the Super User can transfer ownership of the content from one user to another.

Select the user account that the content will be moved from, and the user the content will be moved



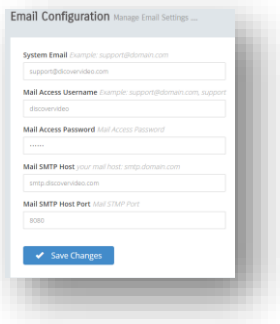
to. Select Mass Transfer, or select only VoD, Live, Encoder, or Documents. Select Transfer to make the change.

CAUTION: This is a full transfer and cannot be undone. Use System Content function to change ownership of just one video or channel.

Email Configuration

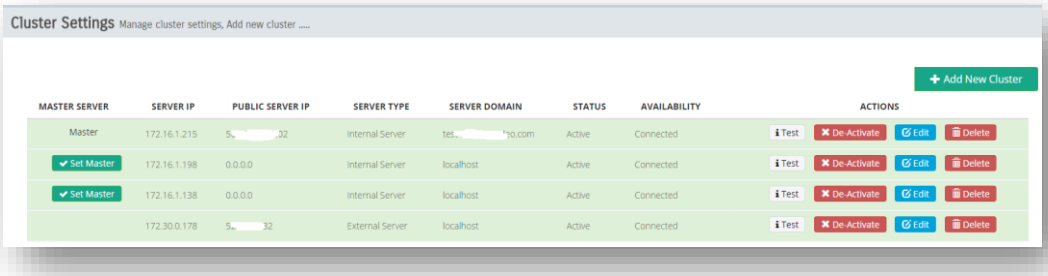
You should set up your SMTP server account to allow users to receive password reset request responses.

You must enter credentials for your email server.

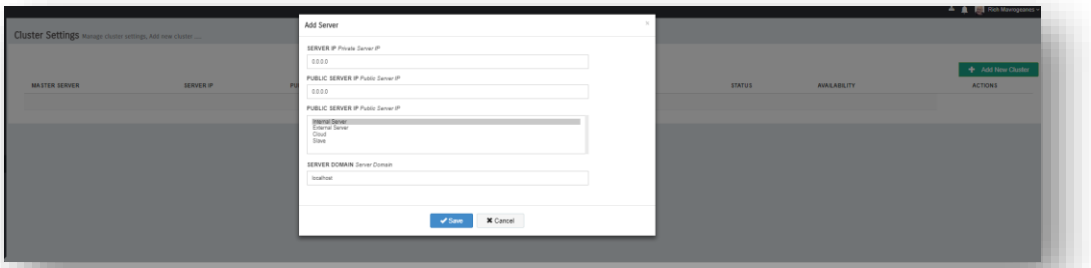


Cluster Setting

To add a DEVOS server to a cluster (assuming you have Cluster License), enter the server IP, the server public IP (if an external or Cloud server), the type and domain.

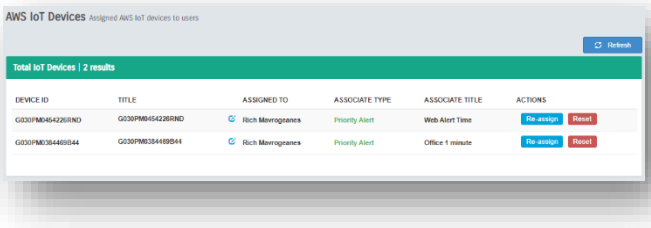


Every cluster *must have* one server designated as Master. The Master server is the one that is accessed by all users (i.e. delivers the web interface). Video content is delivered round-robin.



AWS IoT

AWS IoT allows users to engage a wireless handheld button to trigger Priority Alerts. The IoT device can be configured by DiscoverVideo support.

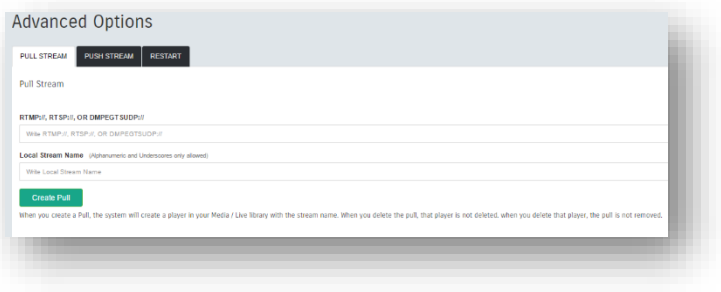


Advanced Options

The Super Admin may create Push and Pull streams and may restart the streaming server.

Pull

Pull is used to bring an external live stream into the system continuously



Use Pull when you want to bring a stream into the system.

RTMP://, RTSP:// OR DMPEGTSUDP:// -- enter rtmp:// or rtsp:// URL for the live stream. To receive a multicast, enter “dmpegtsudp://IP:Port”.

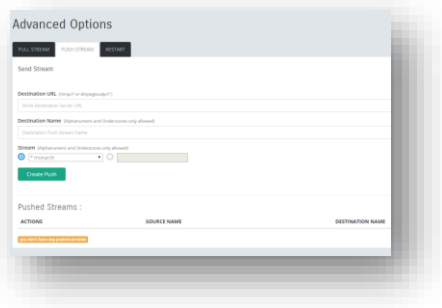
Local Stream Name -- enter an arbitrary name that is not already in use (e.g. "mystream”).

When you create a Pull, DEVOS automatically creates a viewing page that you can later edit or delete with appropriate title, description, etc. or simply delete.

When you delete a Pull stream, the player that was created when the Pull was first entered is not deleted, and you must manually delete it from the live stream section.

Push

Push is used to send a known live stream to Arcus, Facebook YouTube, another DEVOS server, or a 3rd party CDN. Push is also used to create IP Multicast streams in a local network.



Destination URL -- Enter the RTMP URL (e.g. rtmp://server/app)

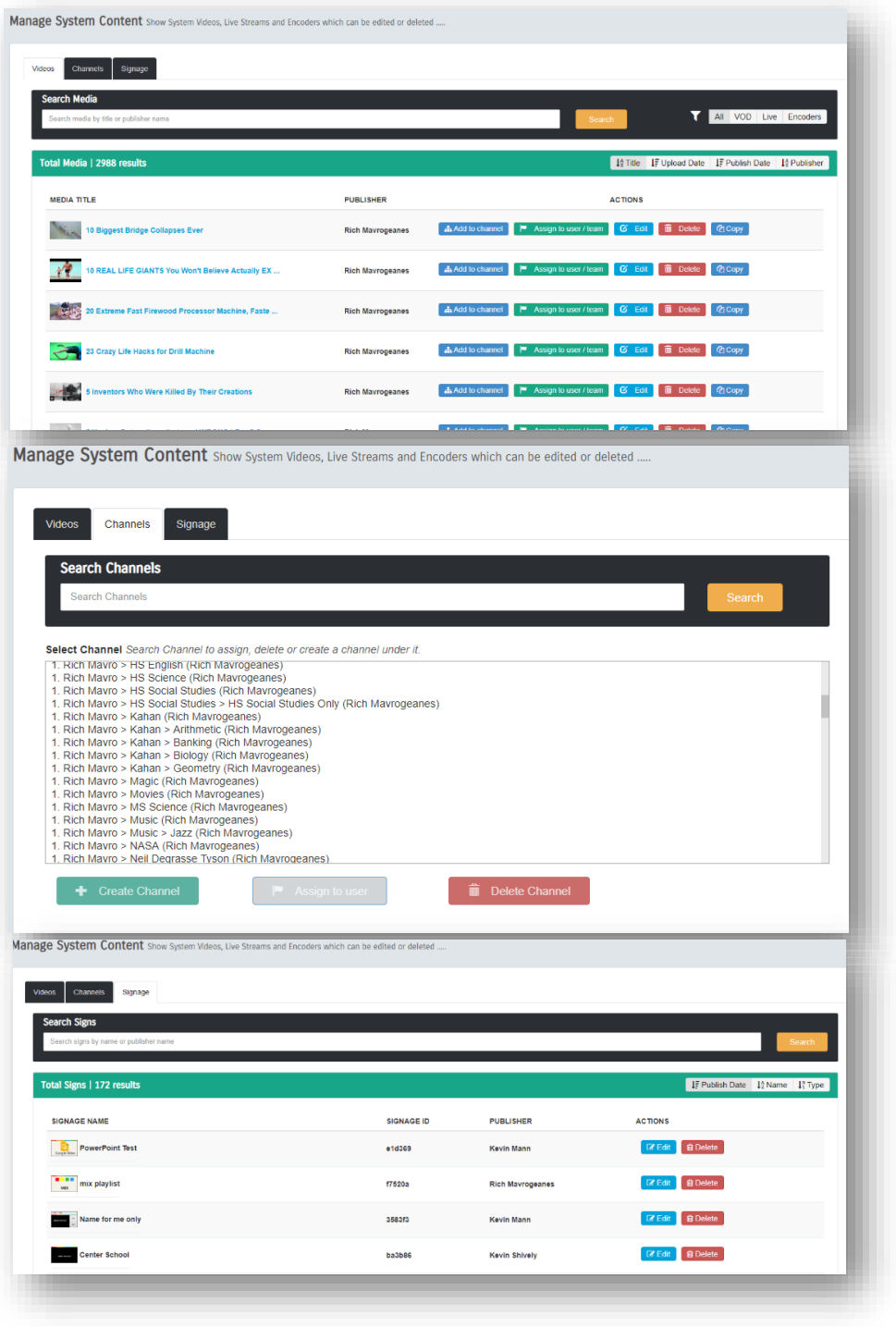
Destination Name -- Enter the stream name (e.g. "mystream")

Stream -- Select an existing live stream from the dropdown box, or enter streamname

Multicast: Enter Destination URL "mpegtsudp://[IP:PORT]" (see appendix)

System Content

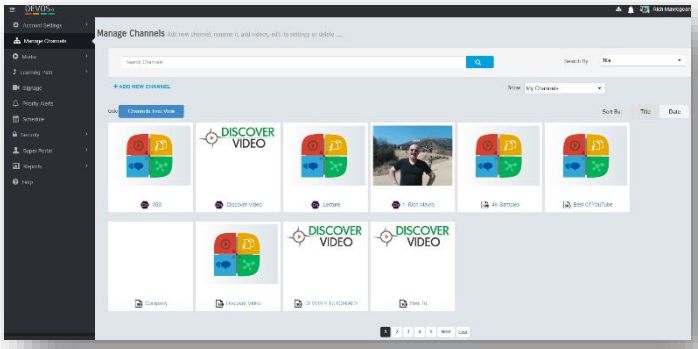
The Super's System Content function gives access to all user content, channels, and digital signage, and allows you to search and sort the content in several ways.

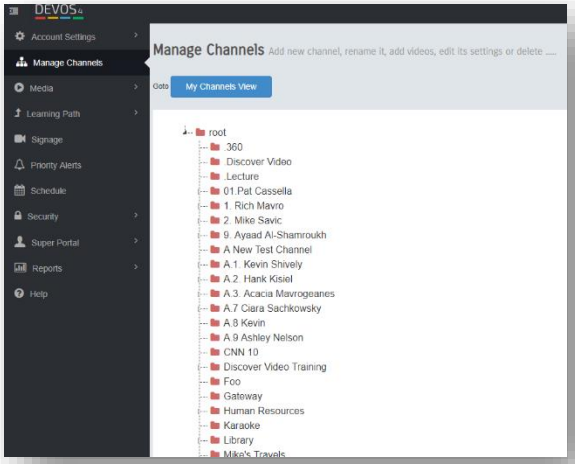


Managing System Content is a very powerful and convenient way to find and manage content, channels, and signage on a system-wide basis.

Manage Channels

Channels are viewer entry points into the DEVOS System. If a user has Manage Channel privilege, then they may create and manage their own Channel. (See Simple Manager below for alternate interface). You may view and manage channels in Tree View or Channel View.

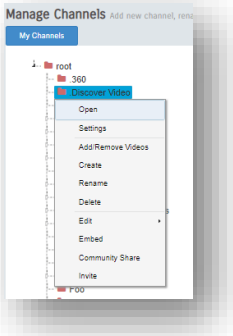




Channels can have levels, or sub-Channels. The point at which a viewer accesses a Channel determines whether that viewer has access to sub-channels. For example, you may have a channel called "Acme Widgets", and under this you may have channels called "Human Resources, Sales, Engineering, Operations". If you distribute the web page for "Acme Widgets" then the viewer has access to the content and can also navigate to sub-channels. If you distribute the web page for "Widget Details/Human Resources" then the viewer cannot navigate "up" to "Acme Widgets".

When you select Manage Channels, you will see all channels, even those that do not belong to you. This allows you to create a new channel under an existing one *if the owner of that channel allows it*. It also allows you to see the names already in use, so you can decide to make your channel name less confusing to potential viewers.

To create or mange a channel, select the edit menu or in tree view on a folder to expose the menu.



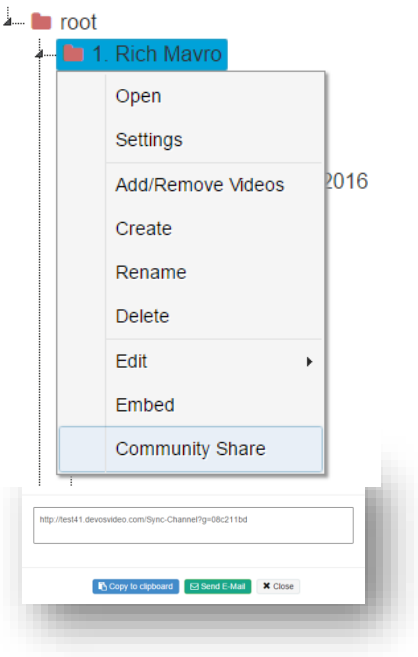
Select desired function.

- Open -- Opens the channel in a new window
- Settings -- Access the channel settings
- Add/Remove Videos -- allows you to manage the videos in your channel
- Create -- makes a new channel under the selected channel
- Rename -- renames a channel
- Delete -- deletes a channel
- Edit – supports cut and pate

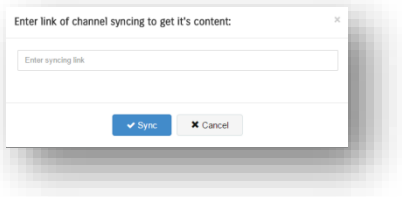
- Embed -- shows channel embed code
- Community Share – see below
- Invite – generates an invitation to view the channel

Community Channel Share

If "Shared Channel" then is check in the Channel Settings, then it is eligible for Community Share. Community Share allows another DEVOS system to duplicate your channel on that system. The shared channel content will be downloaded to the other system and will remain synchronized with the source channel. This means that if the source channel adds, deletes, or edits a video, the changes will flow to other DEVOS systems that have subscribed to your channel.



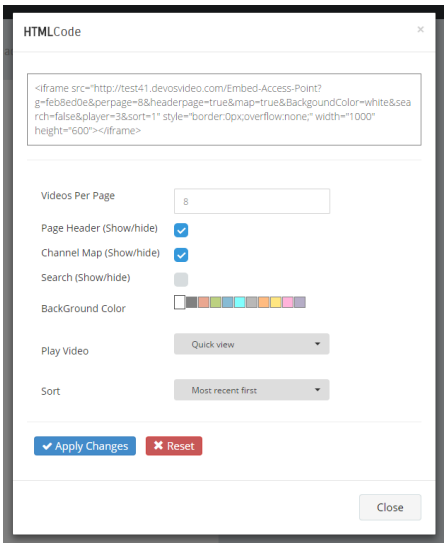
To share a channel, select Community Share by right-click on the channel in the channel manager. A dialog box will appear with a special channel share URL. Copy this URL to your clipboard then paste it to an email or document. Send this URL to another DEVOS system owner.



To subscribe to Community Channel, right-click on the root folder in the channel manager and select Community Share. Paste the URL into the dialog box and select save.

You can have any number of subscribers to a channel. For example, a headquarters system might have a channel called "Human Resources", and a DEVOS system at multiple divisions would subscribe and make that same content available on their local system.

Channel Embed Code & API



The Channel Embed Code give you many options for how your channel will appear if you insert it in another system. The embed code illustration shows the available options and generates the desired embed code. Simply copy/paste the code into a web page, a LMS, SharePoint, etc.

Note that you may wish to adjust the iframe width and height values to suite your preference.

API

The Application Program Interface is:

http://[DEVOS]/Embed-Access-Point?g=[ChannelID]&perpage=[VideosPerPage]&headerpage=[Header]&map=[Map]&BackgoundColor=[BackgroundColor]&search=[Search]&player=[Player]&sort=[Sort]

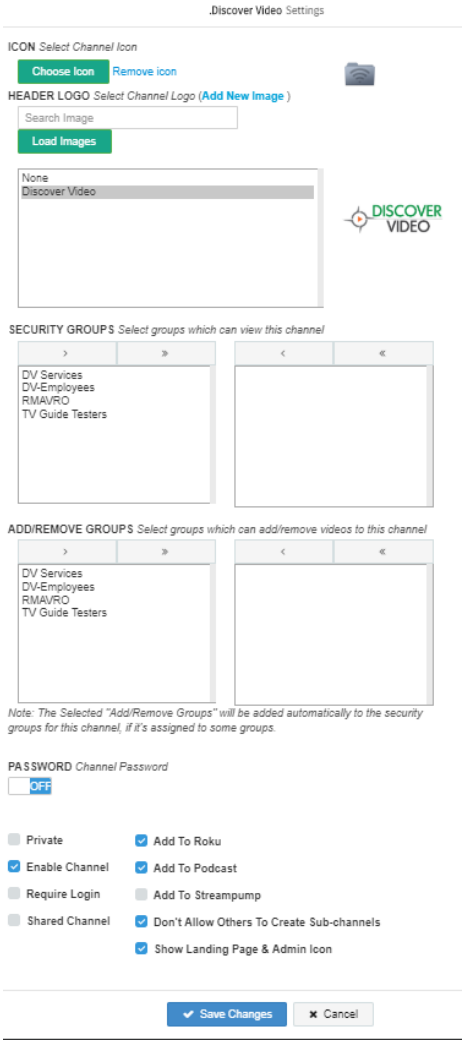
Where

DEVOS	URL, is the DEVOS server address
Channel	text, is the channel ID GUID
VideosPerPage	number, is the number of videos to be shown per page
Header	boolean, true/false, displays the header
Map	boolean, true/false, displays the channel map
BackgroundColor	text, sets the background color
Search	boolean, true/false, displays the search box
Player	number, sets the player style where 1 = open new page, 2 = show video in same page/frame, 3 = quick view
Sort	number, 1=most recent first, 2=most recent last

How To Create or Modify an Channel In Tree View

Right-Click on Root and select Create. Open the folder (if needed) and notice there is a new channel created with a code (see yellow highlight).

Next, right click on this newly created channel and select "Rename". In our example here, we will rename it to "Widget".



Right-Click on Widget and select *Settings*.

Title -- Enter a title for the channel. This will display on the channel page

Icon -- Optional. Upload a .ico ("favorite") icon for this channel

Header -- Enter header text for this channel

Header Logo -- Select an image from your image library for this channel

Security Groups -- Select one or more security groups that may view this channel. Select none if you do not wish to limit access (anyone may access your channel).

Add/Remove Groups -- Select one or more security groups that may publish or remove content in your channel. Selecting none means only you can add/remove content for the channel.

Password -- Optional. Turn Password on and enter password if desired. Viewers must know this password to access the channel (you would provide it via email or other means).

Show Videos Under Parent Channel -- If this is a sub-channel, enabling this will show all sub-channel videos in the parent channel.

Private -- if checked, then the channel will not appear in a system landing page. Use "Open" to obtain the channel URL

Enable Channel -- If checked, channel will appear in the channel list, otherwise it will not. Disabled Channels are not available to anyone, including the owner.

Require Login -- If checked, viewers must log in to the system to view.

Add To Roku -- If checked, this channel will appear as a channel in your private Roku channel.

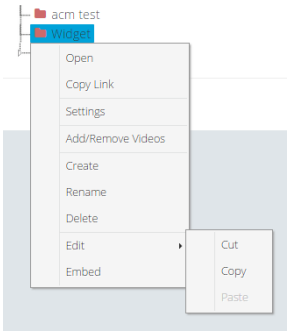
Add To Podcast -- If checked, the channel is available as a video podcast.

Don't Allow Others To Create Subfolders -- If checked, then no one can add a sub-channel to your channel.

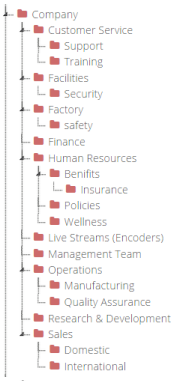
Show Landing Page & Admin icon – if checked, a the icons to login as admin, and the icon to access the system landing page will appear.

Save Changes -- Applies your changes to the channel.

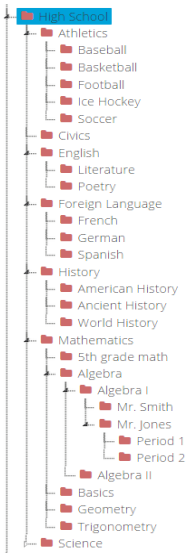
Organizing Channels



You can move the channel folder by selecting Cut, and then paste it to its new position.



You can organize your channel into many sub-levels. The illustration on the left shows an example for a corporation. Note that each channel could be "owned" by a different user (e.g. Human Resources manages their own content).

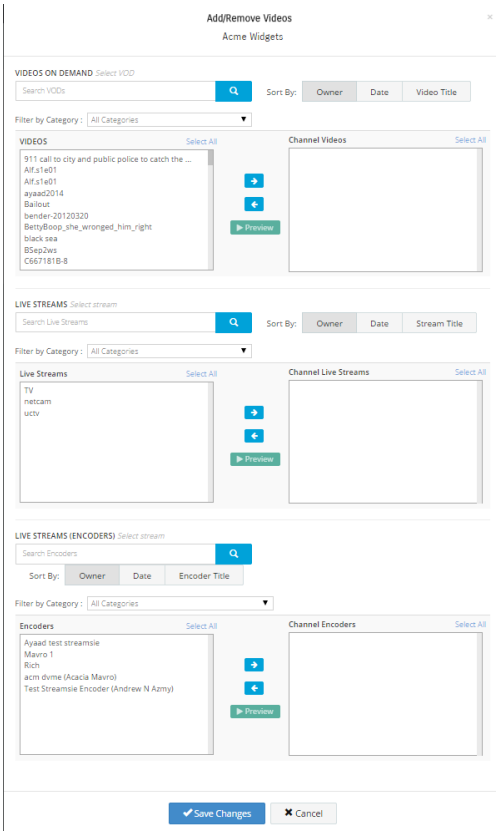


The illustration on the left shows an example for a school. Notice that in this case, the Mathematics folder has sub-folders that go all the way to sub-folder Mr. Jones Period 1. Mr. Jones can create a channel for each class if desired, and optionally he can give security access only to members of that class.

For best results, do not create sub-channels that have no content.

Adding/Removing Content In Channels

You can add Video on Demand, Live Streams and Live Encoder Streams to a channel. Right-Click on a channel and select "Add/Remove Videos". Simply add or remove content using the simple interface illustrated below.



You filter your selection by category and you can search and sort to find the video you wish, and you can preview that video before adding to your channel to ensure you are adding the one you wish.

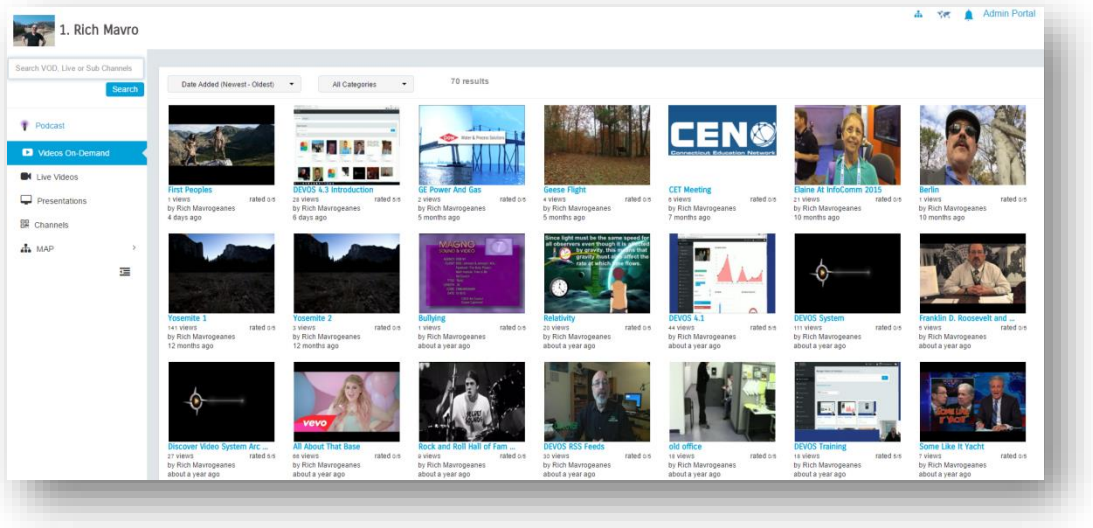
Note that videos that are owned by someone else have the owner's name shown. They appear here because that owner marked the video as "shared" (in their Media Profile Setting), allowing you to include it in your channel.

You can only add videos to your channels, or to channels of others if they have given you privilege.

A USER WITH SUPER PRIVILEGE MAY MANAGE ANY CHANNEL, INCLUDING ADD/REMOTE AND SETTINGS.

Using Channels

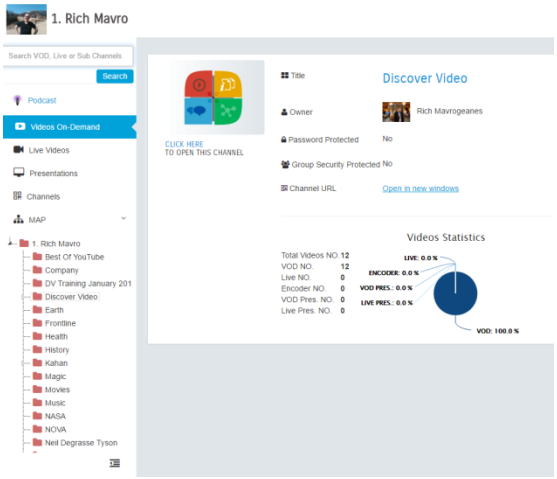
Simply open the channel web page (using the right-click function from the channel manager) to view any channel. The channel page shows the content of the channel organized as VoD, Live, Presentations, Channels and Map. The viewer may search and sort, or select to view only desired categories.



Click on any video to view (or use Quick View). The left navigation panel is used to select type of content to view.

Understanding Channel Map and Sub-Channels

Opening the Channel Map show a tree folder of all sub-channels. Clicking on any sub-channel displays the selected sub-channel and information about that sub-channel.

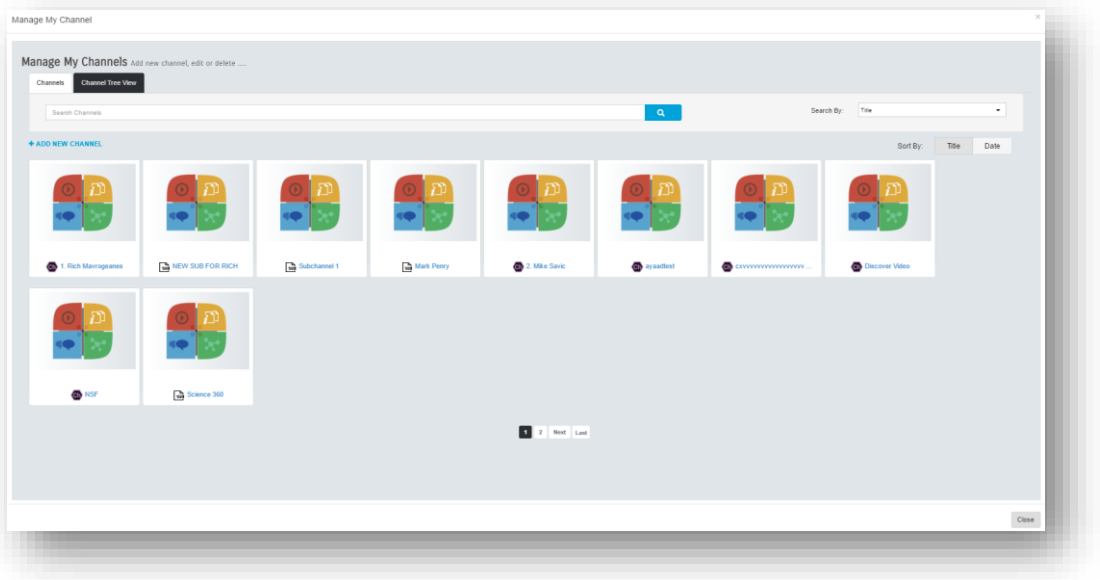


Clicking on the sub-channel image icon opens that sub-channel.

When a sub-channel is opened, there is a clickable “Info” link above the content area that shows more information about that channel.

Simple Channel Manager

The simple User Interface (UI) channel manager is slightly different from the advanced UI. All channels and sub-channels are shown and you can add a new channel by selecting "ADD NEW CHANNEL". The Tab at the top of the page provides access to the same tree view as the advanced interface.



When you add a channel, you may specify the parent channel if desired.

System Channel Landing Page

The System Channels master landing page lists all non-private, active channels. It can be found at http(s)://server/Show-Access-Points.

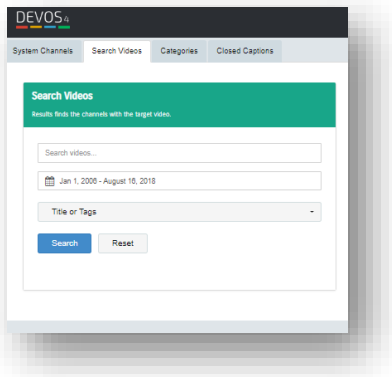
You can also access the System Channel page by selecting the icon on the admin interface (upper right):

You can select any channel to make it a Favorite. Favorite channels appear under the "My Favorites" tab.

The System Landing page gives users the ability to access any published channel by simply clicking on it. They may make any channel a favorite for rapid access. By using the Search Video tab, the viewer may search for any video, regardless of what channel it is in, and they may narrow that search by date range.

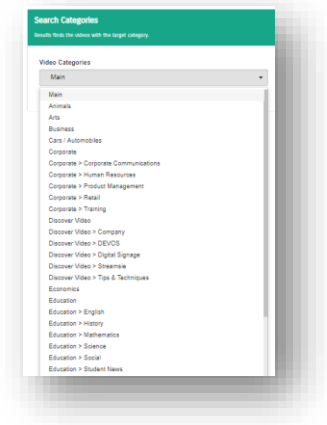
Channel Search

Select the Channel Search function on the system landing page. The search allows you to rapidly find content by channels that match your search criteria.



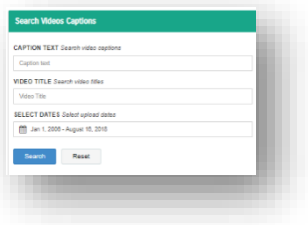
Categories

Select from the available categories to display all eligible videos that match your selection.



Closed Captions

Search eligible videos captions for key word or phrase. Narrow the search by title and date range.



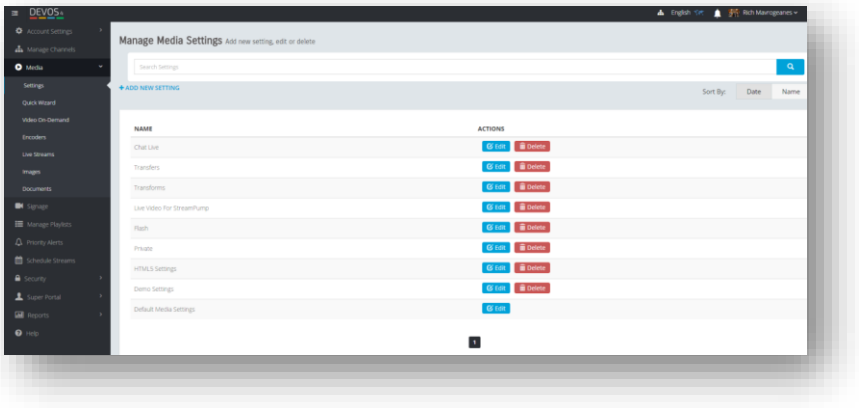
Open the search result to play and to navigate by caption text. The result shows the videos with the entered caption word and the number of occurrences in each video.

Media

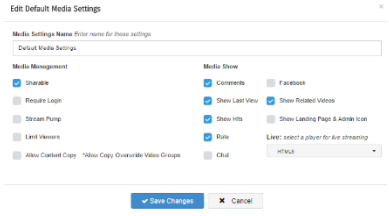
Media Settings

Media Settings are convenient templates of commonly used settings. Every system comes with Default Media Settings, and you can edit these to your preference. You can create new Media Settings that you can apply to content for different use cases.

The Super Administrator sets the values of Default Media Settings and may or may not give privilege for a user to create and manage their own.



When you edit or create new Media Setting, possible values are



Sharable -- Allow others to use the video in Channels
Comments -- Allow viewers to post comments
Facebook -- Allows the video to be posted on social media (if enabled by Super)
Require Login -- Require viewers to login to view (allows you to collect reports on who viewed)
Show Last View -- Sets whether the last view date/time is shown
Show Related Videos – Based on tags, sets whether the player shows related videos.
StreamPump -- Sets whether live videos are replicated to StreamPump
Show Hits -- Sets whether viewing hits are shown
Show Landing Page & Admin icon – for channels, sets whether a channel has a link allowing the viewer to access the top level landing page
Limit Viewers -- Allows limiting of viewer count if value set on the video
Rate -- Allow viewers to rate the video
Live – for a live video, select HTML5 or Flash
Allow Copy – Sets ability of other users to copy your video to their account where they can use and edit the video without affecting your copy.
Chat – allow chat on the viewing page

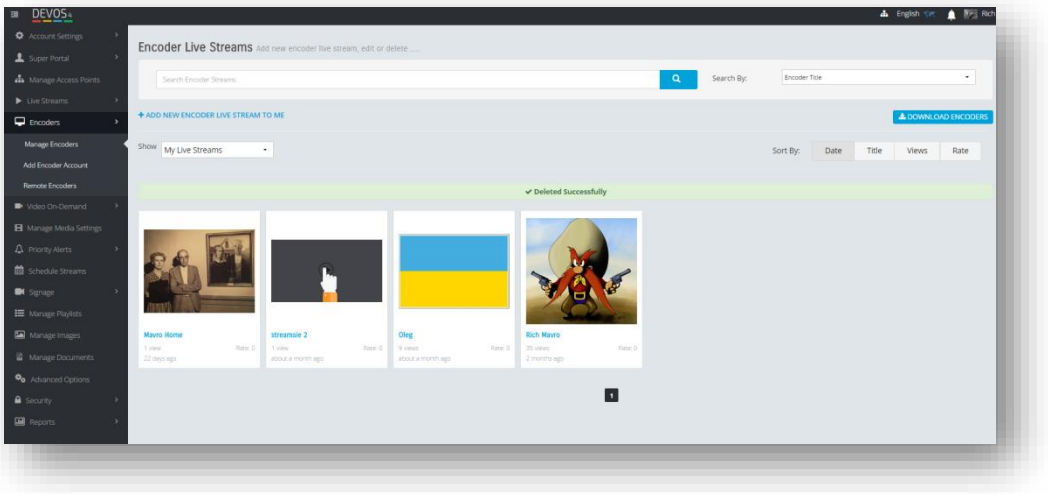
VoD is always HTML5. Live video may be Flash or HTML5.

Quick Wizard

The Quick Wizard walks you through the setup of encoder account. The wizard makes it easy to setup a new Streamsie, Mantis, and other encoders.

Encoders

Select Encoders to configure and manage Encoders. Encoders include Streamsie, Mantis, and StreamEngine.



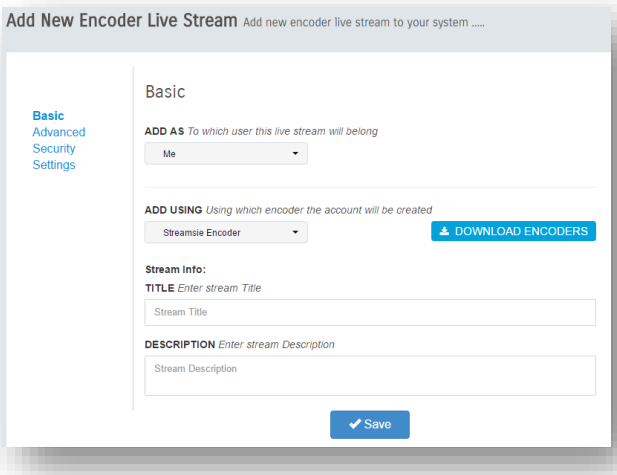
Streamsie is licensed by the DEVOS server. The number of streaming accounts you can configure for Streamsie depends on your Streamsie license. Streamsie licenses are portable, and you can think of them as being licensed to a person. That person can use Streamsie PC/Mac on multiple computers, but only one at a time.

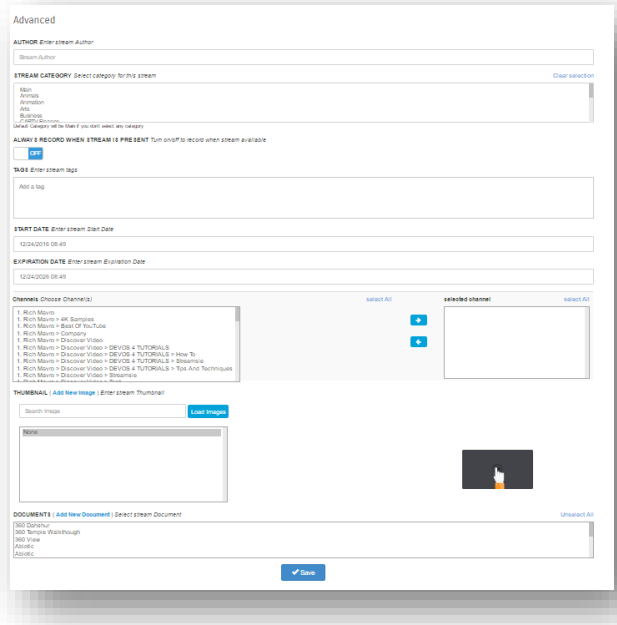
Streamsie iOS (for iPad/iPhone) is available for free from the iTunes store and it uses a standard Streamsie account.

In DEVOS 4.8, all "Streamsie" licenses are converted to "Streamsie Pro" licenses and are configured and managed by a Super Administrator.

Add New Encoder

Streamsie, Mantis, StreamEngine type.





<u>Basic</u>

Add As -- If you are a delegate, you may add encoder to another account

Add Using – Select Streamsie, Mantis, StreamEngine.

Title – The title to be shown on the player.

Description – the description to be shown on the player.

<u>Advanced</u>

Author – the author to be shown on the player.

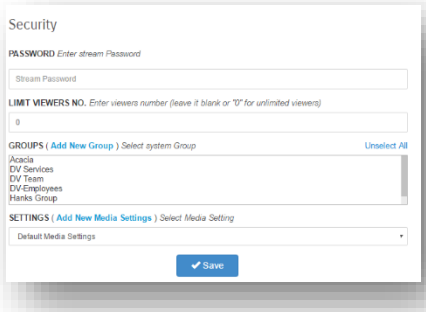
Stream Category – select a category.

Start Date -- The date/time when the video will appear in Channels.

Expiration Date -- The date/time when the video will be removed from Channels.

Tags -- Optional. Additional content tags to search within Channels. Use comma to separate entries.

Channels -- Select a channel where the encoder stream will appear (optional)
Thumbnail -- Select (or upload new) image for your video thumbnail
Documents -- Select (or upload new) document to be associated with the video.



<u>Security</u>

Password – enter optional password required to view the live stream.

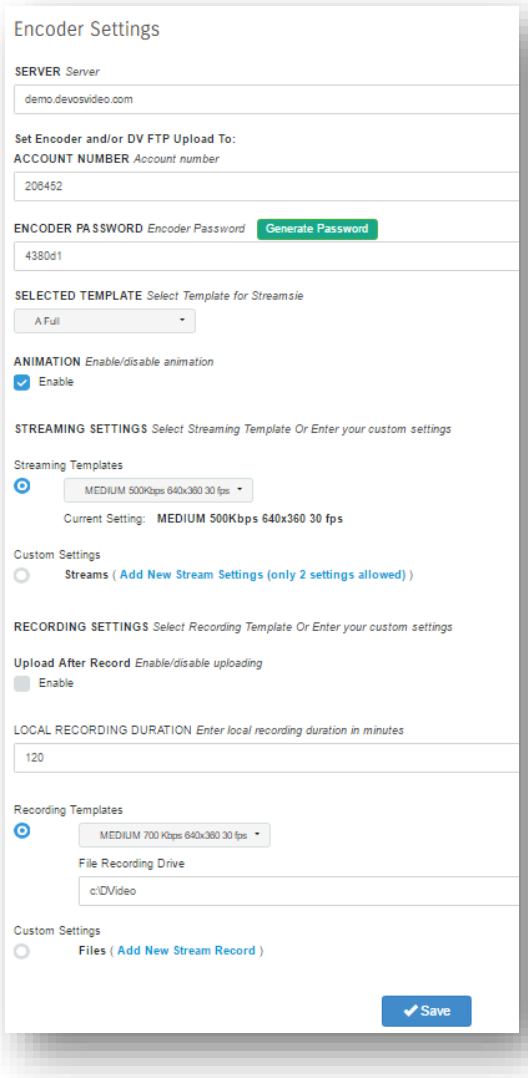
Limit Viewers – enter the maximum number of live viewers that will be supported from the web page player.

Groups – select the groups that are allowed to view the live stream. Selecting none means the live stream is unrestricted/open.

<u>Settings</u>

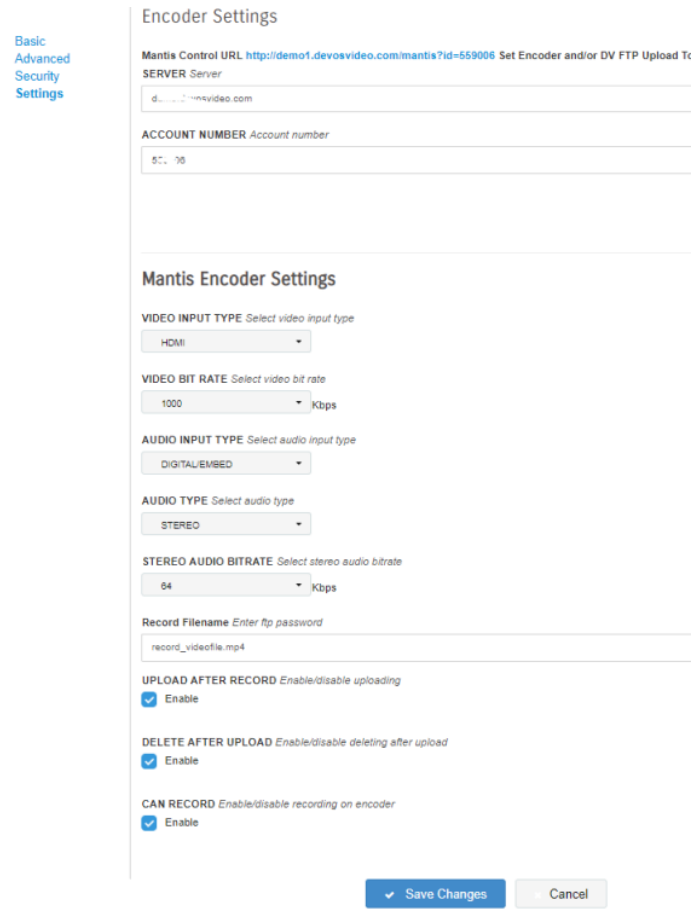
Select Settings to configure the encoder values.

Streamsie:

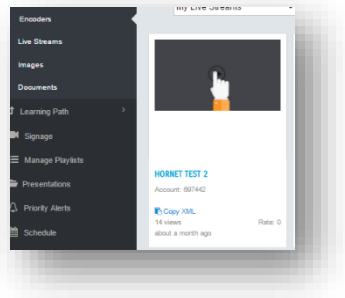


Server – read only, enter this in Streamise
Account – read only, enter this in Streamsie
Encoder Password – read only, enter this in Streamsie. You can select "Generate Password" to change the password.
Selected Template – causes Streamsie to use the selected layout.
Animation – when switching templates, configures whether the video does quick cut or animation.
Streaming Templates – Select live streaming bit rate and resolution settings from dropdown list. Select custom to create your own values.
Recording Templates – When recording locally (on Streamsie computer), sets the bit rate and resolution from template or custom values.
Upload After Record – if selected, then Streamsie will automatically upload just-recorded video to the server.
Local Recording Duration – sets the duration for any local Streamsie recording.

Mantis:



- Server – read only.
- Account Number – read only.
- Video Input Type – selects the video input.
- Video Bit Rate – selects the video bit rate.
- Audio Input Type – selects audio input.
- Audio Type – selects audio type.
- Stereo Bitrate – selects audio rate.
- Record Filename – automatic, do not change.
- Upload After Record – enables upload after local Mantis recording.
- Delete After Upload – configure Mantis to remove the local recorded file after successful upload (to save disk space).
- Can Record – if checked then a "Record On Encoder" button will appear on the player page. Set this only if the Mantis has a storage device attached.



After creating Mantis or StreamEngine account, save it. Click on the "Copy XML" link on the encoder page, then paste this in to the Mantis or StreamEngine XML control.

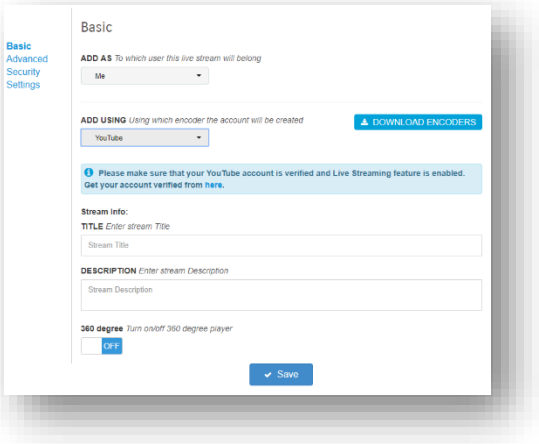
IMPORTANT! Allow up to 30 seconds for changes to apply.

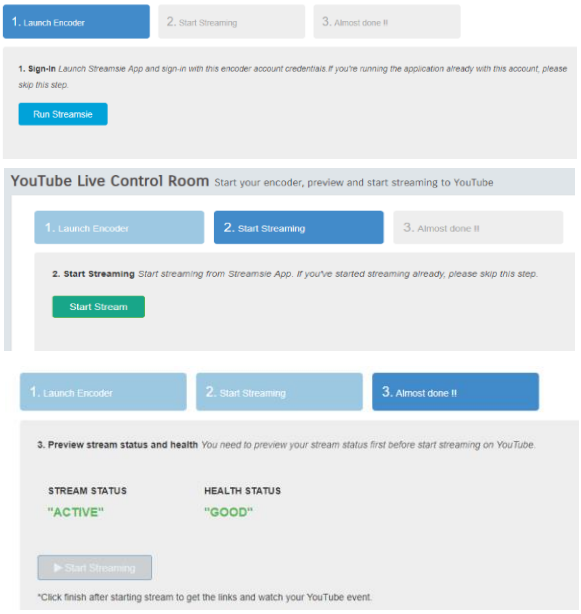
StreamEngine

StreamEngine has simple Title and Description settings, and the encoder values are configured within each StreamEngine channel.

YouTube

When you configure YouTube, you are configuring the Streamsie or OBS encoder to stream to YouTube and to display the live video in DEVOS. After you link your YouTube account, simply follow the instructions in the wizard.



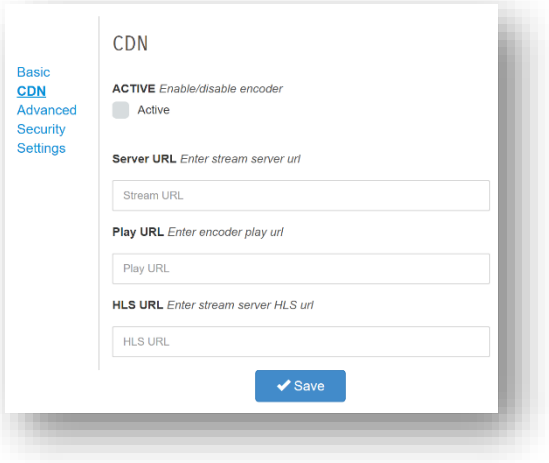


Please be sure your streaming settings are set to 1280 x 720 for best results.

Facebook

Streaming live to Facebook is not automated in this version of DEVOS but is coming soon. In the meantime, you can stream live to Facebook using Super Administrator / Advanced / Push.

CDN

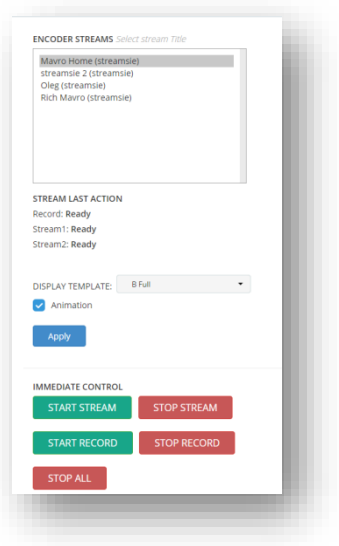


For Streamsie type encoder accounts, you have the option to use a CDN such as Arcus or 3rd party. When using CDN, the live stream does not pass through the DEVOS streaming server.

Server URL – enter the RTMP address that you want Streamsie encoder to push to.
Play URL – enter the RTMP address that will be used by the player (e.g. the distribution URL from the server)
HSL URL – enter the HLS address that will be used by mobile player

Remote Encoder Control

Select Encoder Remote from the Encoders page to control encoders from the server.



For Streamsie PC, you can start and stop streaming and recording, and select the template in use.

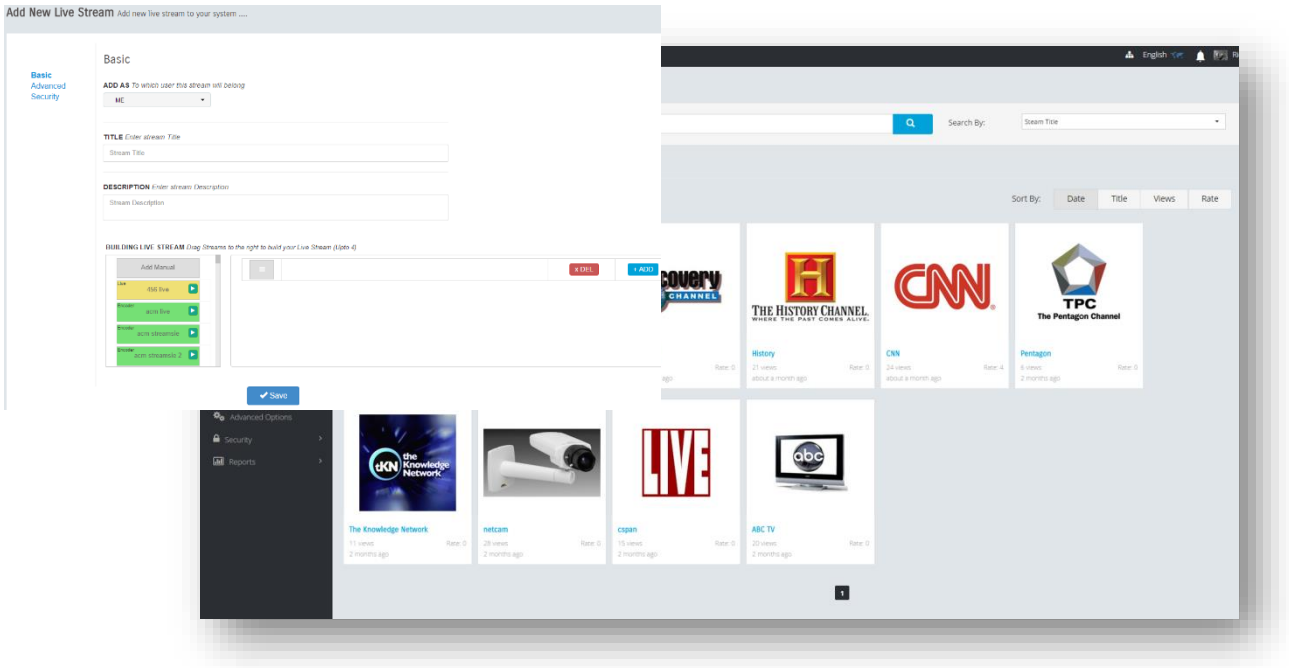
Control is delayed by up to 30 seconds so please be patient when using remote control.

For Mantis, remote recording is available when there is a USB storage device inserted into the Mantis USB port.

Remote Control of Streamsie PC and Mantis is useful for managing streaming from remote, unattended locations. IMPORTANT-- Recording is done on the encoder. If upload after recording is configured for that encoder, then the just-recorded video will be uploaded after recording. The function does not control server-side recording. For Mantis and Hornet, you must have a USB storage inserted (Mantis must be formatted FAT16 or FAT32). Encoder upload uses passive FTP. Your DEVOS system must have passive FTP configured for upload to occur. See Scheduling for more information.

Live Streams

Live Streams are streams from 3rd party encoders, network cameras, and other streams from the public Internet such as CSPAN, etc. Live Streams may be a conventional single player or a multi-player. To create a new live stream, select Live Stream, and Add Live Stream.



Basic

Add As – If you are a delegate for someone else, select who you are adding the stream for, otherwise select "Me".

Title -- Enter the title for your stream

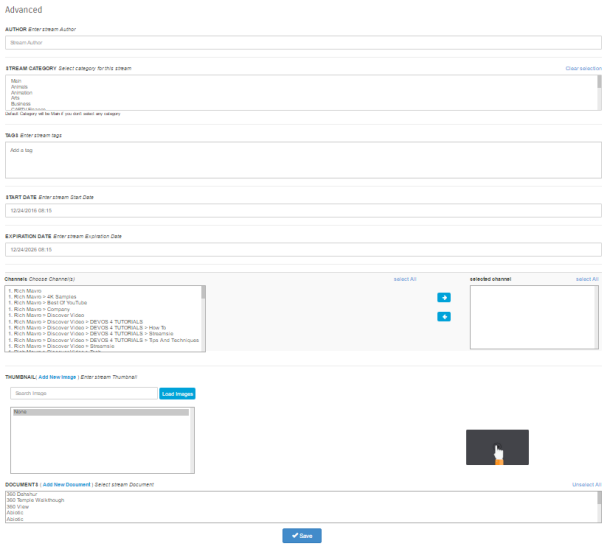
Description -- Enter description

If you wish to manually enter the stream address, select the grey "Manual" box and drag and drop it to the right to insert it. This is the most common case for a live stream. You must then manually type in the RTMP and HLS address for the stream.

If you wish to create a multi-player stream, select "ADD" to create an additional stream slot, then drag/drop an additional stream to the slot. All available live streams (yellow) and encoder (green) are available. Up to four live streams may be selected.

Advanced

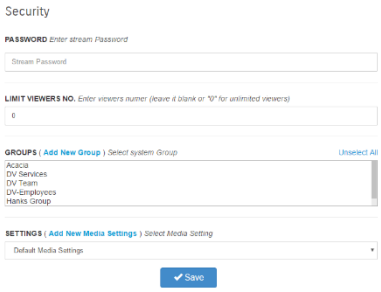
Select Advanced to enter additional values.



Author -- Optional, enter author name
Tags -- Enter text separated by comma, for search criteria in Channel pages
Start Date -- Enter date/time when the live stream will appear in a channel
Expiration Date -- Enter date/time when the live stream will be removed from a channel
Multicast URL – Enter the IP multicast in form “udp://@IP:Port” (used by optional DVPlayer)
Channel -- Select the Channel for this video (optional)
Thumbnail -- Select the desired image for the channel (optional, or upload new)
Documents -- Select (or add new) documents to be associated with this video.

Security

Select “Security” to enter security values.

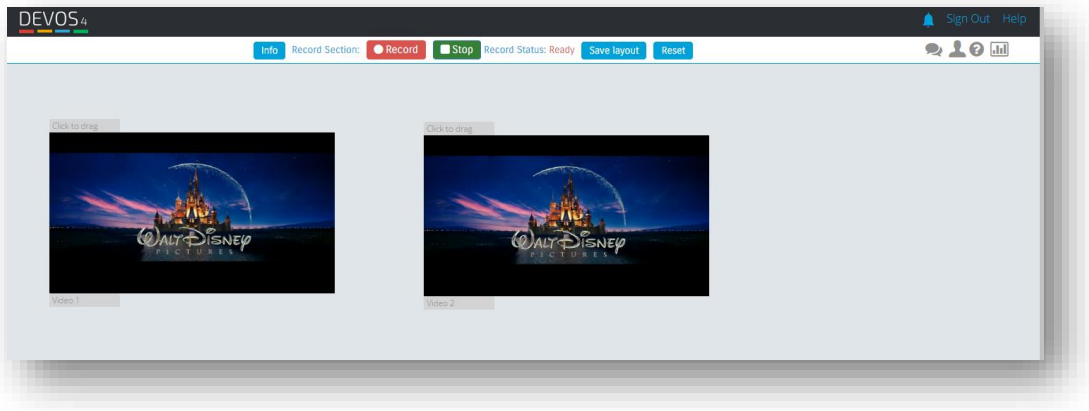


Password -- Optional. Enter a password that the viewer must enter to view the video
Limit Viewers No. -- Enter the maximum number of simultaneous viewers. Leave blank or 0 for no limit.
Groups -- Select (or add new) Security Group(s) that may access this video. Make no selection for open access.
Settings -- Select (or add new) desired Media Settings. Media settings are templates you have created to set common attributes.

Save -- Saves your setting.

Multi-Player

Multiple live streams will create a live player showing each of the live streams.

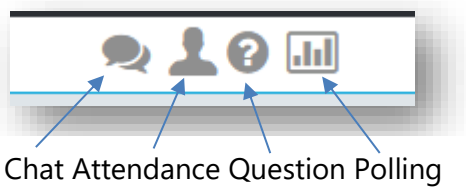


Drag each player into your desired position. Grab the lower right edge of each player to resize it as desired.

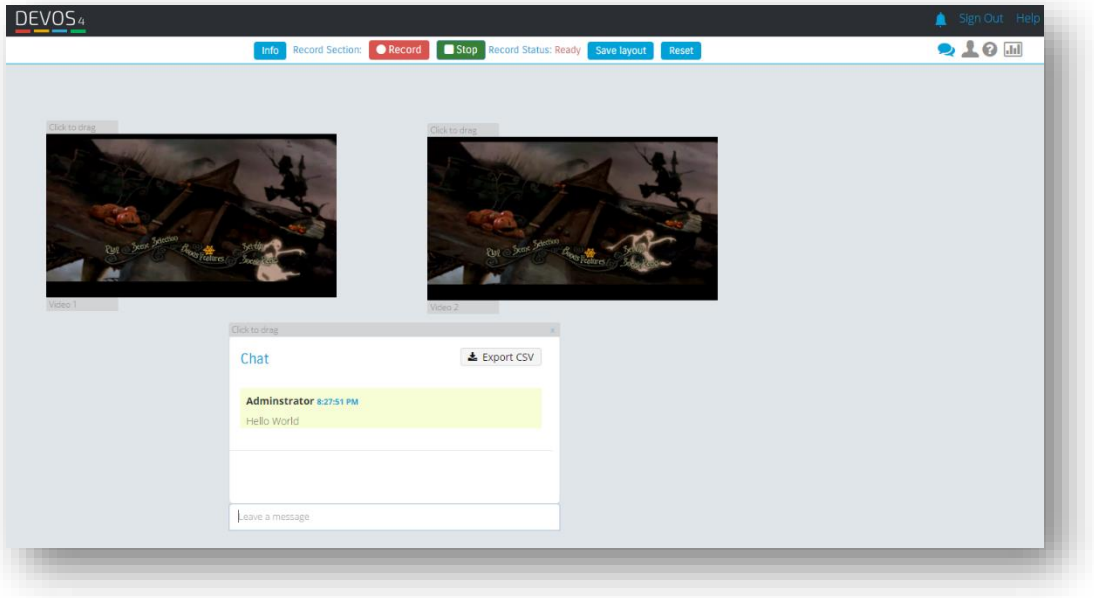
When you are satisfied with the layout, select “Save Layout”.
Viewers will now have your saved layout, but they may adjust the layout (without saving it) so they can customize the view as they wish.

Live Chat, Attendance, Questions, and Polling

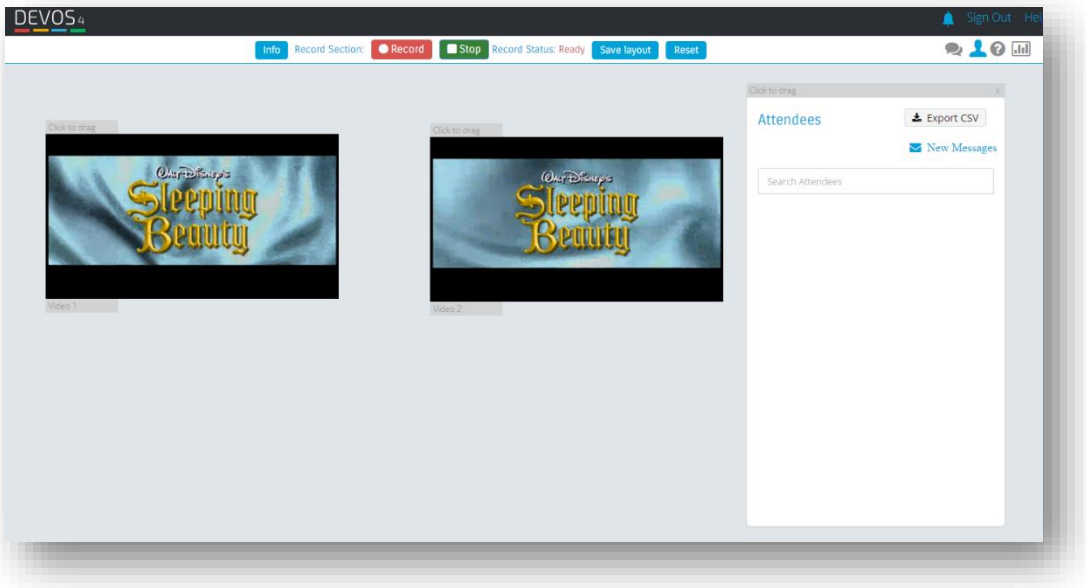
For live multi-streams, the owner has real time control.



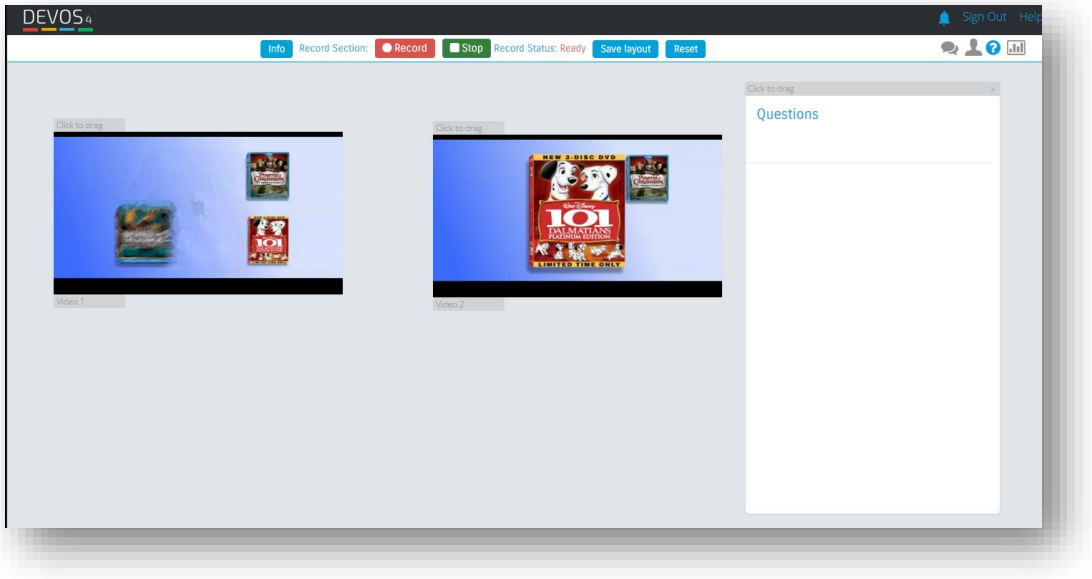
Press the chat button to turn on chat and a resizable window will open on your and the viewer's player. You can turn it on and off at will. If you wish to save the chat, use the export chat function.



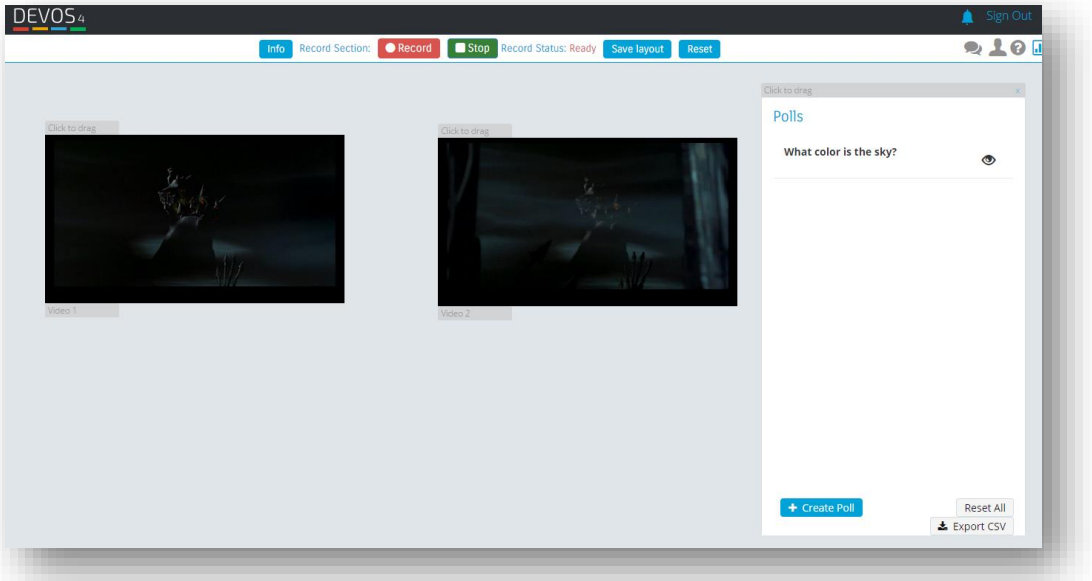
Press the Attendance button to see who is watching your live video. You can send a private message to any attendee.



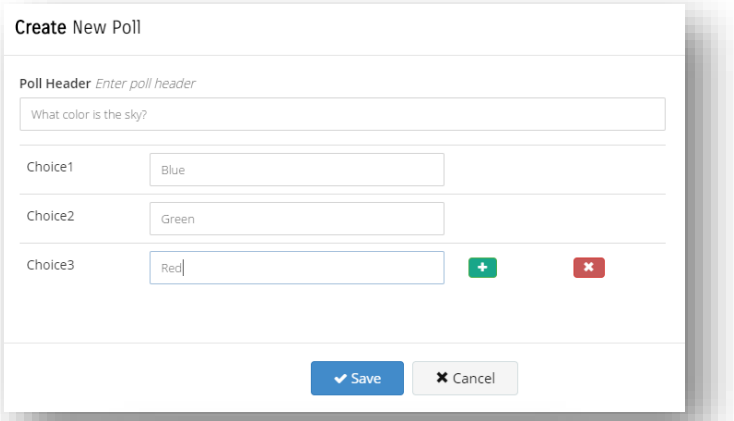
Viewers (not the owner/admin) have a "Ask Question" button where they can type in questions. When they ask a question, the "Question" icon on your page shows you have a new question. You can open a resizable window to view (the audience does not see questions).



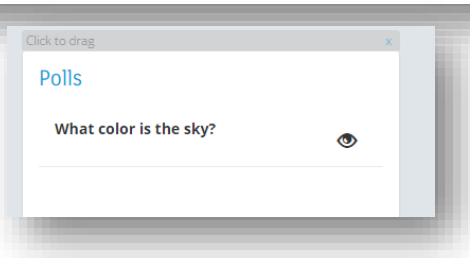
Press the Poll button to open the poll dialog. If you are pre-existing polls, they will be listed, otherwise, select Create New Poll.



A poll is a multiple-choice question that will be sent to your viewers. Create a poll and save it.

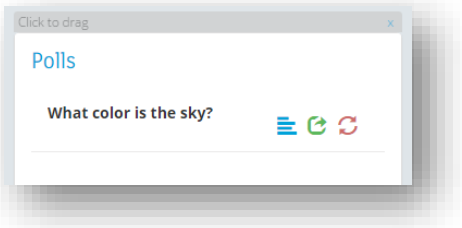


Start a poll by selecting the "eye" icon. You will be shown the poll and asked if this is the one you want to show. Answer Yes.



At this point, the poll will open on all viewer's screens. Give sufficient time for your audience to answer and then close the poll by selecting the X icon.

You now may view the result in a bar-graph. If you want to share the result, select the center icon and the graphic result will open for all viewers. You can close the result viewing by selecting the X icon. You can reset the results with the third icon, and you can reset the results of all polls with the Reset All function.

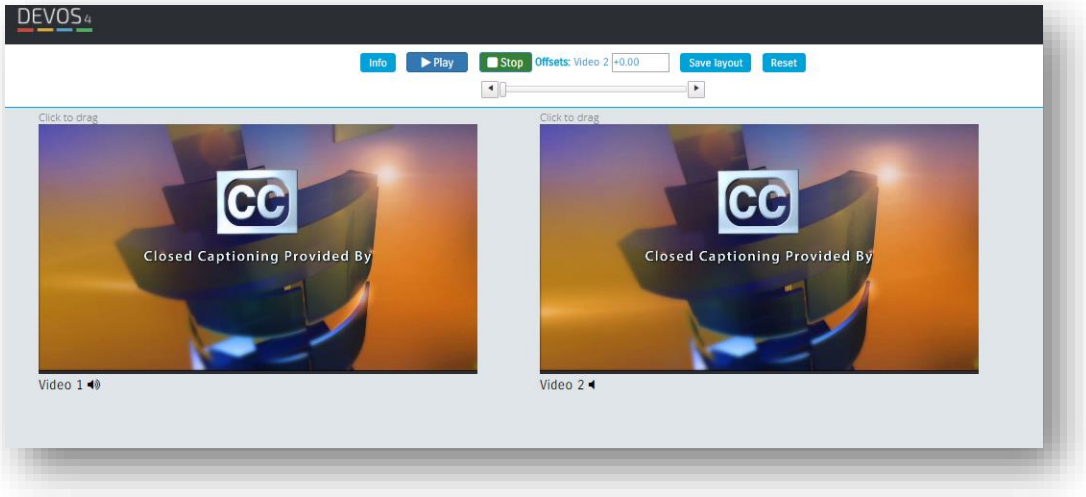


If you wish to save the results, use the Export function before you reset.

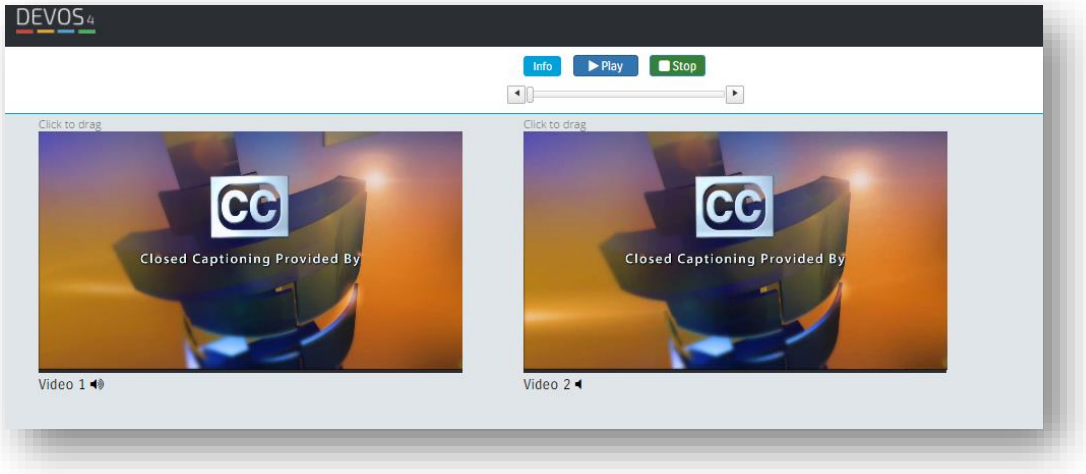
Multi-Player Recording

Simply select "Record" to start server-side recording, and "Stop" to end recording. Your recorded video will become a new video in your Media / Video-on-Demand manager, and you may add it to any channel. You can also schedule multi-player recordings.

For multi-player recordings, you may adjust the offset for each video (the delay time between video 1 and video 2, etc.), and change the layout when you are logged in to the system and the video is owned by you:

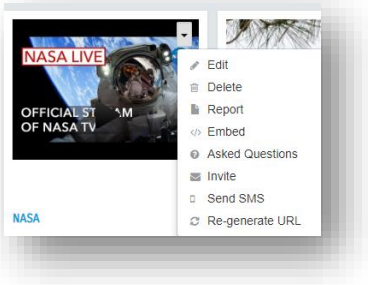


Viewers do not have the ability to save layout settings:



You may click on the audio icon to mute/unmute any video.

Edit Live Video

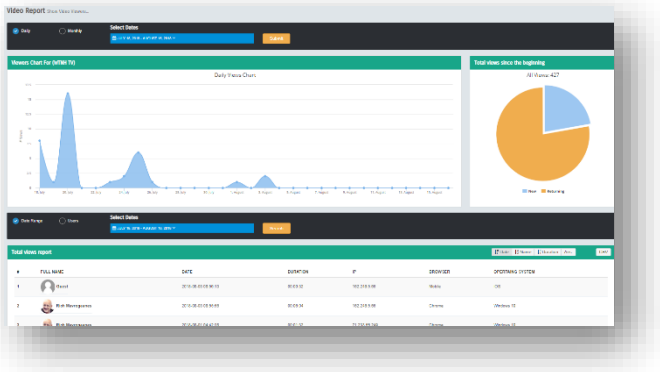


Mouse over any live video to expose the edit box.

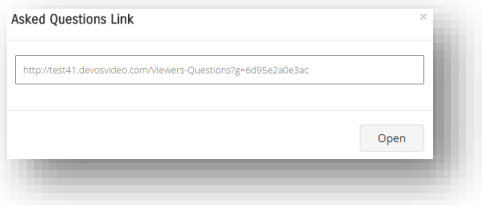
-Select Edit to change any settings.
-Select Delete to delete the live video.
-Select Report to view report.
-Select Embed to get Embed code.
-Select Asked Questions to enable questions and to view them.
- Select Invite to send an invitation.
- Select Send SMS to send a text message with link to this video
- Select Re-generate URL to change the URL of the live video. After regeneration, the URL is changed to so that if a user opens a prior email, text message, or browser history, they cannot view the live video.

Live Viewer Report

Select Report to view detailed statistics of any live video. The report shows how many viewers watched this live stream in selectable periods, and shows who viewed, for how long, and shows the IP address of the network the viewer came from, their browser and OS.

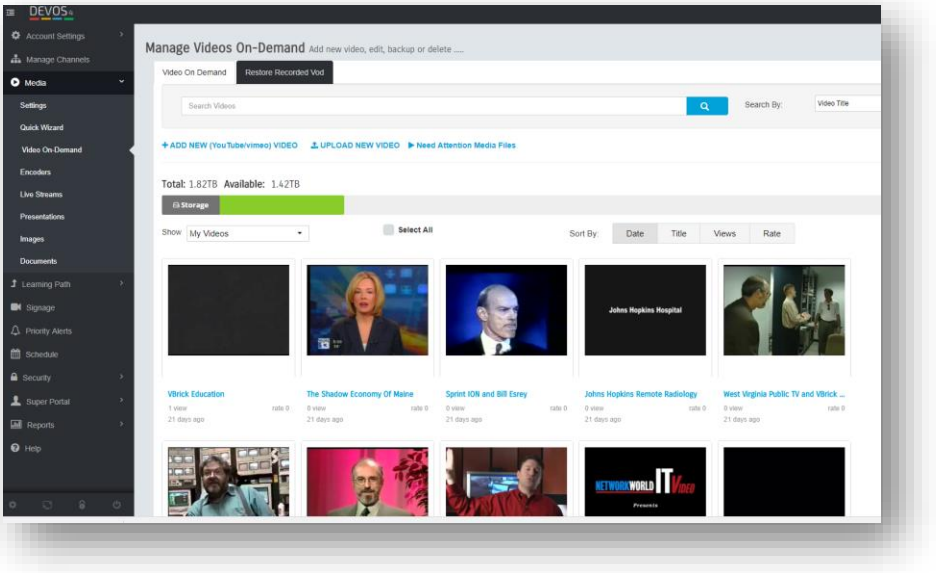


Live Questions



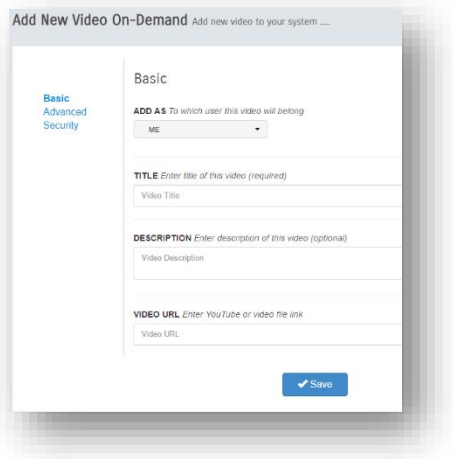
Live videos include the ability of the viewer to ask questions that only the owner of the video can see. This is useful in a presentation environment for near real-time audience feedback. To view the live questions, select "Asked Questions" then open the provided page. You may copy the URL to another computer, for example the desktop of an assistant that would read the questions or make it available to the live presenter so they can read the questions and respond to them visually and verbally. The ASK QUESTION button only appears on the viewing page when this page is open and only for viewers that are NOT the owner of the video (e.g. you will not see the "Ask Question" button if you are logged in as the owner of the video).

Video On Demand



The Mange Video On Demand function allows you to upload and mange Video content. You can search and sort your existing content, add YouTube or other foreign content, and view reports for any VoD content.

Add New (YouTube/Vimeo) Video



Basic

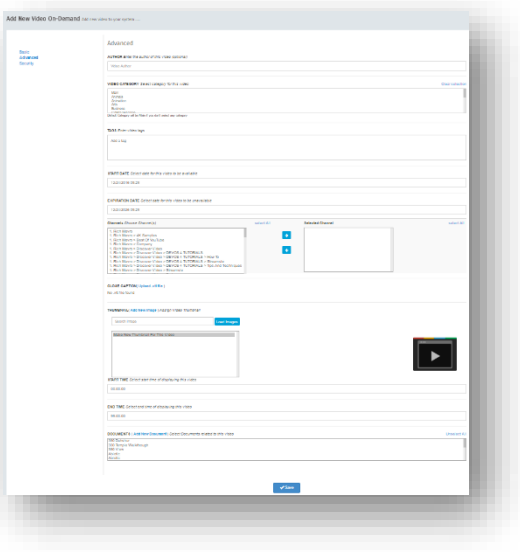
Add As -- Select "ME", or if you are a delegate, you may add it on behalf of someone else.

Title -- the Title for your video

Description -- the Description of your video

Video URL -- paste in video URL. The URL may be from any available location, or from YouTube (e.g. https://www.youtube.com/watch?v=LOYNf76ZKsE)

The video URL must point to a video file, not to a "web page" except for YouTube you normally copy/paste the YouTube URL that points to one video (not to a YouTube playlist). *Not all YouTube video can be added. The target video must be authorized for "embedding" (most are). Once added, YouTube and other videos may then be added to playlists or published in Channels. You can add quickly add YouTube videos using the DEVOS YouTube tool available from the Help page.*



Advanced

Author -- the Author of the video

Category -- Select category

Tags -- enter text separated by comma. Tags are search items in Channels

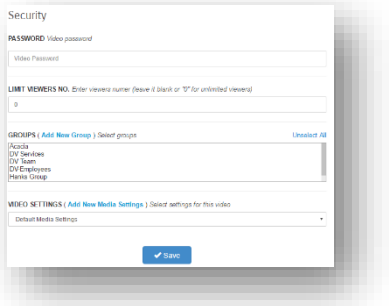
Start Date -- the date/time when the video will appear in a Channel

Expiration Date -- the date/time when the video will be removed from a Channel

Channel -- Select a channel where the video will appear (optional)

Thumbnail -- select (or upload new) image. If you are adding YouTube video, image will be generated automatically.

Documents -- Select (or upload new) document to be associated with this video



Security

Password -- Optional. If entered, then the viewer must enter it to view.

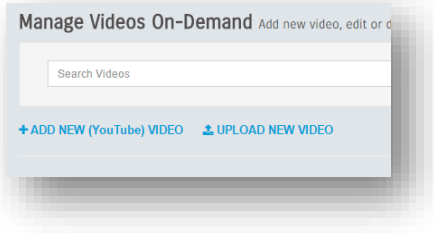
Start Time -- the offset from the start of the video where playback should begin

Limit Viewers No. -- The maximum number of simultaneous viewers allowed. Enter 0 or leave blank for unlimited

Groups -- select (or add new) the group(s) that will have access to this video. Select no groups for open access

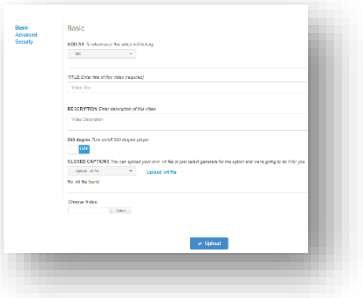
Video Settings -- Select (or create new) Media Setting

Upload Video



You may upload virtually any type of video file up to 8GB, providing it does not contain errors and DEVOS will convert it to the proper format. Select "Upload New Video" from the Video-on-Demand administration page.

Complete all entries:



Add As – select "Me" unless you are a delegate or a team member for another DEVOS user and wish to add a video to their account.

Title -- the title for your video

Description -- the Description of your video

360 Degree – enables 360 degree for video created at 360

Closed Caption – Select caption service or upload .vtt file

Choose Video – browse to a video file on your computer then select Upload.

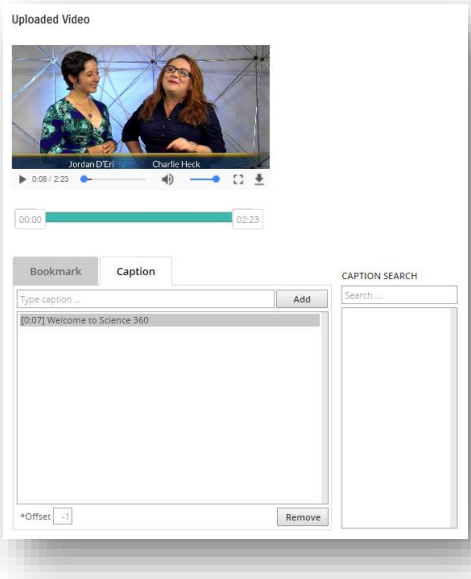
Prior to upload, you can make advanced and security settings.

Download Video

You may download a video that has been uploaded or recorded by selecting Edit for the target video, the right-click on the "Download" link.

Captions

Edit a video and press play and listen to the audio. After you hear a sentence simply start typing in the caption and the video will pause. When you have completed your sentence, press Enter to insert that caption at that time and the video will start to play again. Repeat until you have entered desired captions.

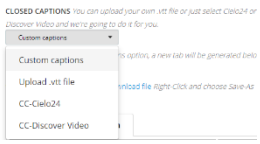


You can remote, edit and search your captions.

When done save the settings.

When captions are present, the player will have a [CC] option where they can be turned on by the viewer.

If you have a Closed Caption service license, you may select "CC-Cielo24" or "CC-Discover Video" to send the video to the selected service provider. Which service, if any, is available to you is set by the Super system administrator.



Bookmarks

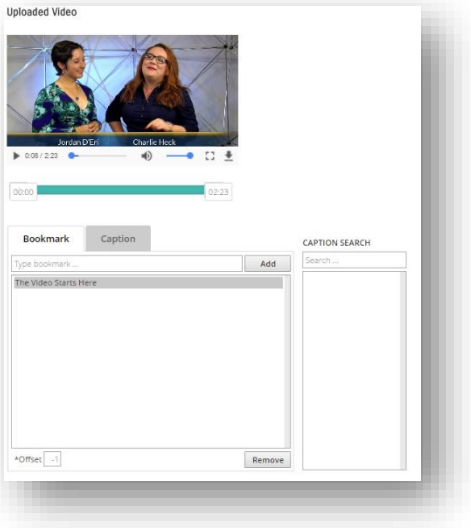
You can add bookmarks to any video that has been placed on the system by selecting the video, Edit.

Play the video and navigate to a point where you want to add a bookmark. Type in the bookmark text and select Add.

You can remove any bookmark.

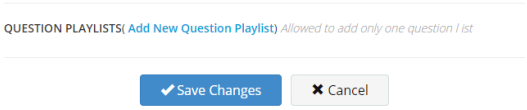
Save the settings when done.

When bookmarks are present, the viewer can select it from a list and video will play at the point where you entered the bookmark.

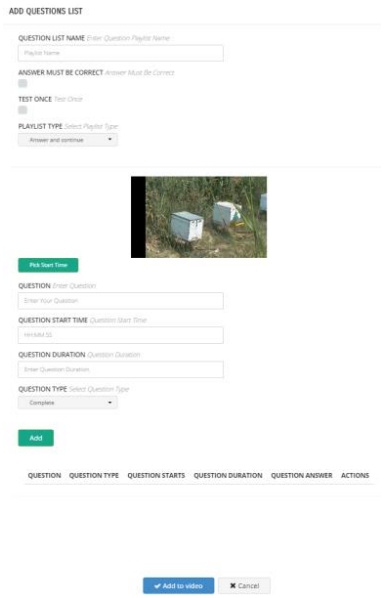


Insert Questions Into Video

You can create a Questions Playlist for any Video-on-Demand content, including YouTube content. Select "Add New Questions Playlist" from the create or edit page.



Questions are multiple-choice or free-text questions that are embedded in the video. Questions help you to determine if the viewer is understanding the content, but also is used for assurance that the viewer actively viewed the material. Edit any video and select Questions Playlist



Question Name -- a convenient name for your question list

Answer Must Be Correct -- if checked, the viewer must try again until they answer correctly (used for learning, score will always be 100%)

Test Once -- if checked, then this user may only take the test once. Subsequent visits to the video will not offer questions.

Playlist Type -- Answer and Continue, Duration Answer, or Answer At End:

Answer And Continue – The viewers is presented with question. They must answer the question to continue playing the video. After the specified duration, they are warned to answer the question.

Duration – The viewer is presented with the question. They must answer it within the duration time or they will receive a 0 (not answered) score. The video continues after the answer or when the duration expires.

Answer At End – The viewer is presented with the question at the end of the video only.

Player / Pick Time -- move the slider to the point where you want to insert a question. Select pause. Then select "Pick Start Time". This will insert the current player time into the Question Start Time box.

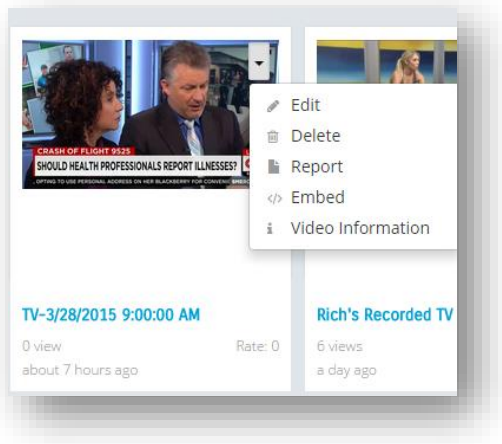
Question Type -- Choose (multiple-choice) or Complete (free text)
For Choose Type, enter answers 1 to 4 and select which is the correct answer. Select ADD to add this question to the question playlist. Repeat for the next question, making sure you select the time in the video where you want the question to appear.

Question -- Enter the question, such as "What color is a banana?"

Question Duration -- Enter the number of seconds the viewer has to answer.

Select Add To Video to complete the question.

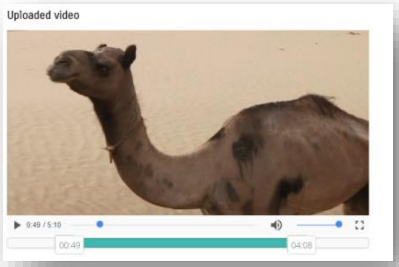
Edit Video



Mouse over any video to expose the menu. Select Edit to modify any value. Select Delete to delete that video. Select Embed to access the video embed code, and select Video Information to get technical details.

Video Trim

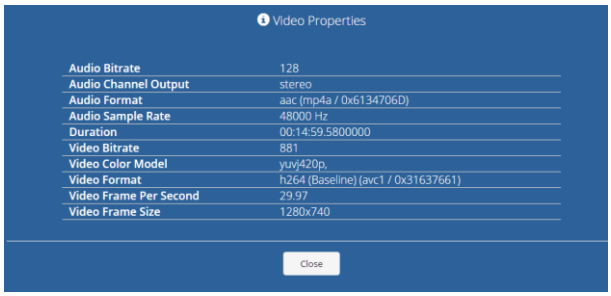
When you edit a Video, you have the ability to trim the starting and ending point that will be shown to viewers. Simply drag the player starting and ending position and save your edit.



Trimming is particularly useful for scheduled recordings of live events when actual start time differs from the schedule start time.

Video trimming is non-destructive: the original video file is not altered.

Video Information



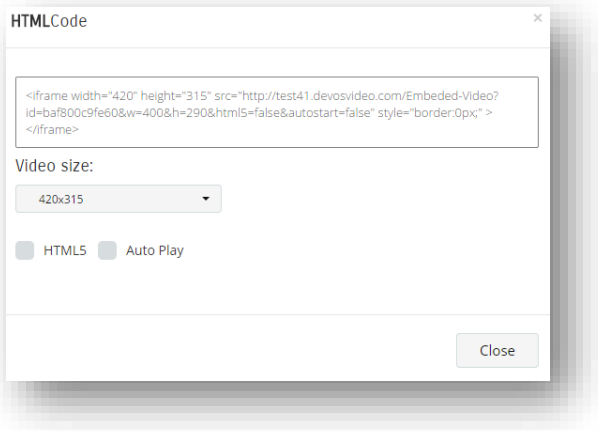
The video information gives you details about the video, which can be very useful to troubleshooting issues with playback and compatibility.

Report

Select Report to access a comprehensive report of viewing history for the selected video.

Video Embed Code

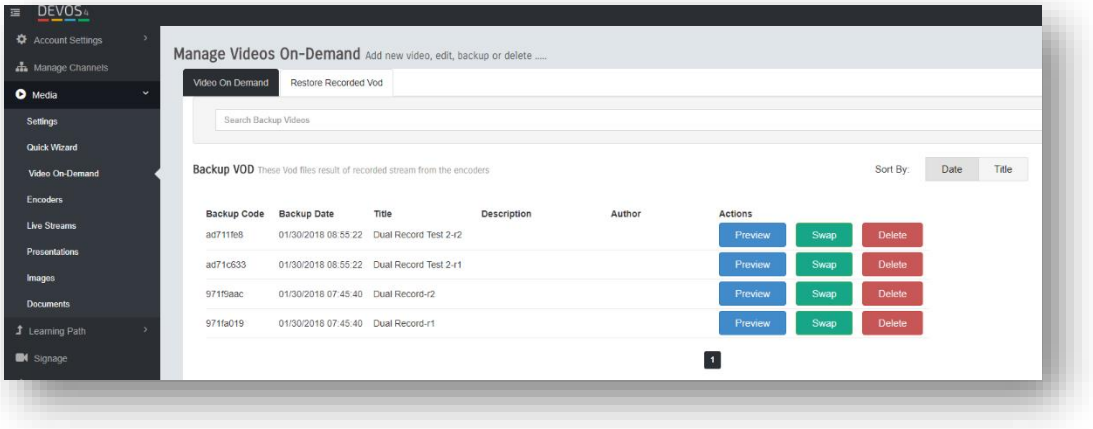
Video embed code allows you to select a video, set the desired size, and copy the embed code to your web page.



Select size, optional HTML5 player, and select Auto Play to cause the video to start playing automatically.

Restore Recorded VoD

For scheduled recordings with both server-side and encoder-side (local) recordings, the system holds two copies of each video. The primary, published video is the one uploaded from the encoder. This is because the local recording is less likely to be affected by network conditions while the server-side recording can be affected.



When two videos exist for a scheduled recording, the alternate recordings are listed in the "Restore Recorded VoD" tab. You can preview any video and if you prefer the backup copy you can swap it with the published recording by selecting "Swap". This does not affect the player page, but after swap the video used in the player becomes the backup and the prior published video becomes the backup (i.e. they are swapped).

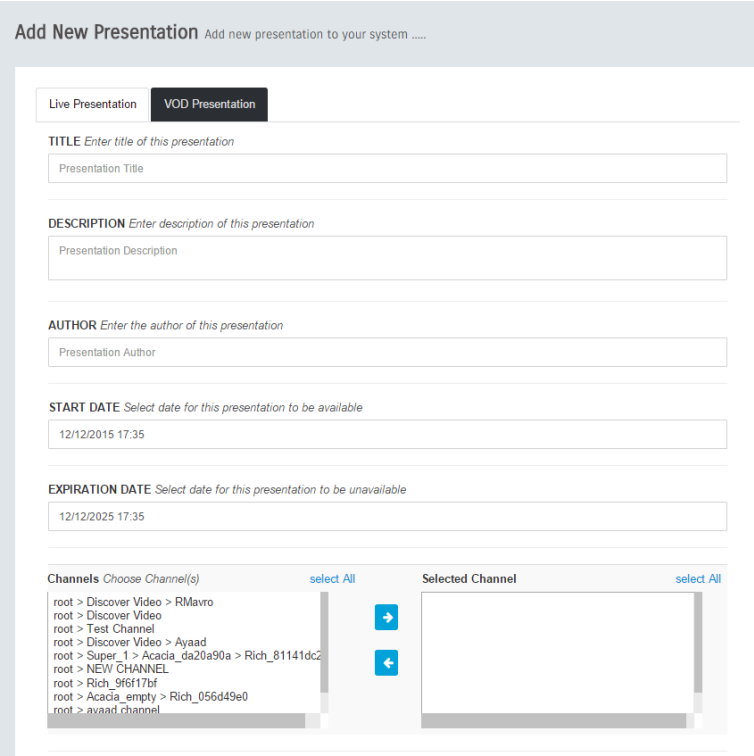
You should periodically delete old backup copies to preserve disk space.

Presentations

DEVOS empowers you to communicate with live video synchronized with live PowerPoint slides. You can also synchronize PowerPoint slides with any video file to create engaging multimedia that informs, instructs, or even entertains. And you can give live slides-only presentations (where your audience engages via telephone).

Live Presentations

To set up a live presentation, be sure you have set up a live stream (e.g. have Streamsie account ready), and you have a PowerPoint file ready. Log in to DEVOS and select "Presentations", then select "Add New Presentation". Enter desired values as described below:



Title -- enter a title

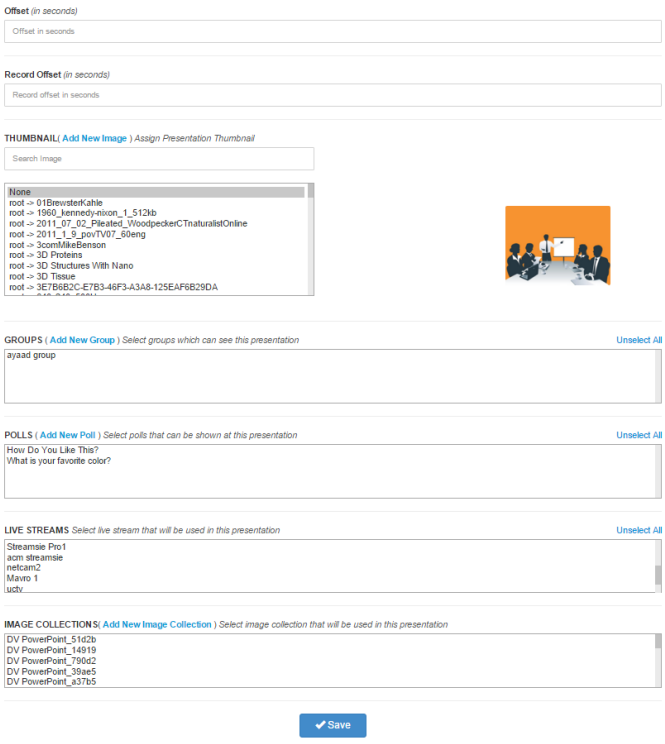
Description -- enter a description

Author -- enter author

Start Date -- enter date/time when the presentation will appear in a channel (if channel selected)

Expiration Date -- enter date/time when the presentation will be hidden in a channel (if channel selected)

Channel -- select channel(s) where the live presentation will appear



Offset -- how much to delay live slide change for live viewers (default 0)

Record Offset -- how much to delay live slide change for recording (default 0)

Thumbnail -- select image to display for presentation thumbnail

Groups -- select security group that may view (no selection means everyone can view if published to a channel).

Polls -- add new poll to create poll that will be used in the presentation

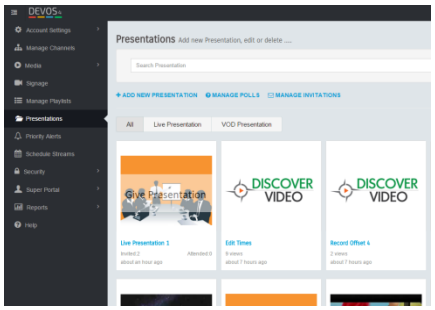
Live Stream -- select a live stream that will be used. *Leave blank for slides-only (as telephone conference, no recording).*

Image Collection -- select PowerPoint or other image collection to be used for your presentation, or add new

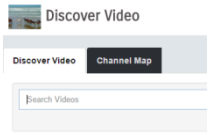
If you have not already uploaded a PowerPoint, you may select "Add New Image Collection" and upload your .ppt or .pptx file now and wait for it to process.

If you know that you will poll the audience to get live responses, you may select "Add New Poll" now (you can also do it during the live presentation, but your audience will have to wait while you create it so you should create your polls in advance whenever possible). You can also create and manage your polls from the main Presentation page.

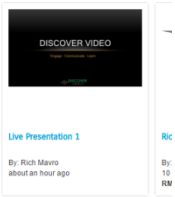
When done, select "Save". A presentation image now appears in your Presentation page with the title you have entered and with a "Give Presentation" image overlay which indicates it is a live presentation.



NOTE THAT YOU CAN USE THE SAME LIVE PRESENTATION AGAIN OVER AND OVER AGAIN. ONCE IT IS SET UP, YOU GIVE THE SAME LIVE PRESENTATION TO DIFFERENT VIEWERS ANYTIME YOU WISH, PROVIDED THE EXPIRE TIME HAS NOT BEEN REACHED.



If you selected a channel for your live presentation, then it appears in the channels with the title you entered, and with the thumbnail you selected.

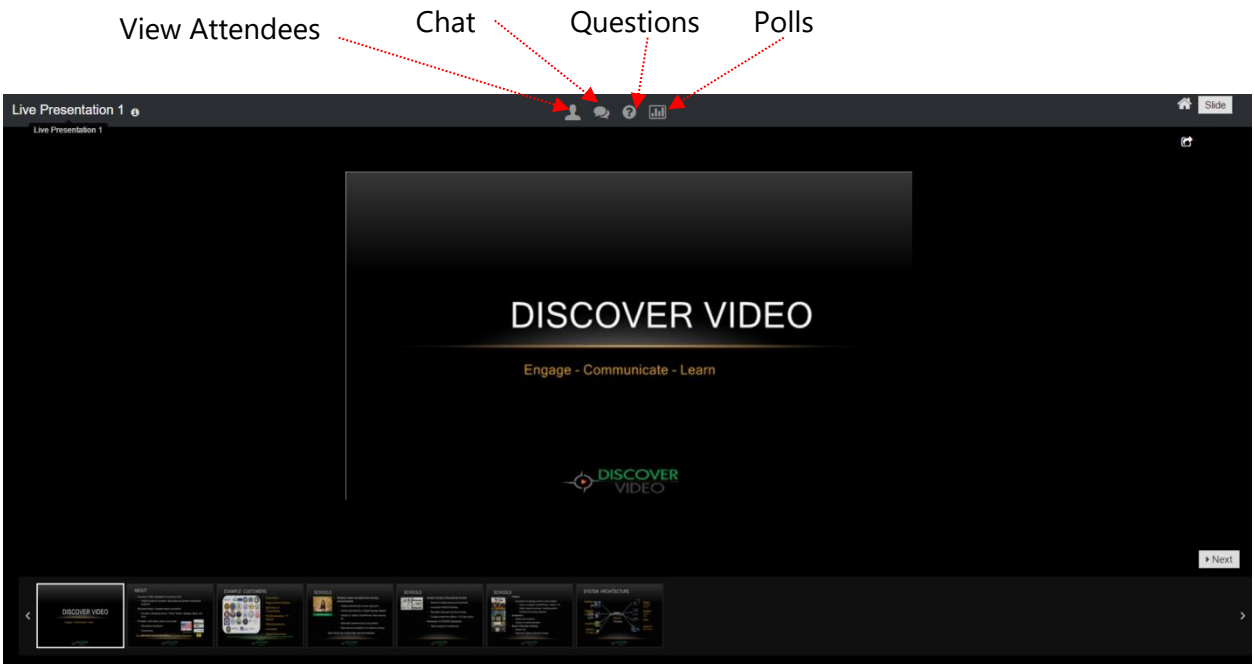


If you did not select a channel, then your viewers can only access your presentation from a link you must send to them, or via invitation (see below).

To access the live presentation link, right-click on the presentation from the Presentation page, and select "View" to open the viewing page in a new browser window. Copy the URL and send it to the viewers.

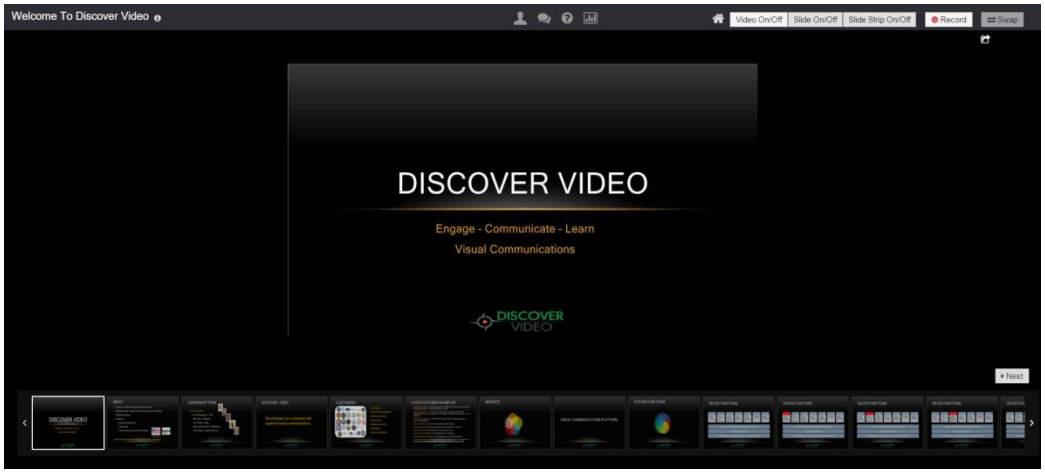
Giving A Live Presentation

Select the presentation. By default, you will see the first slide in your presentation. To change slides, just click on the "Next" button, or click on the desired slide.



View Attendees -- shows list of who is watching your presentation
Chat -- opens/closes chat window for you and for your audience
Questions -- indicates when there is a question. Click to view questions.
Polls -- opens poll window

If you have included live video in your presentation, you may change your viewing layout and start a recording.



Video On/Off -- displays your live video. This is used for confidence monitor so you can be sure your live stream is running. Because there may be audio feedback and video delay, you should not have video displayed when giving a presentation.

Slide On/Off -- displays your slide, or if video is enabled displays video + slide.

Slide Strip On/Off -- displays the slide filmstrip to allow random access to your slides.

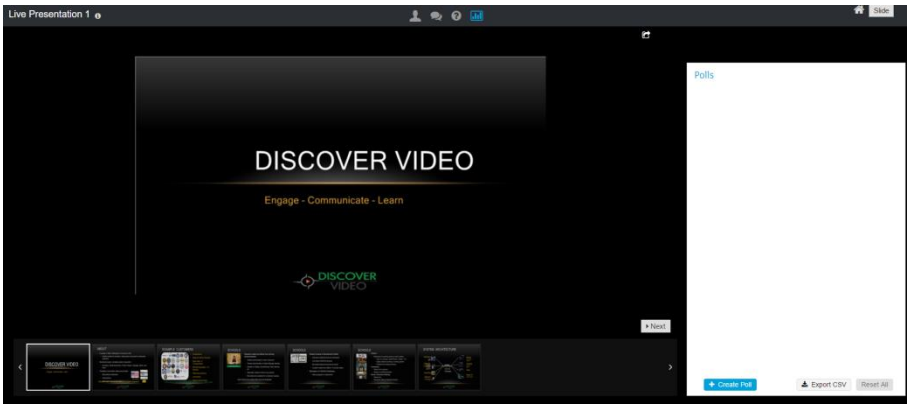
Swap -- swaps position of video and slides (toggle).

Recording -- to record your live presentation, select Record and wait for the status to change to "Stop Recording". To end recording, select "Stop Recording".

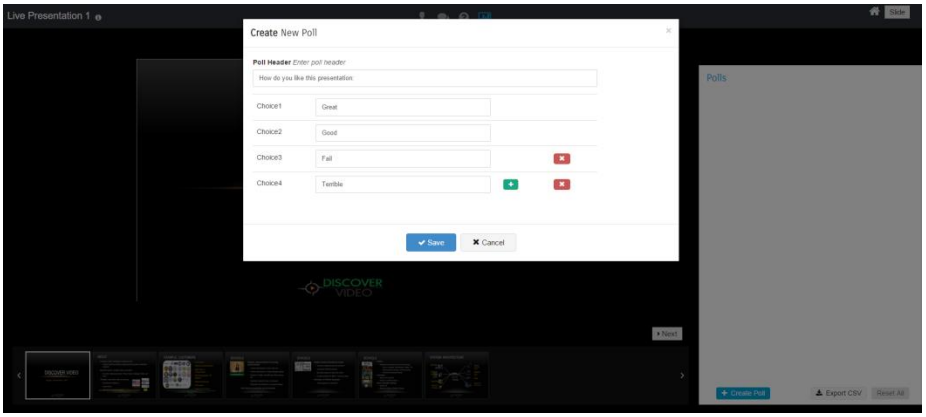
Note: after recording, your recorded presentation appears in the Presentations manager page. Select Edit and you can add it to a channel, edit, adjust times, etc.

Polls

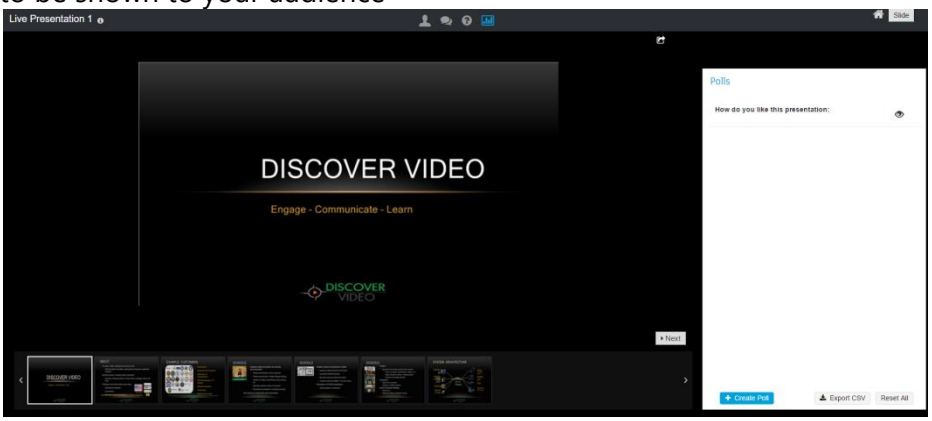
Polls are a powerful way to get real time audience feedback, to make your presentation more interactive, and to gain insight into your audience's thoughts.



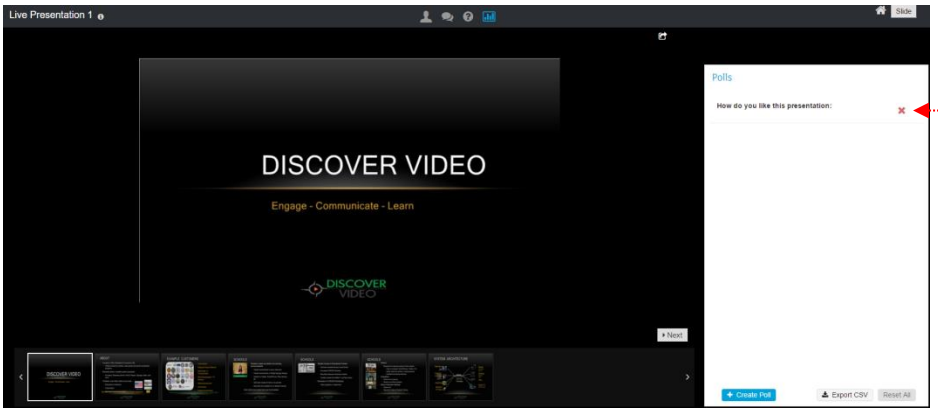
Select Poll to expose the poll panel. Select Create Poll and enter a question and possible answers



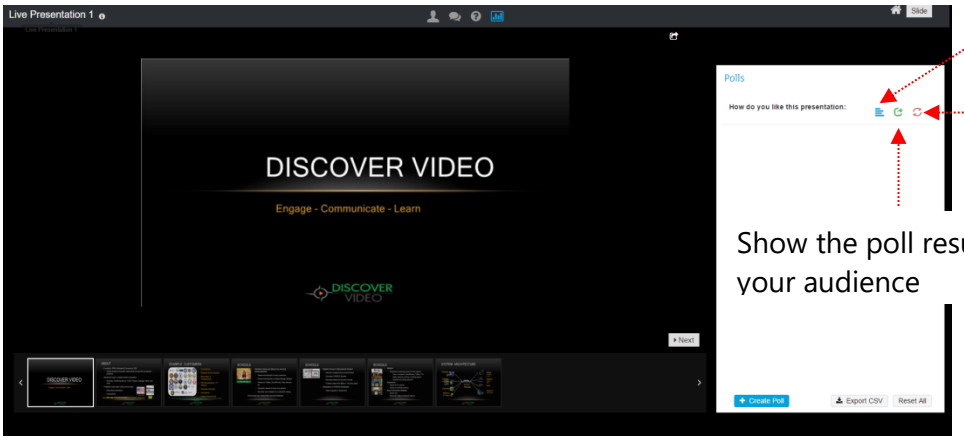
Your poll is now ready to be sent to viewers. Select the "eye" icon next to the desired poll to cause it to be shown to your audience



When you start the poll, the audience has the poll open on their screen until you close it. To close the poll and retrieve the result, select the close "X" icon next to the open poll



After you close the poll, you may view the results

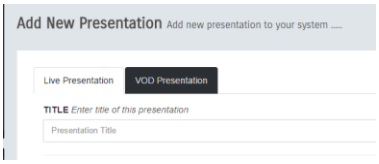


Note: Polls are for live presentations only. When you record a presentation with a poll, the poll does not appear in the recording.

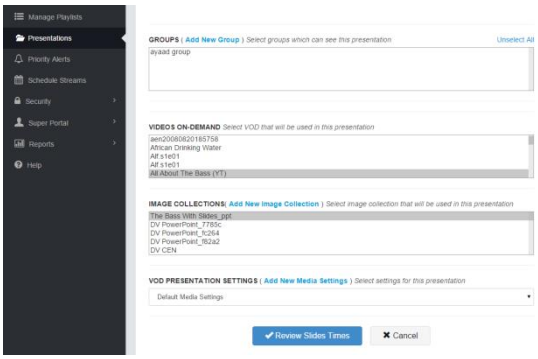
VoD Presentations

You can create a presentation using any existing video. This is a great way to underscore and augment a message being delivered in a video that you created, was created by someone else including a video downloaded from (not linked to) YouTube.

Select Presentations, Add New Presentation, then select the tab for VOD Presentation.

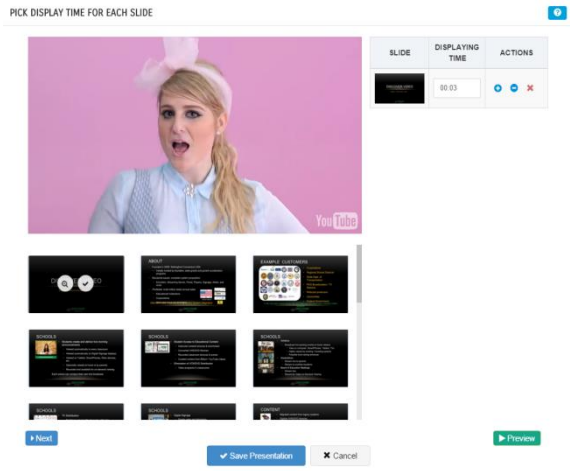


Enter the desired title, description, etc., similar to creating a live presentation.



Select an existing Video on Demand and Image collection (or upload a new PowerPoint Image Collection).

When done, select Adjust Slide Times.



The timing editor opens and the video starts to play. Select the desired slide at the desired time to add it to the list, or simply select "Next" to add slides in presentation order.

Add as many slides as desired.

You can select the + and - button for each inserted slide to adjust the time (use Preview function to see result). You can delete any slide in the timeline using the "x" icon.

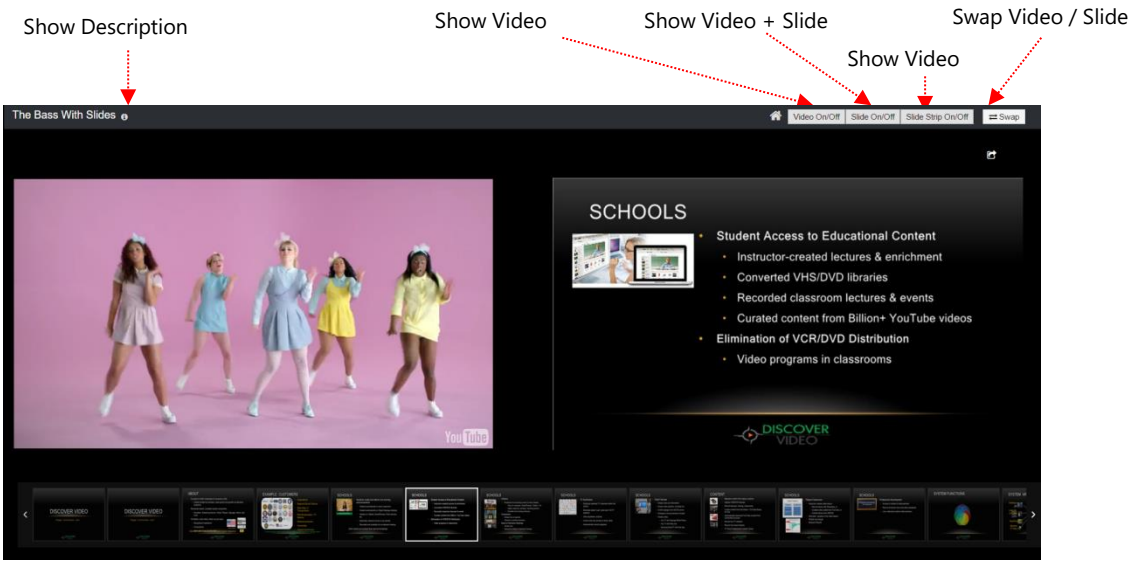
When you are done, select "Save Presentation" (be patient while it is published).

Viewing Presentations

Your audience can view a presentation by simply clicking on it if you have added it to a channel. If you have added group security, then they must be a member of the group(s) to view.

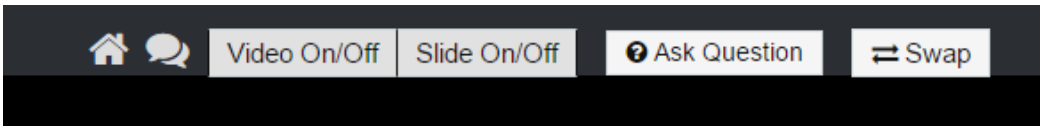
If you have sent out invitations for a live presentation, then invitations are sent, and a reminder email is also automatically sent.

The viewer then can view your presentation.



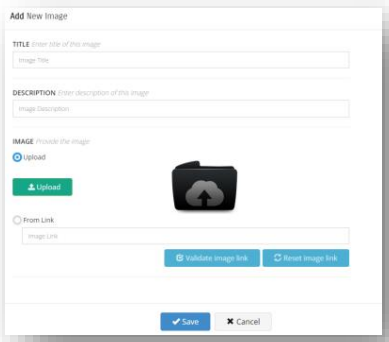
Live Presentation Viewing

For live presentation viewing, the viewer has these buttons:

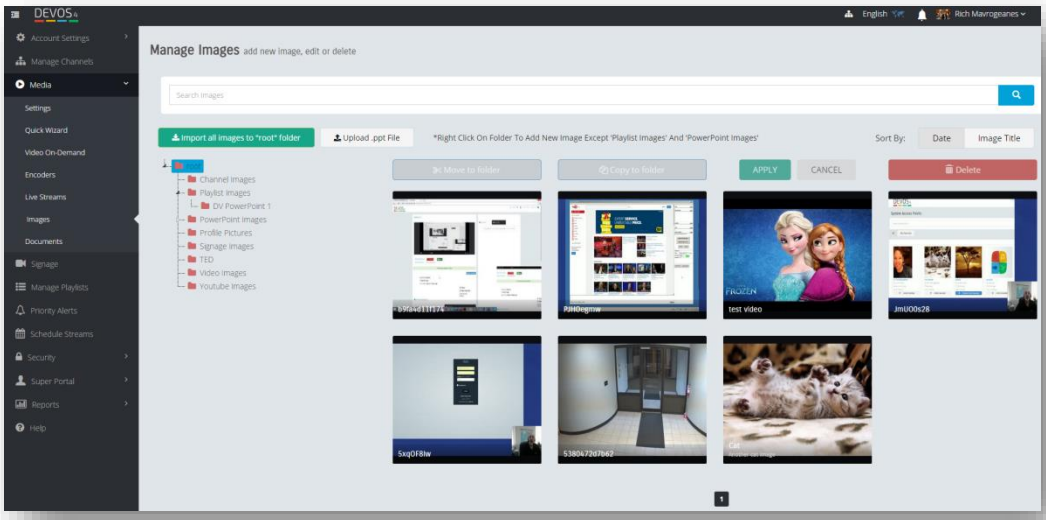


During a live presentation, the viewer's page may automatically change to show polls, chat, and questions under control of the presenter.

Manage Images



Images are added to the DEVOS system automatically when you web upload or FTP a video, add a YouTube video, synchronize your YouTube account, and when you record a live video. Images can be added manually by uploading a new image or PowerPoint presentation.



Images are organized in folders to make it easy for you to find a desired image. Default folders include root, Channel Images, Playlist Images, PowerPoint Images, Profile Pictures, Signage Images, Video Images, and YouTube Images. By default, the system will use the proper folder (e.g. new YouTube videos will have the image in the YouTube Images folder).

You can copy and move images between folders by:

1) Select source image(s) by checking the image(s)
2) Select Move or Copy button
3) Select the destination folder
4) Select Apply

You can also delete multiple images by selecting them and then selecting Delete.

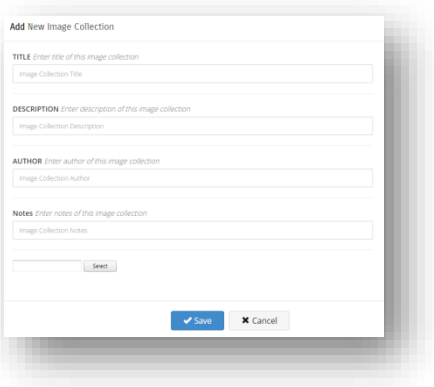
You can create a new folder by right-click on the root folder or other folder and select "Create New Folder". To add a new image, right-click on a folder and select "Add New Image". You can edit any image to change its name and give it a description. To edit, simply mouse over any image and select the edit icon. You can also add an image to the system from a web URL link. Simply select "From

Link" and enter the URL to the image (must be a JPG or PNG). DEVOS will then download and copy that image to the system.

Do not use copyrighted works without permission.

PowerPoint

You can upload a PowerPoint presentation (.ppt, .pptx) file and the system will create an image collection in a new folder with your title.



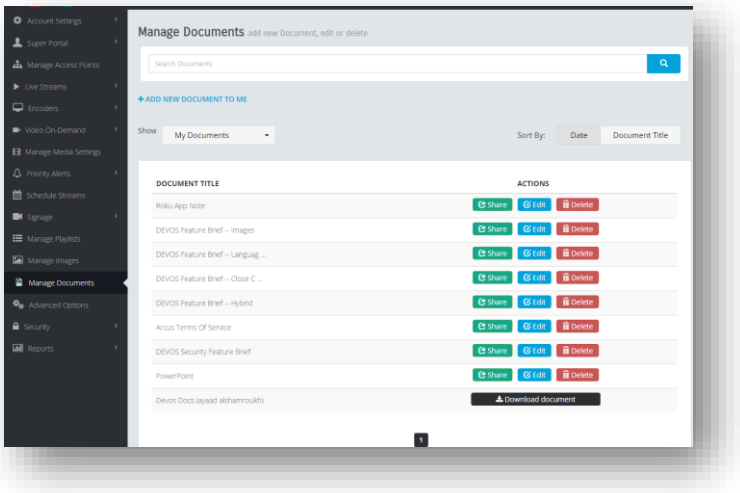
If your presentation has speaker notes, the notes will be listed as the description of each slide.

You may add notes to your collection for your convenience.

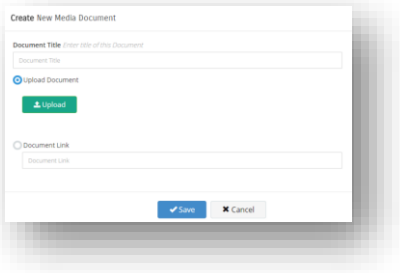
Manage Documents

Documents uploaded to the system may be associated with any live or on-demand video asset. This allows you to include enrichment materials, presentations, workbooks, etc. with any video so that a viewer may download them.

Any document you upload may be marked as shared, which allows other users to include your document with their videos. The illustration below shows a document library and includes one shared document.



To upload a new document, select "Add New Document". Enter a document title, and select Upload to select the document from your computer. You may also enter a URL link to a document found on the web, in which case DEVOS will download it and add it to your library. Document types supported include PDF, DOC, PPT, PPTX, XLS, XLSX.



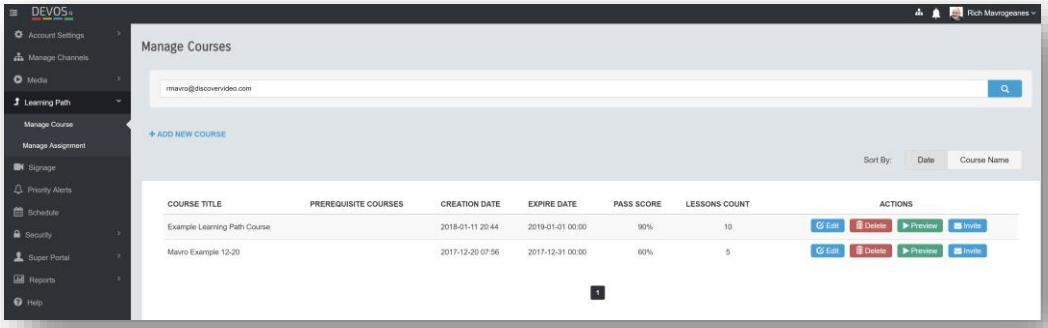
Document Links Are Very Useful!

A Document Link is a URL to virtually any web page, or it may be a link to a LMS page. You may include reference materials from any web search by simply pasting the URL and saving the "Document". Then simply include this document with your video and you have a complete lesson package. Document links can also be used to provide download of the video.

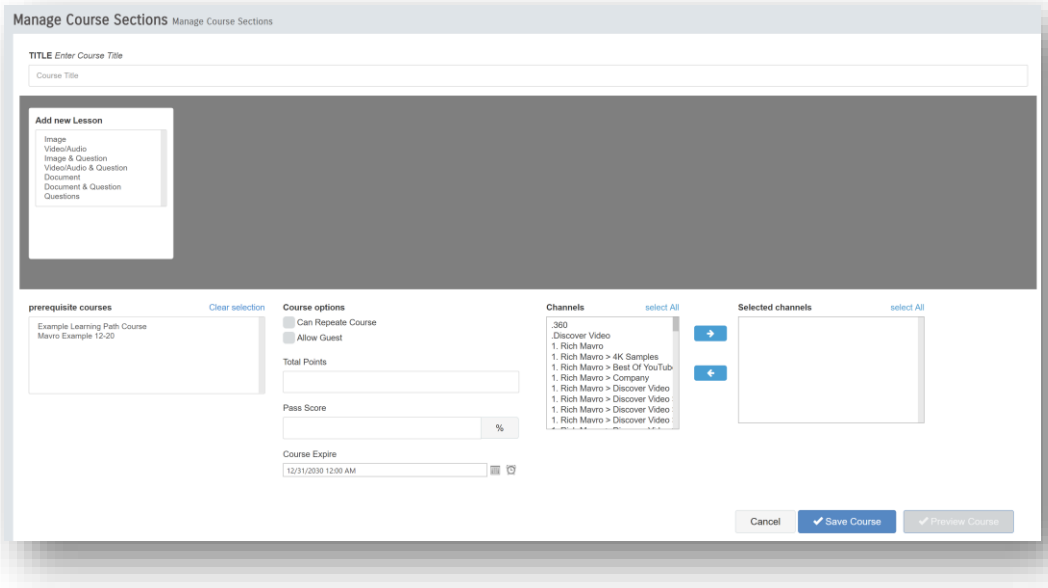
Learning Path

The Optional Learning Path feature allows you to create courses. A course is a series of lessons, and each lesson may be a video, a document, an image, or questions.

Select Learning Path and Manage Courses. To create a new course, select + ADD NEW COURSE, or you may edit existing.

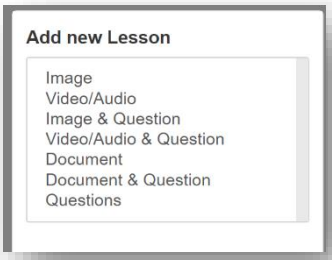


New course dialog



- Title – enter the title of the course
- Prerequisite Course – select existing course that must be completed before this course is allowed
- Can Repeat – check to allow the viewer to repeat the course
- Allow Guests – check to allow non-DEVOS users to access the course
- Channels – select a channel where this course will appear (optional)

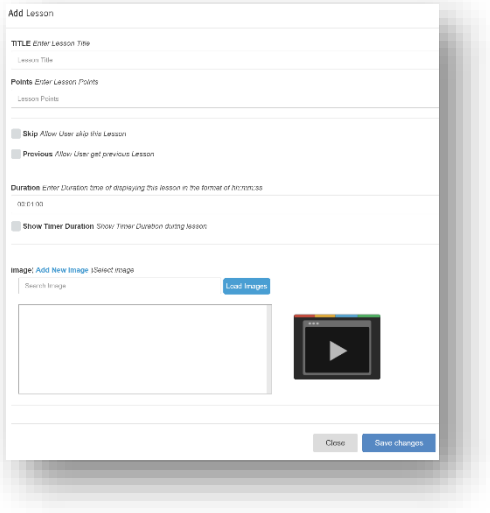
Lesson Types



Lessons may be Image, Video/Audio, Image & Questions, Video/Audio & Questions, Document, Document & Questions, or Questions only.

Each lesson has its own title.

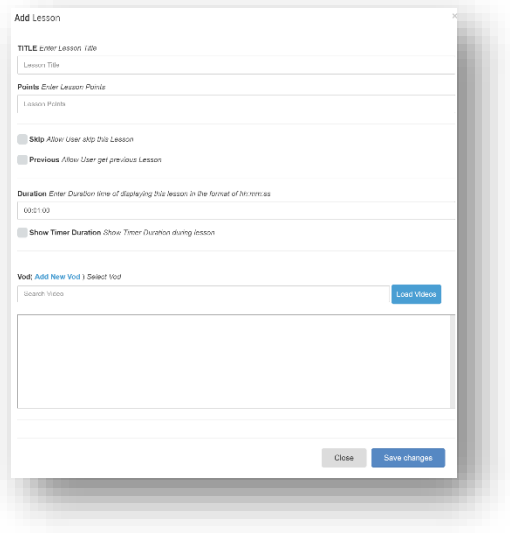
Image Lesson



You must give Image Lessons a title, and assign points for completing the lesson. You may allow the student to skip or go back to prior lesson, and set the maximum duration for viewing the image.

Select Load Images or upload new image to your image library. Search or scroll to the desired image and select Save Changes.

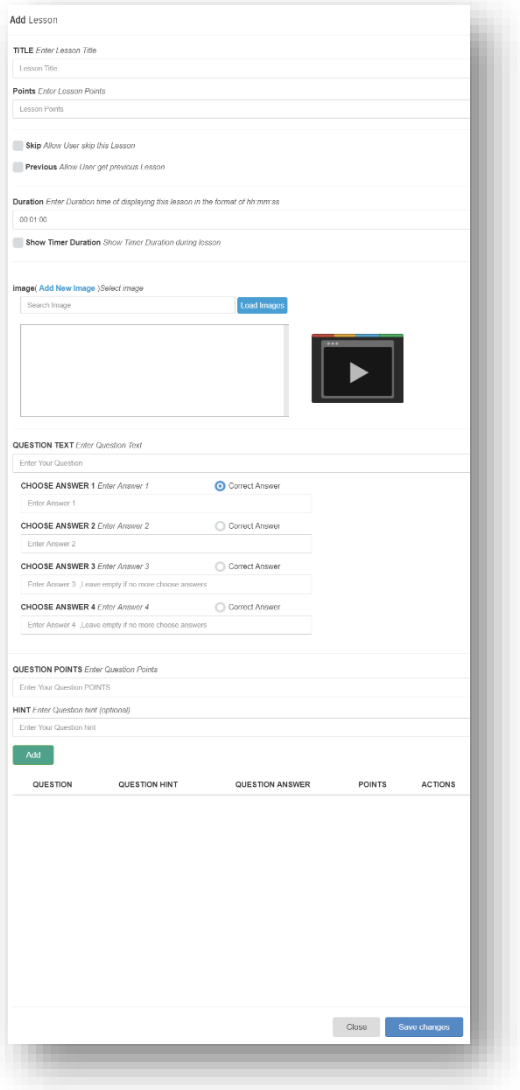
Video/Audio Lesson



You must give Video/Audio Lessons a title, and assign points for completing the lesson. You may allow the student to skip or go back to prior lesson, and set the maximum duration for viewing the image.

Select Load Videos or upload new video to your video library. Search or scroll to the desired image and select Save Changes.

Image & Questions



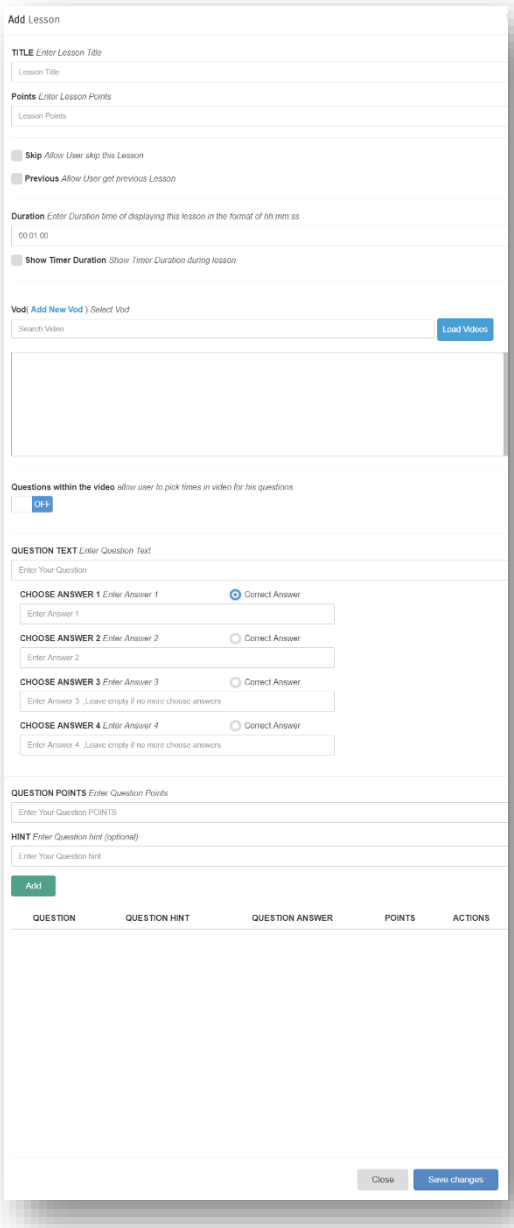
Images and Questions are similar to Image lessons except that questions are displayed next to the image.

Enter question text (e.g. “What is 1 + 1?”) and up to four possible answers, and select which answer is correct.

Select Add and repeat for each question and save when done.

Notice that the “Points” for the lesson is not available and the total points is equal to the sum of the points for each question.

Video/Audio & Questions



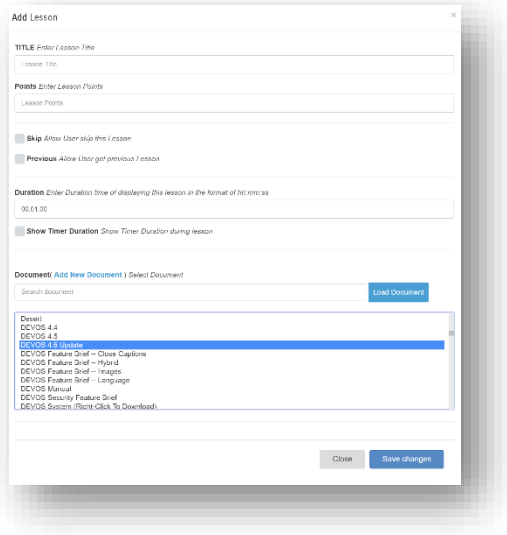
Video/Audio and Questions are similar to Video/Audio lessons except that questions are displayed next to the video.

Enter question text (e.g. “What is 1 + 1?”) and up to four possible answers, and select which answer is correct.

Select Add and repeat for each question and save when done.

Notice that the “Points” for the lesson is not available and the total points is equal to the sum of the points for each question.

Document Lesson

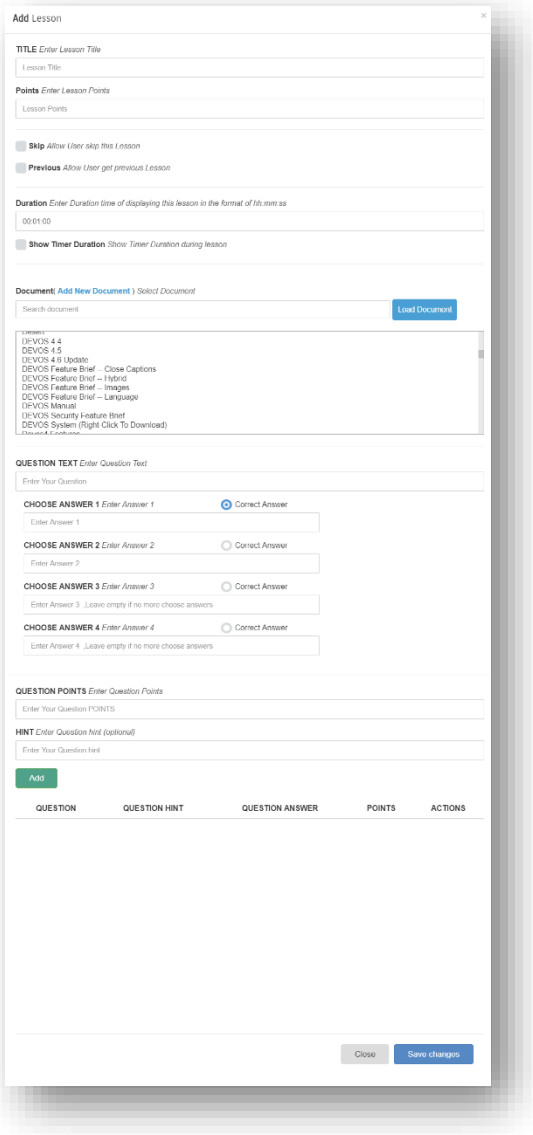


Document Lesson simply shows the selected document for specified maximum duration.

Select Load Document to display documents from your Document library, or upload new.

Save when done.

Document & Questions



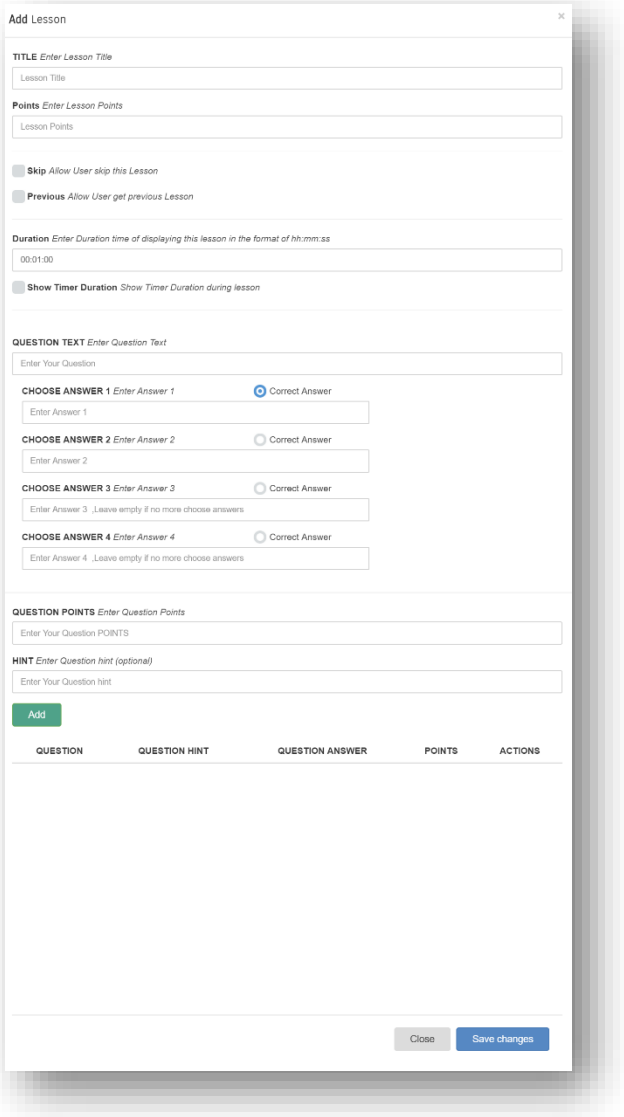
Document and Questions are similar to Document lessons except that questions are displayed next to the document.

Enter question text (e.g. “What is 1 + 1?”) and up to four possible answers, and select which answer is correct.

Select Add and repeat for each question and save when done.

Notice that the “Points” for the lesson is not available and the total points is equal to the sum of the points for each question

Questions



Question lessons are simply a series of one or more questions without associated media.

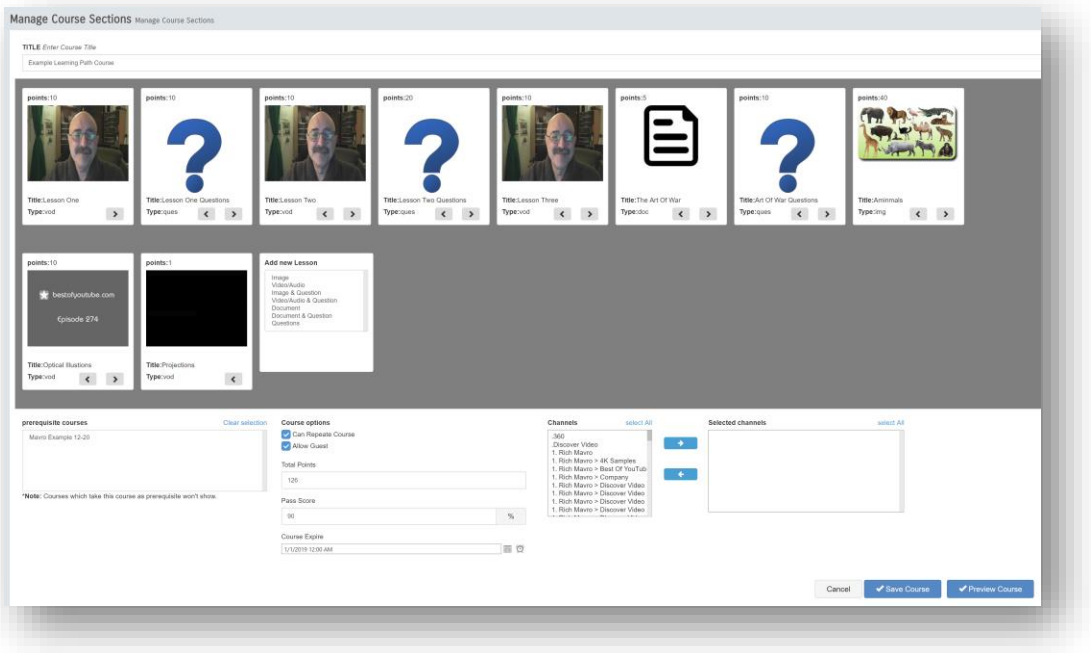
Enter question text (e.g. “What is 1 + 1?”) and up to four possible answers, and select which answer is correct.

Select Add and repeat for each question and save when done.

Notice that the “Points” for the lesson is not available and the total points is equal to the sum of the points for each question

Example Course with 10 Lessons

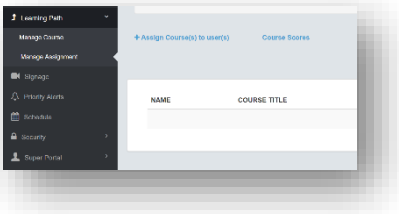
The illustration shows a typical course with audio/video lessons, question lessons, document lesson, and image lesson. The total points in the course is the total of the points defined in each lesson.



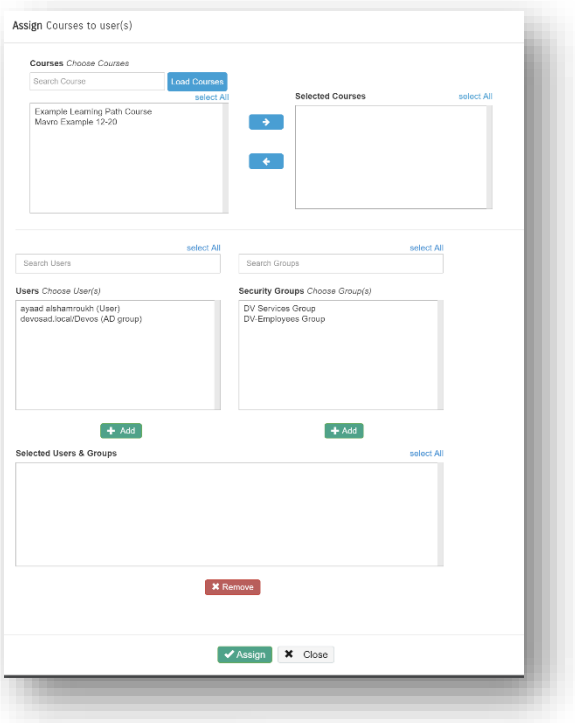
The course has a 90% passing grade (90% of 126 is 113 points). The course has not been added to a channel.

The owner of the course can select Preview Course to verify the design is as intended, and can edit the course or any lesson. Each lesson has < and > arrows used to change the position of the lesson in the course.

Manage Assignment



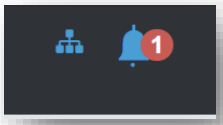
You may assign a course to a student using the Manage Assignment function. Select + Assign Course(s) to user(s)



Select the course(s) you wish to assign then select the users you wish to assign the courses to. You may also select groups of users using the Security Group selection.

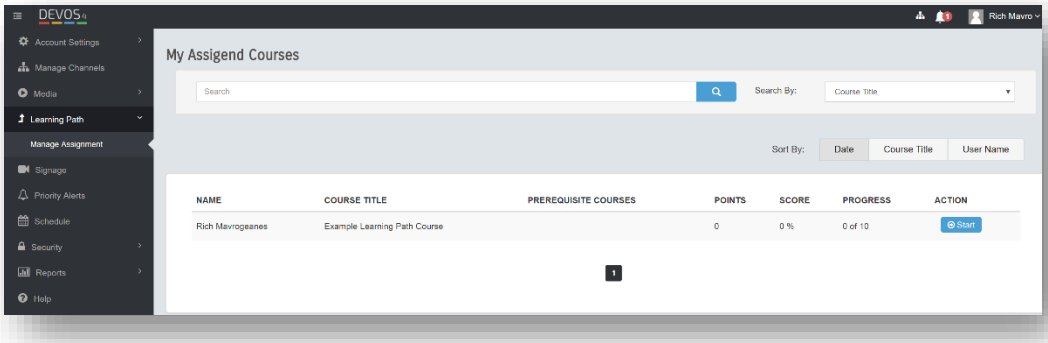
Select Assign when done.

The Super User must give you permission to assign courses to users.



When a user logs in to the system, if they have an assignment the Bell icon alerts them.

The user may access their assignments from Learning Path / Manage Assignments menu and start their course:

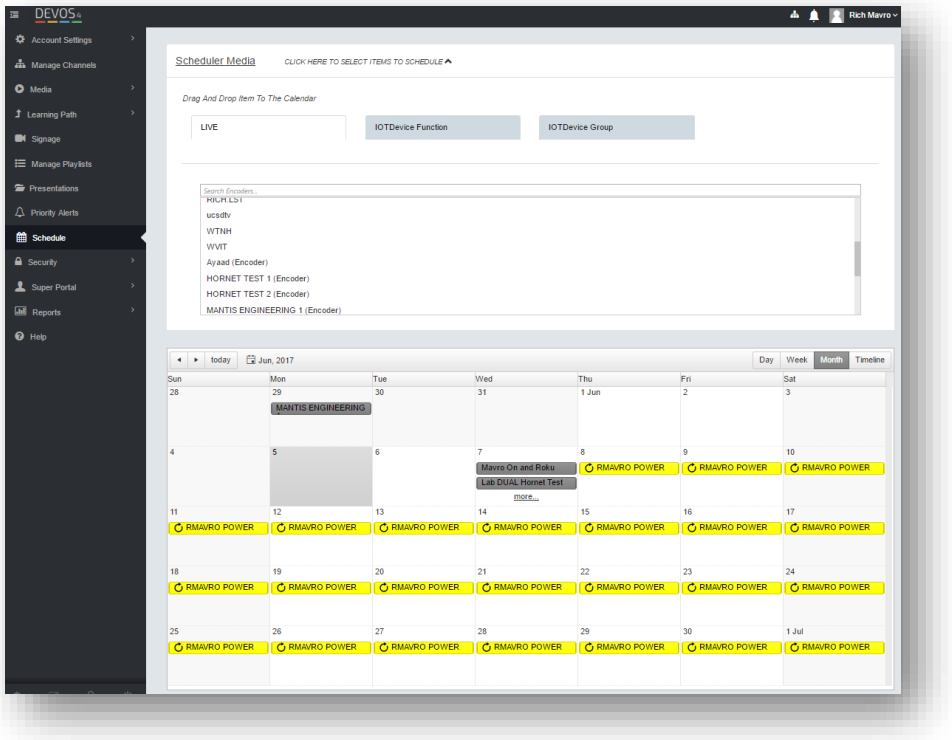


Learning Path Tips

1) Before you give assignments or send invitations, you ***MUST*** have authority to give assignments to selected users.
    a. Only a Super Administrator (and NOT you even if you have Super privilege) can select which users you may give assignments to.
        i. The thinking is that admin user A would not want admin user B to be able to give assignment to admin user A's students. Therefore, the Super must set the user accounts that admin A may give assignments to.
    b. You must use care in using invitations because you may accidently select a user that is not in your authorized list. They will not be able to view the learning path.

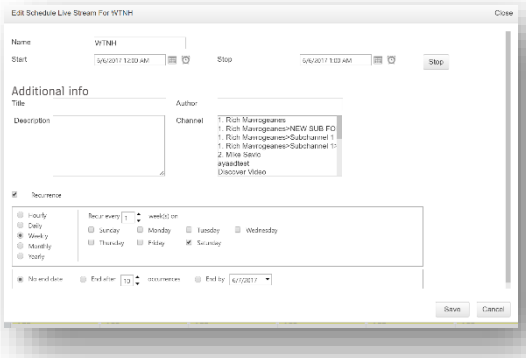
Schedule

DEVOS allows you to schedule Live Streams/Encoders for streaming and/or recording. The schedule also provides the Internet of Things (IoT), which allows you to control and schedule anything with an IP or IR control capability.



Scheduling Streams and Recordings

Select the Live tab which shows a list of all live streams and encoders. Drag the desired stream to the calendar, then double-click on it.



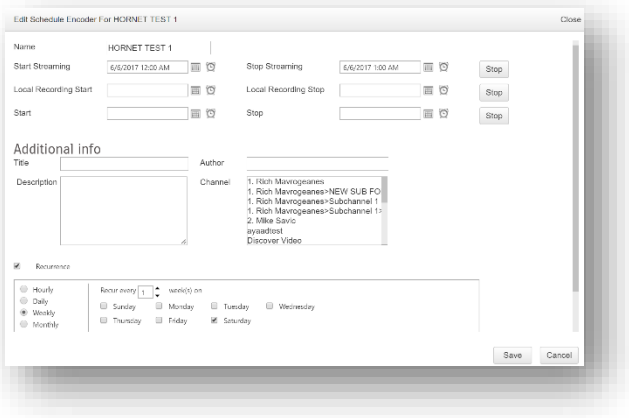
Live Stream

If you have selected a live stream, you may set the start and end time for recording this stream on the server. Set the Title, Author, Description and optionally the channel that you wish this recording to be published to.

Checking Recurrence exposes options for scheduling this action on a recurring basis. Save when done.

Encoder

If you selected a Hornet, Mantis, or Streamise encoder, you may schedule:



Streaming – sets when the encoder will start and stop a live stream

Local Recording – sets when the encoder will start and stop local (non-server) recording. Streaming need not be running. If the encoder "Upload after record" is set, the video will be published.

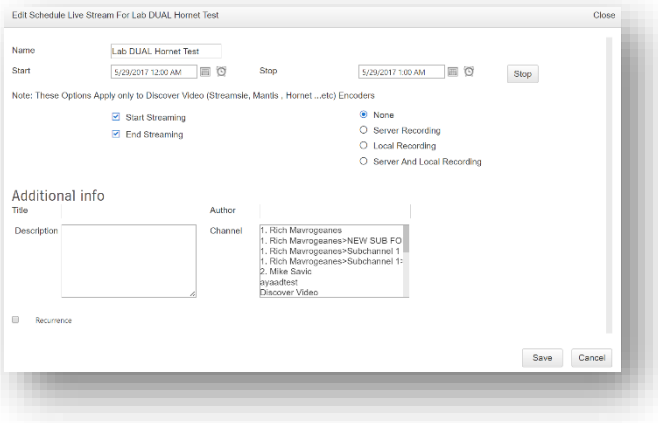
Server Recording – sets when the server will start recording the live stream (obviously, live stream from the encoder must be present). If you do not want the encoder to stop streaming, leave the stop field blank.

Enter Title, Author, Description, and select option channel(s) where the video will be published.

Checking Recurrence exposes options for scheduling this action on a recurring basis. Save when done.

Multi-Player

The scheduler supports multi-player configurations. A multi-player is a live stream that includes 2, 3, or 4 live videos. If the videos are sourced from a DV encoder, then they can be scheduled. An example would be a University lecture capture or a corporate event.



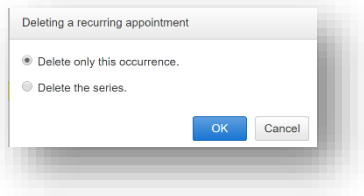
- Enter start and end date/time.
- If you want the encoder to start streaming at the start time, select Start Streaming checkbox; if you want the encoder to stop streaming at the end time, select End Streaming checkbox.
- Select None for no recording
- Select Server Recording to record the live stream on the server only.
- Select Local Recording to record on the encoder only (assumes the encoder has storage available).
- Select Server and Local Recording to do both.

- Enter Title, Author, Description, and optionally select a channel that the multi-video will be published to.
- Checking Recurrence exposes options for scheduling this action on a recurring basis.
- Save when done.

If you select recording on both server and local encoder, then the local encoder will upload the recorded video to the "backup" section of the VoD manager page. This allows you to replace a server-side recording with a local recording in case the server-side recording was disturbed (by network issues or similar).

Remove Schedule

Click on the X for any item in the schedule to remove it. If it is a recurring item, you can delete the series or only the selected occurrence.



IoT Control And Scheduling

Controlling things using DEVOS first requires you to understand Brands, Devices, Functions, and Groups.

A Brand is a family of things. For example, a specific brand TV. You will be setting the exact command that this Brand requires for each control that this Brand will do. For example, you might create "Sony TV Model 1" and set the Power On command to "XYZ-On", and Power Off to "XYZ-Off".

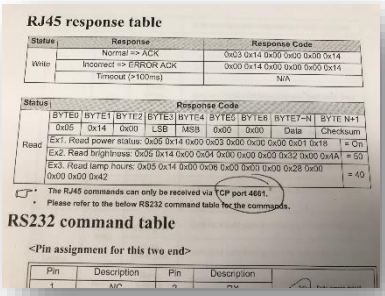
A Device is the thing that will receive the command. It has an IP address and IP Port. For example, "TV Lobby". When you define a Device, you also select the Brand you created above. For example, "Lobby TV" might be at IP 123.123.123.123 Port 1234 and the Brand is Sony Model 1. A Device may also be an iTach which has an IP address and port and translates IP commands to IR signals.

Functions is similar to Devices in that you can set the IP address and Port and the Brand, but in this case you may select multiple controls. For example, the function might be called "Start Up Lobby", and you set IP 123.123.123.123 Port 1234, and you include commands "Power On", and "Input 1". Thus, when you use this function, the TV will turn on and switch to Input 1.

Groups are collections of Devices and Functions. For example, a Group might include many Devices and a Power Off function. Thus, execution of a Group will turn off the power on all TVs.

Setting Up Brands

For each command, you must enter either an ASCII string or a hex code. What you enter depends on the device you wish to control.


RJ45 response table

Status	Response	Response Code
Write	Normal => ACK	0x03 0x14 0x00 0x00 0x00 0x14
	Incorrect => ERROR ACK	0x00 0x14 0x00 0x00 0x00 0x14
	Timeout (>100ms)	N/A

Status	Response Code								
	BYTE0	BYTE1	BYTE2	BYTE3	BYTE4	BYTE5	BYTE6	BYTE7~N	BYTE N+1
	0x05	0x14	0x00	LSB	MSB	0x00	0x00	Data	Checksum
Read	Ex1. Read power status: 0x05 0x14 0x00 0x03 0x00 0x00 0x00 0x00 0x01 0x18								= On
	Ex2. Read brightness: 0x05 0x14 0x00 0x04 0x00 0x00 0x00 0x00 0x32 0x00 0x4A								= 50
	Ex3. Read lamp hours: 0x05 0x14 0x00 0x06 0x00 0x00 0x00 0x00 0x28 0x00 0x00 0x00 0x42								= 40

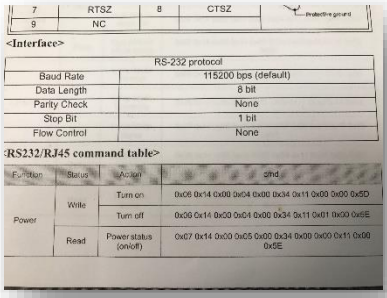
The RJ45 commands can only be received via TCP port 4661.
Please refer to the below RS232 command table for the commands.

RS232 command table

<Pin assignment for this two end>

Pin	Description	Pin	Description
1	NC	2	RX

Let's start with a typical projector, in this case the vendor is ViewSonic. Find the vendor's product manual and identify the IP port used for control. This vendor refers to "IP" as "RJ45" and tells us to use port 4661. You will need this when you set up the device or function.



7	RTSZ	8	CTSZ
9	NC		

<Interface>

RS-232 protocol	
Baud Rate	115200 bps (default)
Data Length	8 bit
Parity Check	None
Stop Bit	1 bit
Flow Control	None

<RS232/RJ45 command table>

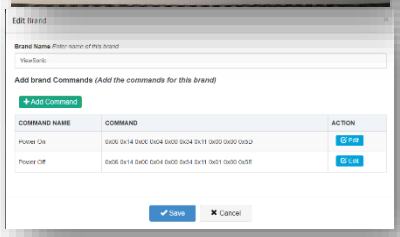
Function	Status	Action	Cmd
Power	Write	Turn on	0x06 0x14 0x00 0x04 0x00 0x34 0x11 0x00 0x00 0x5D
		Turn off	0x06 0x14 0x00 0x04 0x00 0x34 0x11 0x01 0x00 0x5E
	Read	Power status (on/off)	0x07 0x14 0x00 0x05 0x00 0x34 0x00 0x00 0x11 0x00 0x5E

Next you must find the desired function. From the illustration, not ice that Power / Turn On function is hex code:

0x06 0x14 0x00 0x04 0x00 0x34 0x11 0x00 0x00 0x5D

and the Turn Off hex code is:

0x06 0x14 0x00 0x04 0x00 0x34 0x11 0x01 0x00 0x5E


Edit Brand

Brand Name *Enter name of this brand*

ViewSonic

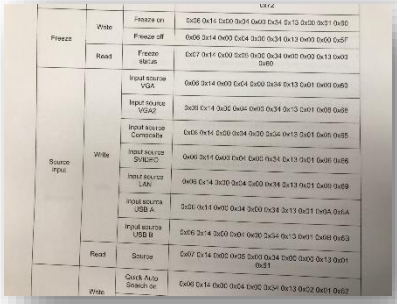
Add brand Commands *(Add the commands for this brand)*

+ Add Command

COMMAND NAME	COMMAND	ACTION
Power On	0x06 0x14 0x00 0x04 0x00 0x34 0x11 0x00 0x00 0x5D	Edit
Power Off	0x06 0x14 0x00 0x04 0x00 0x34 0x11 0x01 0x00 0x5E	Edit

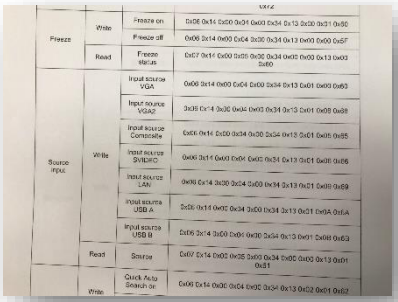
Save Cancel

In DEVOS, create a brand (e.g. "ViewSonic") and enter the Power On and Power Off codes.



Freeze	Write	Freeze on	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x00 0x31 0x00
		Freeze off	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x00 0x00 0x5F
	Read	Freeze status	0x07 0x14 0x00 0x05 0x00 0x34 0x00 0x00 0x13 0x00 0x60
Source input	Write	Input source VGA	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x01 0x00 0x63
		Input source VGA2	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x01 0x00 0x64
		Input source Composite	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x01 0x00 0x65
		Input source SVIDEO	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x01 0x00 0x66
		Input source LAN	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x01 0x00 0x69
		Input source USB A	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x01 0x00 0x6A
		Input source USB B	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x01 0x00 0x68
	Read	Status	0x07 0x14 0x00 0x05 0x00 0x34 0x00 0x00 0x13 0x01 0x11
	Write	Quick Auto Search on	0x06 0x14 0x00 0x04 0x00 0x34 0x13 0x02 0x01 0x02

Using the same vendor manual, find other codes that you wish to use, for example selecting HDMI input. Use the "+Add Command" function to add as many additional commands as desired.



Using the same vendor manual, find other codes that you wish to use, for example selecting HDMI input. Use the "+Add Command" function to add as many additional commands as desired.

IR Control

When controlling devices via IR, the system must communicate not with the controlled device directly, but with an iTach IR transmitter which then sends the command via IR to the controlled device. The brand setup procedure is similar, but you will enter ASCII command strings for the brand.

For example, for Samsung TVs, the commands are

Power On:
sendir,1:1,1,38000,1,1,172,172,22,64,22,64,22,64,22,21,22,21,22,21,22,21,22,21,22,64,22,64,22,64,22,21,22,21,22,21,22,21,22,21,22,64,22,21,22,21,22,64,22,64,22,21,22,21,22,64,22,21,22,64,22,64,22,21,22,21,22,64,22,64,22,21,22,1820

Power Off:
sendir,1:1,1,38000,1,1,173,173,21,65,21,65,21,65,21,21,21,21,21,21,21,21,21,21,21,65,21,65,21,65,21,21,21,21,21,21,21,21,21,21,21,21,21,21,21,65,21,65,21,65,21,21,21,21,21,21,65,21,65,21,65,21,65,21,21,21,21,21,65,21,65,21,21,21,1832

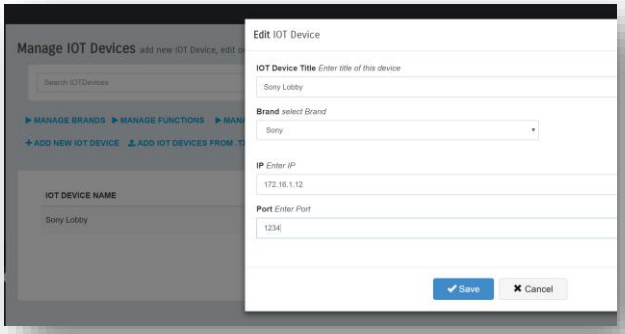
There are several methods to obtain these commands for your brand, including learning it directly from a handheld IR remote control
(see http://demo1.devosvideo.com/show?video=ee41c48fc082).

DiscoverVideo support can provide you with codes for virtually any brand and model from our library. Contact support with the exact model number.

Save your brand when done.

Setting Up Devices

To set up a device, select Add New IoT Device, give it a name, select the Brand, and enter the IP address and Port. You should give it a meaningful name, such as “Lobby TV”, “My Office TV”, etc.

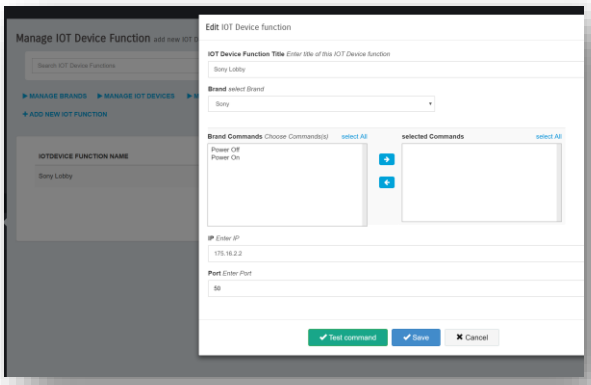


Note: for iTach, the port is: 4998

Save when done.

Setting Up Functions

A function is one or more commands sent to a device. Select Add New IoT Function, enter a meaningful name such as “Lobby TV”, “My Office”, etc., select the Brand, and then select the Brand Commands to be sent.

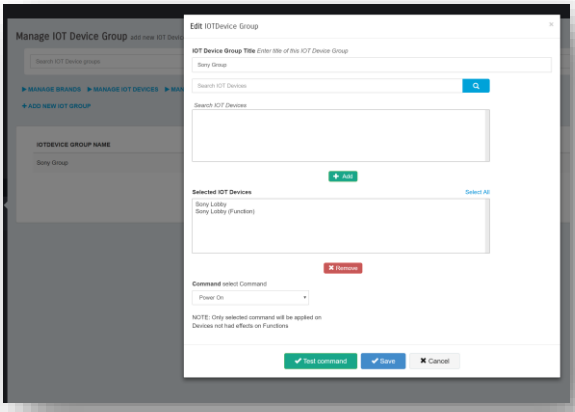


Enter the IP and Port of the target device.

You may test the function using the Test Command button. Save when done.

Setting Up Groups

A Group is simply a collection of functions that can be called at once. Rather than scheduling to calling individual functions, you can call a Group (which might turn off all TV’s in your building).



Select Add New IoT Group. Give it a name.

Search for device or function by name (or enter % to show all).

Add each device or group and save.

NOTE: Devices need not have a function associated with them. Assuming you correctly entered the Power On and Off code when you created a device, you can create a Group that directly sets power on or off by selecting the

Command from the dropdown. This command has no effect on Functions: it operates on devices only.

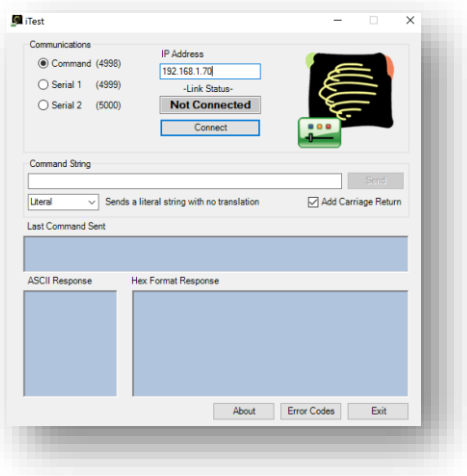
Testing iTach Devices

When you have a iTach device connected and ready, it is handy to test it directly without commanding DEVOS. This helps to give you confidence that the iTach is working.

Simply use the iTest program and enter the IP address of the iTach and select Connect. If you cannot connect then you know you have the wrong IP address or you have a network error.

Paste in the command string, and press Send.

The controlled device (e.g. TV) should respond if the code you sent is right.



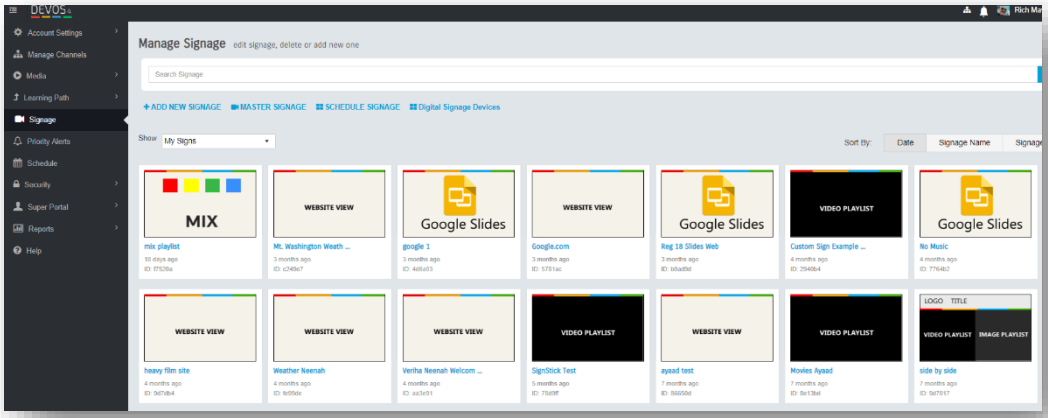
RS-232 Control

It is possible to schedule and control devices that accept command via RS-232 serial ports. For example, SignStick2 can support a USB-to-RS232 adapter and it will accept commands sent to it on port 4998. Of course, you will want to ensure the IP address is static.

A classic terminal server commonly uses port 23 to telnet and you can schedule devices this way.

Signage

Digital Signage allows you to display desired content on TV's or monitors in common areas, lobbies, or other locations. Each user can create and manage their own signs, and there is no limit to the number or variety of signs available.



Create Sign

To create a new sign, select Add New Signage and select from one of the available templates. Each template is created using a wizard that prompts you for required values.

NOTE: Many templates use video playlists, text playlists, and banner playlists. You should be sure you have created desired playlists prior to creating a sign.

Example Entry For Template 1

Signage Name --

Signage Title --

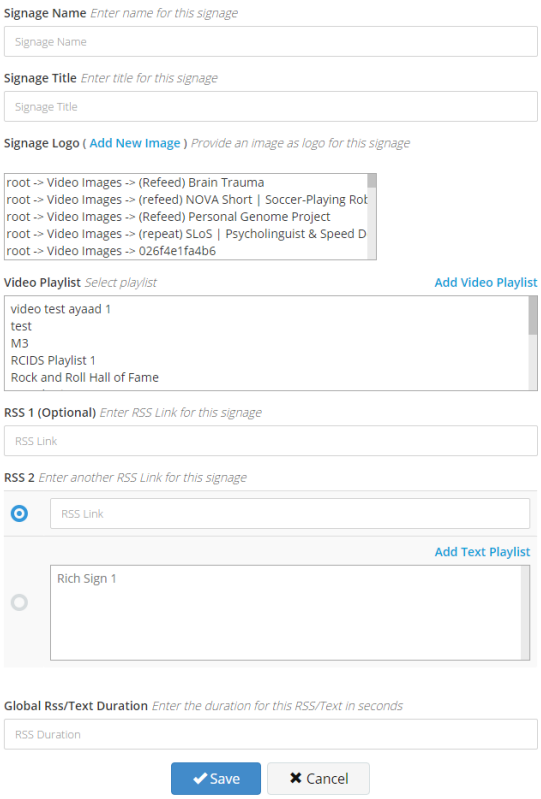
Signage Logo -- select or upload an image to be shown as a logo in the sign

Video Playlist -- video signage uses pre-existing video playlists. You must create a playlist to be used in the signage before creating the sign. Select the desired playlist.

RSS 1 -- Optional. Enter a valid RSS feed such as from a public news aggregator (e.g. "CNN" or "NPR").

RSS 2 -- Enter 2nd RSS feed, or select text playlist (which must have been previously created)

Global RSS Duration -- enter the number of seconds for display of each RSS element (e.g. 15)



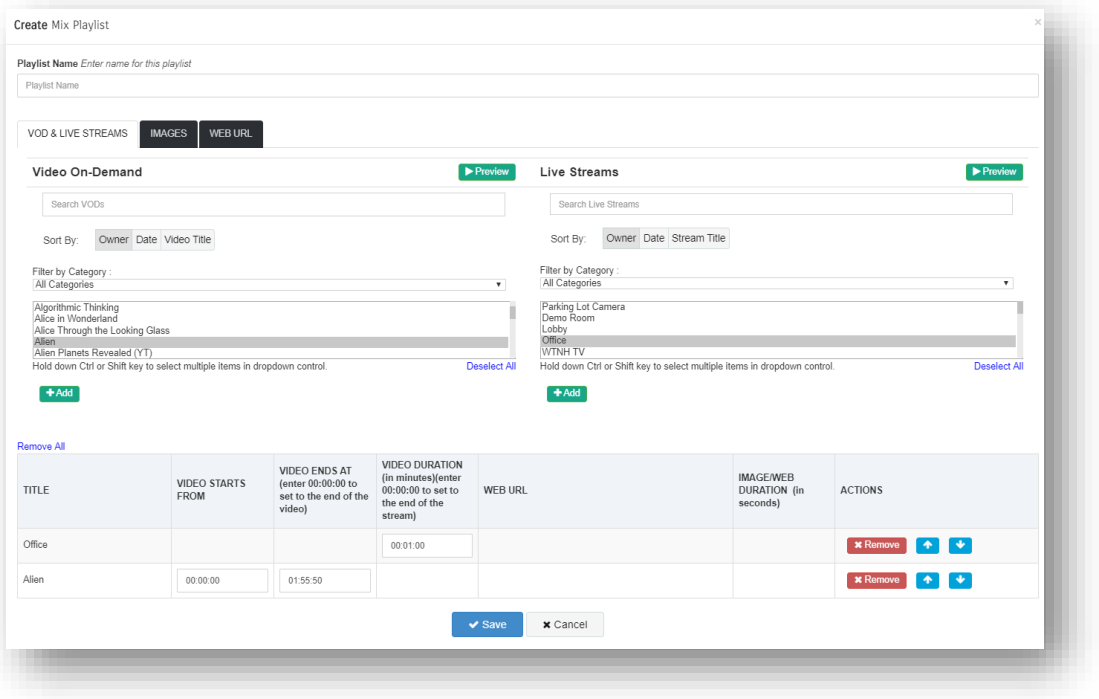
NOTE: Some RSS feeds will not operate properly in Digital Signage displays. RSS feeds that attempt to display web links or show images or videos should be avoided. Conventional text RSS feeds, such as NPR, CNN, and similar are usually the most successful.

Mix Template

The Mix Template allows you to mix live video, VoD content, images, and web pages in a full-screen template. For example, you may show a 1-minute "Welcome To DiscoverVideo" video, followed by 1-minute of live news from TV, followed by several images each for 10 seconds, followed by the www.discovervideo.com home page. The mix template loops your mix playlist.

Because the Mix Template is a sign, it is available for inclusion in your scheduled signage or your Master signage.

Create a Mix Template, give it a title, and select existing or Add Mix Playlist. In the Create or edit Mix Playlist, select Video-on-Demand, Images, Web URL, or Live Streams. You can preview the videos to be sure you have the right one. Add it to the playlist, set the duration for any live video, and save.

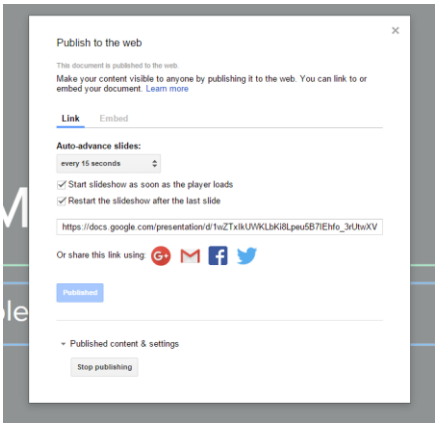


You can create multiple playlists and choose which one you wish to use, and you can edit any playlist to add/remove items or change the order or duration as desired.

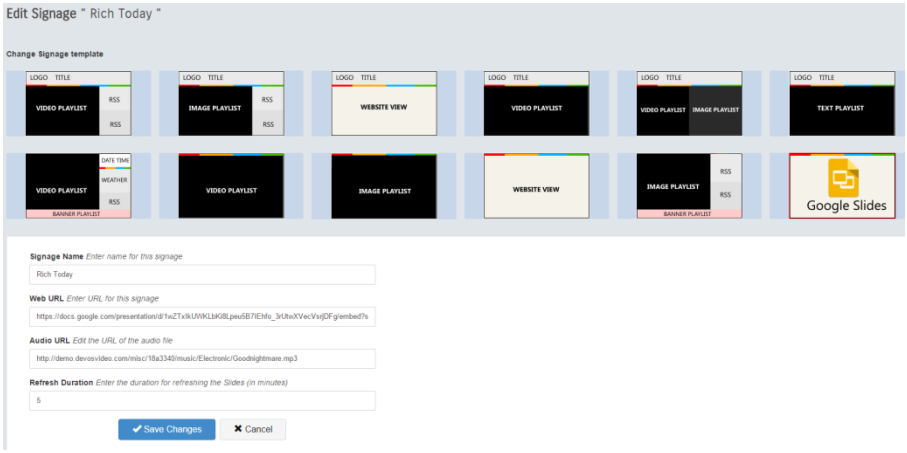
Google Slides

Digital Signage supports Google Slides, which provides an online alternative to Microsoft PowerPoint and provides the ability to change the content on-the-fly. You may also elect to share your Google Slides account so that multiple users can edit the slides.

Create your presentation on Google Slides. When done, select File / Publish To Web. Check the boxes and set the slide advance time. Copy the URL using Control-C or right-click/copy.



Select Google Slides from the template list.



Paste the URL as the Web URL, enter a title, and enter a link to optional audio. You may get royalty-free music from http://discovervideo.com/music. You may also use a popular Internet radio station link (must be .m3u type).

Set the refresh duration to set how often DEVOS should check your Google Slides for changes. If you make changes rarely, use a large number. If you make changes every hour, use 60 minutes, etc.

Google Slides will not display on Roku because Roku does not support web types. In some cases, Google Slides will not display in browsers because of Google's X-Origin policies (which may change without notice).

Google may alter or discontinue Google Slides at any time and DiscoverVideo cannot guarantee compatibility, availability, or other things that may affect your use.

Displaying Signs

Digital Signage may be displayed using all or any of these methods:

Signage Media Player & SignStick®

These are small, compact devices designed for Digital Signage display. Follow the setup instructions to configure them with the signage code.

These devices have the advantage of caching VoD content so they use minimal bandwidth; in fact, after they have played once they are "loaded" and you can disconnect the network and they will continue to play (obviously, not live video or other real-time information).

Web Browser

Open the Digital Signage page by clicking on it. The signage will display in your web browser. You may copy the URL to any computer and simply display the browser on a monitor. You cannot use a web page that prevents loading in an iframe or has restrictions. Digital Signage is not intended for distribution to viewers. IE and Edge browsers may not be compatible and we recommend FireFox or Chrome browser for most uses.

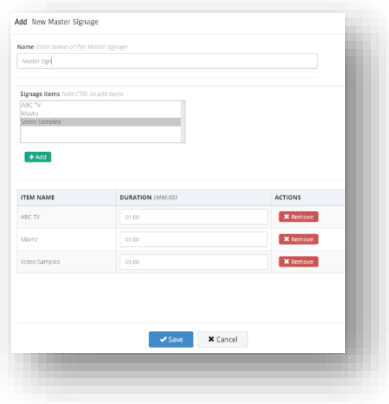
Controlling Your Sign

The DiscoverVideo Digital Signage system in DEVOS will automatically change the signage display when you edit your sign. You can change the contents of playlist, or change the sign style without needing to visit each display to make configuration adjustments.

The Priority Alert system will override what is displayed on your sign(s) if the alert has been set to include selected sign(s).

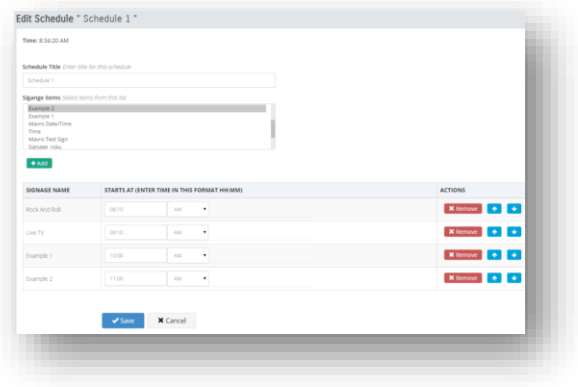
Master Signage

You can create a "Master Sign" which is a "sign of signs". The Master Signage will display each of the selected signs for the specified duration.



Schedule Signage

You may create a schedule to display a sign at the same time every day. Select "Schedule Signage" to create or edit a schedule. Give your schedule a name, select the sign you want to use, and add it to the list. Enter the time for each sign and save. After saving, click on the Schedule Signage Name to open it in your browser.



You may create as many schedules as desired. Note that you can include any sign in your schedule (any template), so you can show image playlist in the morning, video playlist in the afternoon, etc.

Schedule Signage display is supported in the web page, and in the DiscoverVideo Digital Signage Media Player, but not currently on 3rd party devices such as Roku, Samsung, etc.

PowerPoint Add-In

DiscoverVideo provides a PowerPoint Add-in, available from
https://service.discovervideo.com/download/powerpointplugin/

The Add-in makes if very easy to create complex digital signage with special effects, transitions, embedded video, and automatically save it and upload it to a DEVOS account. The video may then be used for Digital Signage.

Priority Alert

Priority Alert causes a live video, an on-demand video, a text message, or a web page, to automatically appear on one, some or all desktops and signs in an organization without the desktop user needing to take any action. At the same time, Priority Alert can send cellular text messages to users or groups of users.

Understanding Alerts

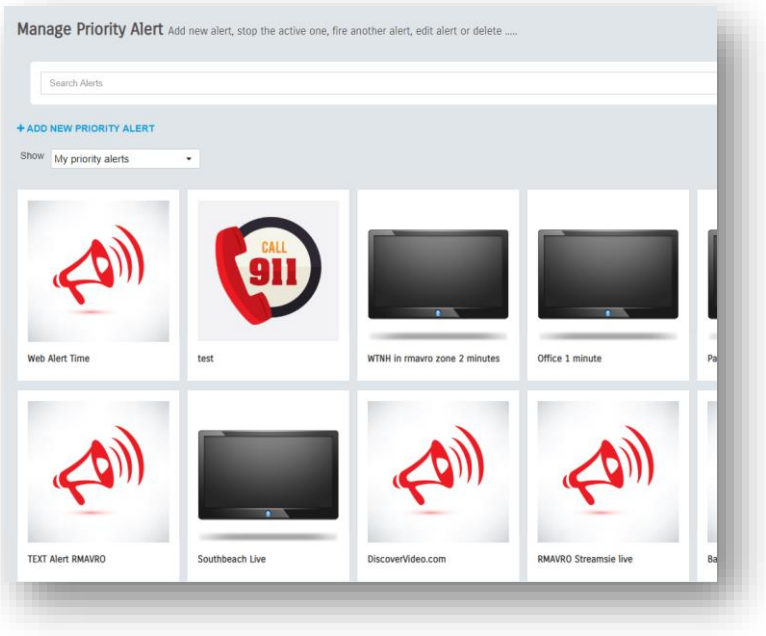
Each computer desktop and each SignStick® may be configured with one or more "zones". For example, zones may be "Building One", "Building Two", "First Floor", "Second Floor", "Zone1", Zone2" etc.

If you trigger an alert for "Building One", then only those desktops and SignSticks that have "Building One" in their zone list will respond. Your alert can include one or more zones, and the desktops and SignSticks can have one or more zones.

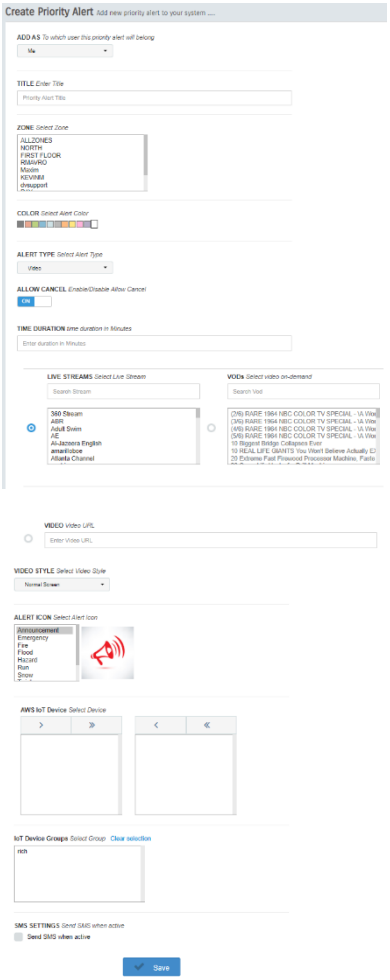
All desktops and all SignSticks always respond to an alert set for "All Zones".

Alerts have a duration. When an alert is issued for 1 minute, it will open and show the alert for 1 minute, then it will automatically close (except for web page alerts which will not automatically close on desktops). If you are unsure of the needed duration, you should set the duration to a very long period and manually close it when you choose.

To issue an alert, simply select the Alert Icon. Select it again to cancel that alert. Because each alert may be for a different zone, you may have multiple alerts simultaneously



To create an alert button, select "Add New Priority Alert".



•

• Add As -- create an alert as you or if you are a delegate, then for another account.

- Title -- The name of the alert (displayed in the button)

- Zone -- The zones that the alert is for

- Color -- The color to be displayed in Text alerts

- Allow Cancel -- If on, then the viewer can close the alert. Otherwise, the viewer cannot close and must wait for it to expire or for you to end the alert

- Time duration -- The number of minutes the alert will last

- Alert Type -- Video, Web, or Text

- Live Stream / VoDs -- If type is Video, select the live or VoD for the alert.

- If type is text, enter the text to be displayed. If type is Web, enter the web page URL. If type is video, you can enter a video URL

- Video Style can be normal (which is a popup video player) or full screen

- Select Alert Icon

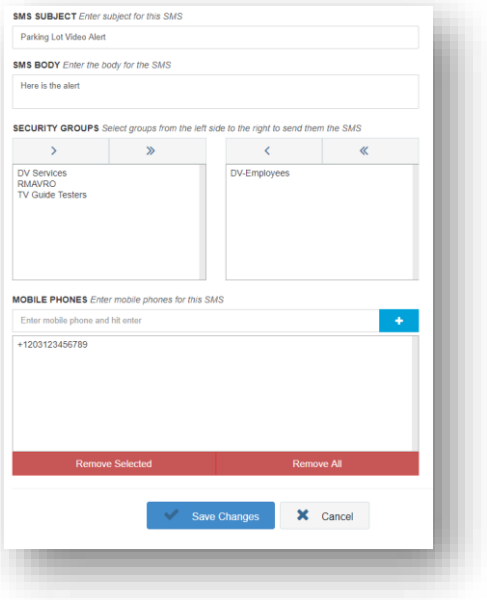
- Select optional AWS IoT Device or IoT Group if available

Priority Alert Application can be downloaded and installed as .msi for Windows computers. See Priority Alert Desktop User Guide for install and configuration information.

SMS Text Message

SMS requires an optional service license. A Priority Alert can send a text message with a link to the alert to selected users.

If “Send SMS when active” is checked, then the SMS dialog is shown.

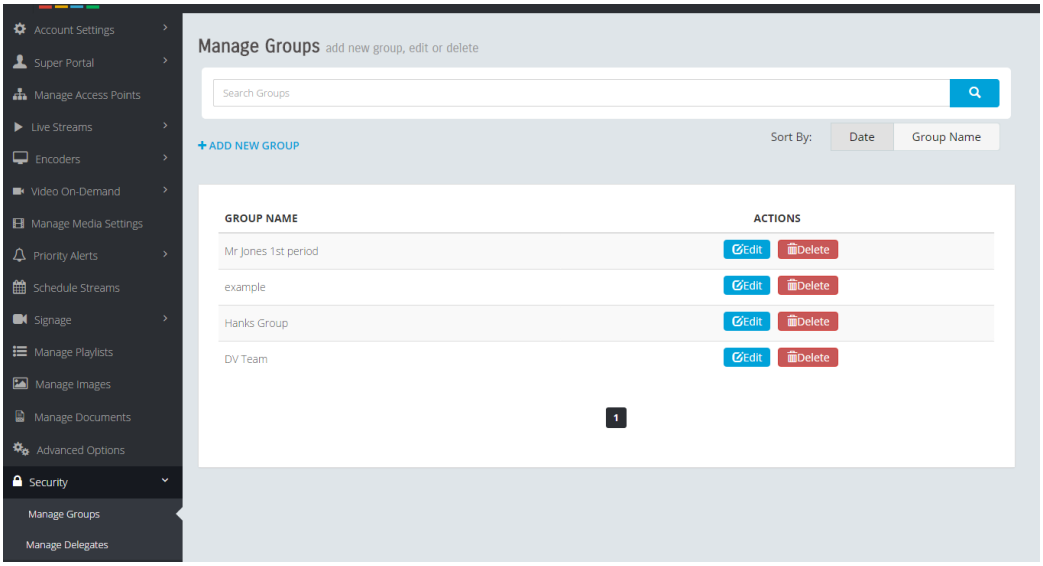


- SMS Subject – the title of your alert
- SMS Body – the text body of your alert
- Security Groups – groups of users (defined under your DEVOS Security Setting) that will receive the text message. Click on a group and use the arrows to add one or all groups to the right box
- Mobile Phones – manually enter phone number(s) to receive the SMS text message

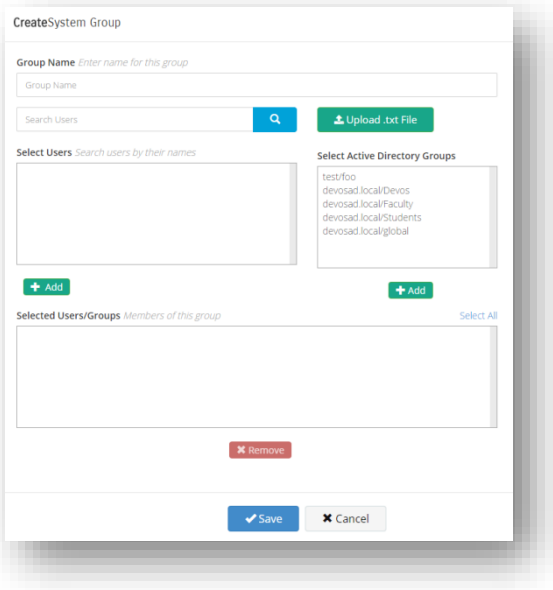
Security

Manage Groups

Security Groups are collections of DEVOS and/or Active Directory users. You may create as many Security Groups as desired. When you apply a Security Group to a video, then only those people in that group may access the content. You can also apply a Group to a Channel to allow others to publish to that Channel.



To create or edit a Security Group, select Add New Group or edit existing.



Group Name -- a convenient name for your group

Search Users -- enter a the target user's first/last name to find desired users.

Select Users -- Select the user you wish to add to the group and then select "Add"

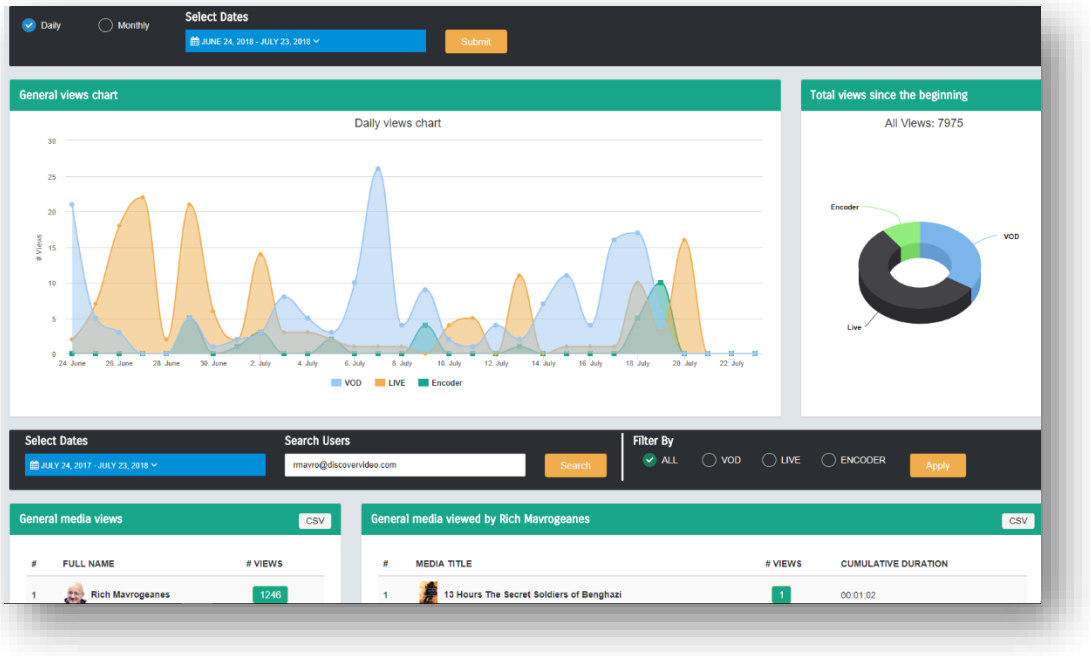
Select Active Directory Groups -- Select any AD you wish to include in your group and select "Add".

As you make selections, they appear in the Selected Users/Group list. You may select any and then select "Remove" to remove them from the group.

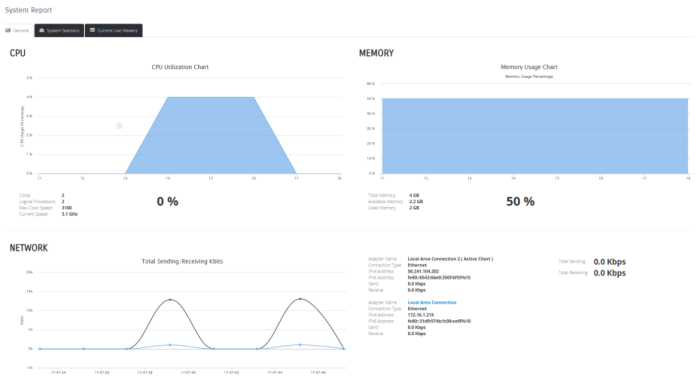
Reports

DEVOS provides a comprehensive reporting capability. You can view a General Media Report that shows you what content is viewed, when, and by who. Clicking on any reported viewers of your content gives detail showing what they viewed, the duration of the video, and the IP address that they came from.

System Report

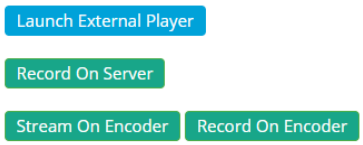


The System Report is only available to users with Super Portal privilege. This report shows all viewer activity for all users, and includes General, System Statistics, and Current Live Viewers



Recording Live Streams

You can record compatible live streams by simply opening the live video ("Live Stream" or "Encoder") from the management panel.



When you are the owner of the video and access it from the management panel, the player displays Record and Stop buttons. Simply select Record to start recording, and Stop to end recording. If your live stream is from a DiscoverVideo encoder, then you may have two buttons and you can decide to record on the server or on the encoder or both. The Record On Encoder button appears based on your encoder Security Setting.

It is possible that a live stream may work in the player but not record (e.g. the recording has audio but the video is black). This is usually the result of using a 3rd party encoder that does not meet standards, or a configuration error in the encoder setup. Be sure to verify recording with your target video before you rely on it.

Also note that the maximum recording time allowed is set by the Super Administrator.

You can also record via schedule and using API methods.

Roku Set Top Box

A Roku box is an inexpensive (under $100) "Over The Top" network video player. It is commonly used by consumers to receive NetFlix, Hulu, and other popular streaming content. DiscoverVideo has created a unique capability where your Channel videos can appear on a Roku box in your network. Your videos do not appear on public channels (only your boxes can receive your content).

This is a convenient and inexpensive way to display live and VoD content in areas where a full computer is unnecessary or wasteful, such as in classrooms, lecture halls, medical offices, etc.

DEVOS supports Roku boxes when a license is added to your system.

See http://discovervideo.com/roku

Channels that are marked as "Add To Roku" will then appear in the content lineup in Roku.

Note: Do not confuse the DEVOS channel with the public Roku Channel that DiscoverVideo offers. The public channel allows customers to broadcast their content to viewers around the world and is available from the Roku store; the DEVOS channel is only available from the above link.

This is a consumer device and has very limited security. We do not recommend Roku for professional, industrial, or continuous video display use.

If you have trouble with Roku, contact Roku!

The DiscoverVideo Set Top Box may be a better choice for reliable operation.

External Player, Priority Alert, and DVPlayer

If you configure DEVOS to show External Player (Super Portal / Devos settings), then when you press the Launch DVPlayer, it will start the DVPlayer and show the video in resizable, multiprotocol player (if it is not installed the user will be prompted to install it). By default, all preferences are enabled.

If multicast is available and set (in live stream / advanced), then the player will first attempt to play the stream using multicast. If this fails, the player will try all other enabled protocols.

Similarly, if a Priority Alert is set for a live video that has multicast entered, it will be used by DVPlayer first, thus providing unlimited scale.

See DVPlayer User Guide.

How To Guide

How To Upload A Video Using Web Upload

- Log in to DEVOS
- Select "Admin Portal"
- Click on "Video On Demand" in left panel
- Select "Upload Video" in left panel
- Enter Title, Description, etc.
- Use default settings for Thumbnail, Start/End time, Password, Limit Viewers, Groups, Video Settings (or make changes if desired)
- Select "Browse" and find desired video on your computer.
- Select "Upload" and wait until the pages closes.

Note that if your Profile Account Settings is configured to add new video to a specific Channel, your new video will automatically appear there

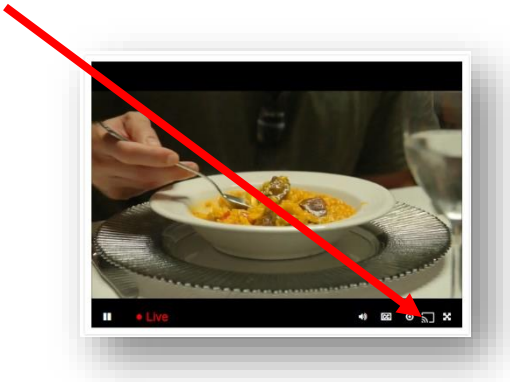
How To View Low Delay Video

The DEVOS player has a “button” where you can select Default or Low Delay. The Low Delay mode typically 1 -2 seconds of latency, while the Default mode may be 5 – 15 seconds of latency.

The external player, DVPlayer, can be configured for low delay by only selecting “websocket” or “rtmp” in the preference.

How To View On TV Using Chromecast

If you have a Google Chromcast device connected to your TV(s), and provided your computer can reach the WiFi network that has the Chromecast device, then a Chromecast icon may appear in your player.



Select the Chromcast icon to send the video to the TV. When playing on the TV via Chromecast, you can use the player controls to stop/start and navigate the video while you use your computer for some other purpose (be sure to leave the player page open).

How To Upload A Video Using FTP

- Open an FTP program, such as Filezilla (https://filezilla-project.org). Or add a network location to your Windows computer (see http://support.discovervideo.com/customer/en/portal/articles/2484466-ftp-from-desktop-folder)
- Set the FTP program for Active FTP mode and point it to the DEVOS server, and enter your username and password (get the username from your DEVOS profile page) and login
- Select the properly encoded video file and drag/drop it to default FTP location
- Wait up to 5 minutes and the video file will disappear from the FTP folder (you can see this if you refresh the FTP session)
- Log in to DEVOS, select Admin Portal, and navigate to Video On-Demand. Your new video will appear at the most recent video. Select Edit on the video to enter desired Title, Description, etc.

For FTP upload, you can include a XML file to set the metadata. The form of the XML is:

```
<Properties>
  <title>YOUR TITLE</title>
  <description>YOUR DESCRIPTION</description> OPTIONAL
  <author>YOUR AUTHOR</author>  OPTIONAL
  <startdate>8/31/2014 3:59:27 pm</startdate> OPTIONAL
  <expiredate>8/31/2024 3:59:27 pm</expiredate>  OPTIONAL
  <starttime>00:00:00</starttime>  OPTIONAL
  <endtime>99:00:00</endtime>  OPTIONAL
  <mediasettings>default media settings</mediasettings> OPTIONAL
  <password></password> OPTIONAL
  <viewerlimit>0</viewerlimit> OPTIONAL
  <tags>one,two,three</tags> OPTIONAL
  <category>one^two^three</category> OPTIONAL
  <thumbnail>my_image.jpg</thumbnail> OPTIONAL
  <documents>my_document.pdf</documents> OPTIONAL
  <accesspoints>YOUR-CHANNEL^SUB-CHANNEL</accesspoints> OPTIONAL
</Properties>
```

Simply create this file with any editor and give it the same name as the video file but add .xml. For example, if the video file is "myvideo.mp4" make a file named "myvideo.mp4.xml" or "myvideo.xml" and upload it at the same time as the video.

Note that if you include Channel names in the above "<accesspoints>" tag (with "^" between sub-Channels), your video will be published in the target Channel.

HOW TO UPLOAD VIDEOS USING DROPBOX

If you have linked your account to DropBox, you can upload video to DEVOS by simply putting the video in your DropBox folder. Here is how.

- Create a folder in your DropBox account called "devos"
- Drop a video file there. Be sure it is a H264 video with .mp4 extension
- Optionally, include a .xml file with the desired metadata (the same as described above (under FTP method)
- Wait for the video to appear in DEVOS manager. After it appears you can delete it from your DropBox account if desired.

How To Stream A Live Event

If you already have set up a Streamsie Account, skip the following steps.

- Log in the DEVOS and select Admin Portal
- Select Encoders
- Select Add Encoder Account
- Select Add Using Streamsie Encoder
- Copy the Server, Account Number, and Encoder Password (write it down or print the page)
- Enter Title, Description, Author, optional Tags, optional Password, optional viewer limit, optional Groups, optional Document, and optional Settings (use Default Media Setting in most cases). Be sure to select a Thumbnail, or upload new image.
- Select Streaming Template "Single Stream, Medium"
- Select Recording Template "Medium"
- Save your setting

Now that your streaming account has been set up, you can use it for all of your live broadcasts. To start a live stream, follow these steps.

- Open Streamsie PC
- Select Account tab and enter Server, Account Number, and Password
- Select Connect
- Select desired input A and/or B. Be sure the same audio source is NOT selected for both A and B (if using one microphone, disable one audio source).
- Select the Template tab and adjust view as desired
- Select Stream to start stream; select it again to stop stream. Select Record to start Record; select it again to stop Record. Select Stop All to stop stream and recording.

To allow viewers to see your stream, add your live stream to an Channel, or distribute the live viewing page using other means. The live viewing page can be accessed by simply clicking on the video in the Manage Encoder page. You can also access this page from Streamsie PC from the Info tab.

If you record your live stream using Streamsie, you can upload it to DEVOS later.

How To Add Test Questions To A Video

Adding questions to a video gives you insight into viewer comprehension, gives you much richer feedback than simple comments, and can be used to verify that a viewer actually watched the video (as opposed to merely playing it while doing something else).
Questions can be added to any video. To add a question to a video, follow these steps:

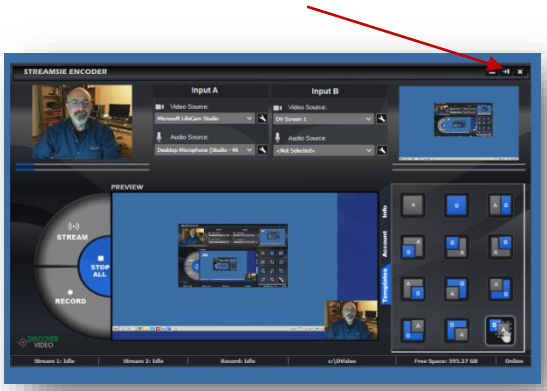
- Login to DEVOS and select Admin Portal
- Navigate to Video On Demand / Manage Video On Demand, and find the target video
- Mouse over the video and select Edit
- Scroll to the bottom of the page and select "Add New Question Playlist"
- Enter a title for your question playlist
- Select if answer must be correct. If checked, then wrong answers are accepted for scoring. If not checked, then the viewer may answer until they get right (and their score will always be 100%)
- Select Test Once if desired. If checked, the viewer may only take the test once. If not checked, they may take the test again and again and each answer will be retained
- Select Playlist Type. Answer and Continue allows the video to resume as soon as they have answered; Duration gives the viewer limited time to answer, and if the time expires they receive a "0" for that question; Answer At End puts the question at the end of the video.
- If Answer And Continue is selected, then play the video to the point where you want the question to be displayed. Select "Pick Start Time" to insert the time in the Question Start Time (or you can type in the time manually). If Answer At End is selected, you do not set the time.
- Enter the question, for example "What Color Is A Banana?"
- Enter a duration, for example 15 seconds
- Select Question Type. Complete allows the user to enter free form text (but this is not machine scored); Choose presents multiple-choice options for the answer.
- If Question Type is "Choose", then enter up to four possible question responses, and select which one is correct. For example "Yellow", "Blue", "Red" and "Orange" might be choices for the question "What color is a banana?"
- Select Add to add this question to the Question Playlist.
- Repeat for additional questions, picking different points in the video where the question will be displayed
- When done, select Add to video
- Select SAVE to complete the video edit

View question test results from the Reports / Media Questions Report

How To Record A Desktop Lecture

Recording a lecture, tutorial, or similar event on your computer is very easy using Streamsie PC. In this example, we will assume you have Streamsie PC installed, have PowerPoint (or similar) open on your computer, and you have a good quality Webcam connected (or built-in) to your computer.

- Start Streamsie PC and connect to your DEVOS account. If you don't have an account, create one from the Encoders selection in DEVOS.
- Select your camera and microphone for Input A, and DV Screen 1 for Input B. Be sure you don't have the same audio source selected for both Input A and B.
- Select a template to show your camera and desktop as desired. You can change the template in real time as you record.
- Select the toolbar icon to move Streamsie off your screen (so you don't capture Streamsie in your recording).



- Moving your mouse to the right of the screen will cause the toolbar to appear.
- When ready, press the Record button.
- Look into the camera and speak normally as you being your lecture.
- You can change the templates at any time.
- You can share anything on your desktop, for example go through a PowerPoint presentation or open a spreadsheet or web page.
- You can pause your recording by pressing the Pause button. Press the Pause button again to resume recording. For example, you can pause the recording to clear your throat, think of what you will say next, etc.
- When done, press the Record button again to end recording, or press Stop All.
- To review your video, click on the video location ("C:\DVideo") in Streamsie. This will open a list of your recorded videos. Double-click on the video to play.
- To upload the video to DEVOS, select the "Info" tab in Streamsie and select the Upload link, which will bring you to the DEVOS upload page (you will need to log in if you are not already).

How To Record A Classroom Lecture / Single Stream

You can easily record a classroom lecture, including the material shown to classroom students on a projector. In this example, we will use Streamsie on a DiscoverVideo Spirit-3 computer. You could also use our own computer with Streamsie and a Captiva video input device.

- Connect a camera to the encoder using HDMI or composite video
- Optionally, mount the camera on a PTZ device that will track the instructor or speaker. Connect the base unit audio to the camera so that the speaker's voice is picked up by the "marker" unit that the instructor wears.
- Connect the VGA, DVMI, or HDMI signal that normally goes to the projector to the encoder via a splitter (if needed) so that the signal goes to both the projector and the encoder.
- Configure Streamsie PC for the desired template. If there is no operator to change this "on-the-fly", select side-by-side or Picture-in-Picture where the projector image is dominant (assuming that is the important part of the lecture).
- Ensure the audio is adequate. You may wish to use a wireless microphone connected to the camera, or in small rooms the camera microphone may be sufficient.
- Enter the Streamsie PC account credentials and connect to DEVOS.

Now that the system is set up, you may record a lecture three ways:

- Manually -- simply select Record (or File Capture) to start recording and Stop to end. Upload the video when done, or configure Streamsie for automatic upload.
- Remotely -- Log in to DEVOS and navigate to Encoders / Remote Encoders. You may remotely control start and stop recording.
- Scheduled -- Log in to DEVOS and navigate to Schedule Streams. Create a scheduled start and end date/time. At the start time, the Streamsie will start streaming live and the video will be recorded on the DEVOS server (but not locally on the Spirit-3 computer). At the end of the schedule, the recording will stop and the video will be available for on-demand viewing a few moments later. You can log in and edit the title, description, etc. at any time.

How To Record A Classroom Lecture / Multiple Streams

You can configure up to four live sources of audio/video and display them in a viewer-adjustable player layout for both desktop and mobile viewers. You can simultaneously record the 2, 3, or 4 live streams in which case they become a Video-on-Demand asset that you can publish to channels.

Multiple streams use more bandwidth than a single stream, but are ideal when you want to capture multiple cameras, computer screens, or other video sources where the viewer can choose how they wish to view.

In this example, we will set up four streams.
Set up a StreamEngine™ with four channels or use Mantis encoders.
Create a new live stream and drag/drop the desired live video sources. For StreamEngine, use the drag the Manual setting and enter the addresses.

Enter the desired title, description, etc. and save.

As the owner of this player, when you open it you will have Record buttons (viewers do not have record ability) which you can select to record your session.

How To Monitor Areas For Security

DEVOS supports popular 3rd party "Network Cameras" that support standard H264 with AAC Audio. Most such cameras today support this, however not all do (older models may not). To include such security cameras in DEVOS follow these steps.

- Install the camera and configure it to support streaming using RTSP
- Verify that you can view the video and hear the audio (if audio is used) in VLC player by entering its full stream address such as "rtsp://[username]:[password]@123.123.123.123/foo/live.sdp"[1].
- Select View / Codec and verify the camera is delivering H264 with AAC audio
- Login to DEVOS and navigate to Advanced Options / Pull Stream
- Enter the RTSP address and a unique stream name such as "camera1". Select "Create RTMP Pull".
- Navigate to Live Stream/ Add Live Stream. Enter desired values (title, description, etc.).
- For the Live RTMP field, enter: rtmp://[your devos IP]/live/[stream name]. For example, "rtmp://111.111.111/live/camera1".
- For the Live HLS field, enter: http://[your devos IP]/autohls/[stream name]/[stream name].m3u8. For example, "http://111.111.111/autohls/camera1/camera1.m3u8

Your security camera is now available for live viewing and recording. You can schedule recordings if desired using the DEVOS Schedule Stream feature.

Repeat for each Security Camera.

You may wish to include all of your Security Cameras in a Channel, and give that Channel special security access.

[1] Axis camera format is: rtmp://[username]:[password]@[IP]/axis-media/media.amp

How To Display Digital Signage In A Lobby

DEVOS Digital Signage provides a simple and powerful way to display videos, images, news and information around an organization. If your DEVOS is available on the public Internet, your signs can be located anywhere the public Internet goes, but in this example we will use an organization's Local Area Network. To create and display a sign, follow these steps.

- Login to DEVOS and navigate to Signage / Add Sign
- Decide on a desired template for your sign. It could be images, videos, text, or both. In this example, we will select template 5 that shows both video and images.
- Because signage requires video and image playlists, we must first create them. Navigate to Manage Playlists then select Add New Playlist.
- For Playlist Type, select Image
- Give your new Image Playlist a meaningful name, like "Lobby Image List"
- Select Upload and upload an image from your computer. It may be a PowerPoint slide (saved as a .jpg) or any other image you desire. Repeat this several times until you have a few images in the playlist. You may also select any existing image from your Image Library.
- Specify a duration, in seconds, for each image. Use the up and down arrows to change the order of play. When done, select Save.
- Create another playlist but select "Video" type.
- Give your new Video Playlist a meaningful name, like "Lobby Video List"
- Select a Video-on-Demand video from the list and select Add to add it to your playlist. Do the same for live videos if desired.
- Optionally, enter a start and end time if you want to specify the portion of the video you wish to play.
- Navigation selection does not apply to Signage display, and is used only for desktop VoD.
- Use the up and down arrows to change the order of videos in your new playlist.
- When done, select Save.
- Navigate to Signage / Add Sign, and select the 5th template (the one with video and images.
- Enter a name for your sign (for your reference) and a Title (the title is displayed in the sign.
- Upload a logo to be used in the sign
- Select the video playlist and the image playlist you created above.
- Select Save.
- Click on your new sign to view it in your web browser. Verify the content and timing is as you wish. To modify, edit the playlists, and the changes will be applied automatically to all displays that are using your sign.

Your sign has been created and verified. You can change it on-the-fly anytime you wish by editing the video and/or image playlist. A Priority Alert can override your sign if so configured.

To display your sign in your lobby, configure a SignStick® to use the IP or domain of your DEVOS server, and enter the signage code.

How To Stream Live or Record From iPad or iPhone

The DiscoverVideo Streamsie iOS is available from the iTunes store.
https://itunes.apple.com/us/app/streamsie-2/id1005556109?mt=8

Streamsie iOS streams live audio/video to DEVOS, and can record HD video and upload it to DEVOS. For best results, your device should have good high speed WiFi access, but you may stream and upload via cellular at lower rates.

To use Streamsie iOS follow these steps.

- Navigate to Encoder / Add Encoder Account
- Create a new account for encoder type Streamsie
- Copy the Account Number, Server, and Encoder Password. Write them down or send yourself an email with these values.
- Open Streamsie iOS on your iPad or iPhone and enter the Server, Account, and Password, then select Connect.
- Start Stream and view in DEVOS
- Stop Streaming and change to Recording. Record your video. Unlike the native iOS camera, Streamsie iOS records in compressed format, allowing you to record longer and with great quality.
- After recording, you may enter title, description, and elect to publish the video upon upload (make it non-private).
- You may select the Upload function to review your recording and upload it to DEVOS directly from your iPad/iPhone.

Streamsie iOS does not do simultaneous live streaming and recording. However, you can record your live stream on DEVOS (provided you have a good connection).

How To Distribute TV

Cable-TV and over-the-air TV broadcasts were once delivered to select areas in an organization using coaxial cable, TV Tuners, and legacy analog technology. You can eliminate all that and make live TV available on your existing digital network using DiscoverVideo Multi-Channel Encoder (MCE) and your DEVOS system. Here is how.

- Connect up to six live audio/video TV feeds from TV Tuners and/or "Cable Boxes" to a StreamEngine (up to 16 HDMI input channels). Use additional StreamEngines for more channels.
- Configure each StreamEngine channel to stream to DEVOS using unique names, such as "tvchannel1", "tvchannel2", etc.
- Create live streams in DEVOS using Live Streams / Create Live Stream, and enter desired title, description, and other values. Upload or capture an appropriate image for the channel (e.g. "CNN", "MSNBC", etc.)
- For the Live RTMP field, enter: rtmp://[your devos IP]/live/[stream name]. For example, "rtmp://192.168.111/live/tvchannel1".
- For the Live HLS field, enter: http://[your devos IP]/autohls/[stream name]/[stream name].m3u8. For example, "http://192.168.111/autohls/tvchannel1/tvchannel1.m3u8

Repeat for each channel.

You can set the security group as desired so that only authorized viewers may access, and/or establish a password for viewing. Because DEVOS supports mobile, your supported TV channels are available for viewing on tables and Smartphones.

Note: you can limit the scope of the distribution to only your LAN by simply using "inside" IP address as illustrated above.

DEVOS can schedule the recording of your TV channels. For example, you can record a program that airs every day at 9AM, every week at 1AM, every month, or every year.

Program Guides of what is on your local TV channel is readily available from many online sources.

Note: DiscoverVideo StreamEngine, Mantis, and Spider does not support HDCP.

How To Distribute Live Video using IP Multicast

IP Multicast is a one-to-many routing technology supported by sophisticated networks. It is not well supported by most WiFi implementations, and DEVOS uses conventional unicast for the reliable delivery of video.

For sophisticated networks and where a very large live viewing audience is needed (e.g. 20,000+ live viewers), DEVOS supports IP Multicast very easily. Simply follow these steps.

- Navigate to Advanced Options and select Push Stream
- For the Push Destination, enter: mpegtsudp://[multicast IP]:[port]. For example to send video to multicast address 239.1.2.3 on port 4444, enter mpegtsudp://239.1.2.3:4444
- Leave the Push Stream Name blank or use default
- For the Stream, select the live stream you wish to use
- Select Create Push

Whenever the live stream from Streamsie or Mantis is available, it will now also be sent via multicast to the selected address.

Use DVPlayer in Launch External to view the video. You may also create desktop shortcuts or enter the stream address directly in DVPlayer (See DVPlayer User Guide). IP multicast is supported by Priority Alert, DVPlayer, and Set Top Box.

Note: sending a multicast on a network that is not configured to accept it can lead to packet port flooding. At lower video streaming bit rates, this may be acceptable, but it is not a desired behavior of a network. You may select any multicast address that is not already in use, from 224.0.0.0 to 239.255.255.253 (see http://en.wikipedia.org/wiki/Multicast_address)

DO NOT USE MULTICAST FOR DEVOS CLOUD OR FOR INTERNET

How To Do Live Morning Announcements

Live morning announcements are popular in schools, financial trading firms, sales organizations, and other enterprises. Rather than using a PA system or a telephone or intercom, live video from the presenter(s) is streamed to everyone's desktop and mobile devices. Announcements can have varying degrees of production values: some are casual, delivered from a presenters desktop, while others are from a studio (or room equipped to be like a studio) complete with green-screen and special lighting. To conduct a live morning announcement follow these steps.

- Use Streamsie PC and configure it to use a DEVOS account (see "How To Stream A Live Event").
- Use optional Green-Screen (Chroma Key) built-in if it is desired to put the presenters in front of a video or image.
- Start you live stream
- Issue a video Priority Alert that will open your live video on desktops without the user needing to take any action. This is most helpful in classrooms and other locations where tight scheduling is difficult.
- Priority Alert can also override Digital Signage displays so that the Morning Announcement is seen in lobbies, lunch rooms, and other common areas. Note that because a Morning Announcement is not an emergency, you should configure your alert to allow the user to close it.
- Optionally record your Morning Announcement so that anyone missing it can view it later using Video-on-Demand feature in DEVOS.
- At the conclusion, cancel the Priority Alert and all desktops will close the player and Digital Signage displays will return to their prior state.

Using Priority Alert for Morning Announcements is an option. A live Morning Announcement can be simply the same as described in "How To Stream A Live Event" where viewers must elect to view at the proper time.

How To Control A Broadcast Remotely

You do not have to be present to broadcast a live event, provided you set up the equipment in advance. In this example, assume there is a meeting room and you want to stream the event on DEVOS using Remote Control. Follow these steps.

- Set up Spirit, Streamsie PC at the event location. Aim the camera as needed and ensure the audio is good (you can monitor the audio in Streamsie to be sure there is no hum, etc.).
- Set the Streamsie account and start a stream. Log in to DEVOS and view it to be sure everything is set up correctly.
- Stop the stream. Leave all equipment running.
- From anywhere, you can login to DEVOS and set a schedule that will start the encoder and stream and record the event, or
- From anywhere, you can login to DEVOS and manually start streaming to view the event live, and when the time is right, you can start recording on Streamsie (which tells Streamsie to make a video file on the Streamsie computer), and you can press the Record button on DEVOS as you watch the event to record it on DEVOS. Doing both recordings is an extra fail-safe method to ensure you have the recording in case there is a network outage or issue with stream recording. When the event is over, you can stop the recording(s) by simply pressing the Stop button(s).

How To Conduct A Live "Webinar"

A "webinar" is a great way to train or inform your organization. A live "webinar" allows the viewer, wherever they are, and to interact with your presentation to ask questions that the presenter can answer verbally and visually. To conduct a live "webinar" follow these steps (we will assume you already have setup your Streamsie account).

- Prepare your presentation, such as PowerPoint. You may include animations and special effects to make your presentation look professional if desired.
- Login to DEVOS and navigate to Admin Portal / Encoders / Manage Encoders, find your encoder and select Edit. Set your Media Setting to a profile where "Chat" is enabled (you can navigate to Media Settings and enable Chat in Media Settings used by this Encoder, or create a new Media Setting where Chat is enabled and then change your Encoder to this new Media Setting).
- Open the Encoder player and select Stop in the player so that the audio/video does not play but you can see the chat on your computer. Dual monitor setup is ideal for this, but you can manage on a single screen by careful arrangement of windows and Streamsie capture area.
- Open Streamsie PC and select your camera and microphone for one video input, and select your desktop for the other input (use DV Screen 1). If desired, you can adjust the desktop capture area.
- Start the live stream (you can also start recording if desired). You can minimize Streamsie PC to a toolbar, or if using a dual monitor setup you can move it to the other screen.
- Start your presentation and monitor questions via Chat in real time. Answer questions verbally and visually.
- During your presentation, change the template as needed. For example, when answering questions, switch to the camera or a Picture-in-Picture view.
- When done, stop the live stream and if you are recording, stop recording (hint: use "Stop All" in Streamsie PC). Upload the recorded video to DEVOS for Video-on-Demand viewing of your "webinar" session, and assign desired viewing privileges, password, etc.

How To Digitize A VCR Tape or DVD

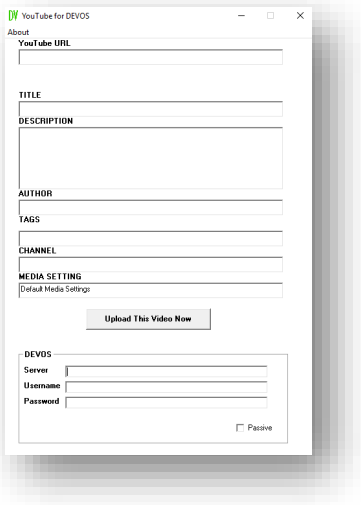
It is easy to digitize your existing tape library. Follow these steps.

Streamsie Pro

- Open Streamsie and connect the audio/video output of the VCR to the audio/video input used (e.g. Captiva).
- Set the Streamsie account on DEVOS to record using desired settings.
- Start your VCR and ensure the video is visible in Streamsie and that the audio indicators are moving.
- Look at the VCR label and notice the duration of the program (if available). Enter this duration in minutes in the Streamsie Duration Recording tab. Press Record.
- Streamsie will start recording and after the specified duration it will stop recording. If you have set the Streamsie account to upload after recording, your video will appear on DEVOS in your account Video on Demand page. You can edit the title, description, category, there.
- Congratulations! You have digitized your VCR tape. Repeat for the next tape.

How To Mass Load Content From YouTube

YouTube has millions of videos available, and many are useful and valuable for training, education, and information. You can rapidly add a collection of YouTube videos to DEVOS and post them to your Channel. Here is how.



- Find desired YouTube video and play it
- Paste URL into YouTube for DEVOS program
- Adjust settings as desired
- Enter DEVOS server, your account (from your profile page) and your DEVOS password (these will be saved so you only need to do this once).
- Select Upload
- Congratulations! In a few moments all of your selected video will appear in your DEVOS Video Manager and in your selected Channel.

How To Give A Live Video PowerPoint Presentation

Start by deciding what live stream you will use. If your computer is powerful enough, you can use Streamsie on the same machine that you use for the presentation. Otherwise, use a Spirit, Rover, or another machine with Streamsie. You may also use Mantis encoder or other live video source.

Step 1

Aim the camera and microphone at the presenter and start the live stream. Verify the live stream is as it should be by viewing it in Media / Encoders or Media / Live Streams. When you are confident that your live video is all set, go to the next step.

Step 2

Go to Presentations and select "Add New Presentation". Fill in the title, description, etc. Be sure to set the start time and expire time. If you want your live presentation to appear in a channel, select the desired channel. If you know that your Offset and Record Offset need to be changed, enter the desired value (if you are not sure, leave it blank or enter 0). Select a thumbnail or use default. If you want to limit the viewers to members of a particular group, select that group. If you have already created a poll, select it, or create a new one. Select the live stream you identified in Step 1.

If you have already uploaded a PowerPoint file, select the one you want to use, otherwise select "Add New Image Collection" and upload your PowerPoint file.
Select Save.

Step 3

Your live presentation is now shown on the page with the title you gave it, and with "Give Presentation" image.

If you want to send invitations, select "Manage Invitations" then "Create New Invitation". Complete the form and select the live presentation you just created. Enter email addresses and/or upload a text file that has a list of email addresses.
Select "Send Invitation".

If you want to send the link to people without the invitation process (i.e. informal), you can right-click on the presentation and select "Invite". This will give you access to the presentation link and an automatic email that uses your default email program.

Step 4

With your live stream active, select the desired presentation. You can again verify that your video is active by selecting the "Video On/Off" button. You can see who is watching your presentation by selecting the "Attendees" button. You can enable chat, answer questions, and issue audience polls. Start recording at any time and stop recording when you are done. Navigate to any PowerPoint slide or use the "Next" button to display the slides in order.

TIP -- Using Streamsie for your live stream allows you to switch your video between camera(s) and desktop capture. While showing a slide, you can change your video to show your desktop to demonstrate web pages or other desktop applications.

TIP -- If your PowerPoint has speaker notes, the notes will be shown to the presenter but not to the audience.

You can also do a presentation using the multi-player and multiple streams, or you can give a presentation using Streamsie with a single stream as a conventional live video stream.

How To Use 3rd Party Encoder For Live Streaming

You can use many encoders to deliver live video to viewers via DEVOS. There are two possibilities:

Encoder RTMP Push

Set your encoder to send live stream to DEVOS using a unique stream name. For example, set it to "rtmp://[devos server]/live/devosstream1".

Depending on your encoder, this might be set as server: "rtmp://[devos server/live", stream name: "devosstream1". It might also be something like server: "rtmp://[devos server]", Application: "live", stream name: devosstream1.

Next, set up a new live stream. For the rtmp address, enter "rtmp://[devos server]/live/devosstream1" and for the HLS address enter "http://[devos server]/autohls/devosstream1/devosstream1.m3u8"

Server Pull

Set up a pull using the Super / Advanced function. The server will receive the stream continuously as long as it is available. You may pull rtmp, rtsp, or UDP (e.g. IP multicast) stream, provided they are H264/AAC encoded.

How To Setup Lecture Capture with Multi-Player

Multi-player is a great way to capture a lecture, seminar, or other event where there is a camera and computer screen. The camera video (whether directly from the camera or via a multi-camera switch) is connected to a live streaming encoder, and the computer screen is also connected to a live streaming encoder (e.g. use two Mantis encoders).

1) Configure each encoder to push a live stream to DEVOS. Let's call the camera stream "lecture-camera", and the computer screen "lecture-computer". Use a reasonable bit rate, 1-2 Mbps. Be sure audio is present on the first stream.
2) Log in to DEVOS and create Mantis or Hornet Encoders and set them up via XML.
3) Start both encoders, and view the dual stream in the newly created player. Adjust the layout as desired and save it.
4) When ready, start recording and stop recordings at the end of the lecture using the schedule or directly from the player.
5) Find the just-recorded dual video in your Video-on-Demand manager. If desired, adjust the layout, offset, and save the layout.
6) Add this VoD to a channel.

How To Stream To YouTube and Facebook At The Same Time

You can set your Streamsie encoder to push directly to YouTube. But if you want to have the widest possible distribution of your live video on social media, and/or if you are not using Streamsie, it is still every easy.

Go to your YouTube account and find the rtmp address that your encoder should use.
Go to your Facebook account and find the rtmp address that your encoder should use.

Select the DEVOS stream you wish to use. The stream may be from Streamsie, Mantis, Spider, OBS, NetCam, or any compatible 3rd party video source.

Go to Super Portal / Advanced / Push Stream

Find the stream you are going to send (or enter it if it is not listed). Enter the YouTube address and select "Create Push". Repeat for Facebook.

Your selected stream now has two pushes, one for YouTube and one for Facebook.

Follow instructions on each service and when your stream is live, it will appear on the social media sites. Remove the Pushes when you are done.

Appendix

Copyright Issues

It is both illegal and wrong to make copies of copyrighted material without permission. You should follow advice of your legal counsel, but the following is provided as a starting point:

- The Fair Use Doctrine and the Teach Act (please search these terms on the public Internet) allows for use in certain cases, especially for educational use and when only portions (clips) of a copyrighted work is used. *Use the DEVOS start/end time or playlists to create clips of larger movies.*
- You can easily create your own content using Streamsie, and with other tools in which case you may elect to declare a copyright. Here is the Creative Commons web site: http://creativecommons.org/choose/
- You can generally deliver over-the-air broadcast TV (content received via an antenna and encoded and delivered via DEVOS) without issues, provided the viewers are in the same broadcast area. Most "Cable TV" providers allow private distribution too in areas where you may otherwise string your own legacy coax cable, but check with your provider.
- Use "Maximum Viewer" feature. For example, if you set the value to "1", then only one viewer can access that content simultaneously, effectively replicating the behavior of physical media (e.g. a disk) and demonstrating your commitment to copyright enforcement[2].
- The interface for commercial HDMI ports, such as Blue-Ray players and Cable Set Top Boxes, may be encrypted (HDCP) and cannot be captured. Cameras with HDMI are not encrypted. Analog interfaces (composite, SVideo, Component RGB) are not encrypted. 3rd party devices may be available that may overcome this issue.
- Review and follow any “terms of service” for online conent.

[2] This is not intended as legal advice but as a description of a DEVOS feature.

Encoding Content for VoD

You can encode your content for VoD delivery using several methods.

- Play the content from a tape player, DVD, BluRay, or other device that delivers the content to an audio/video output. Use Streamsie to create a digital version and post it to DEVOS with appropriate metadata.
- Convert (or "Rip") the private DVD or digital file to a standard H264 (MPEG-4 part 10) video file with an MPEG-4 container (.mp4 file type). Be sure to encode the video at streaming rates (e.g. < 5 Mbps).
- Use a video editor and output ("save as / render") the video as H264 for streaming. Some editors have presets for "iPad" compatibility that may work well for you.

NOTE: Just because a video file may play on your computer does not mean it is a "good" file for VoD. The file for VoD delivery must be of the proper format, have the MOOV atom at the head of the file, and if it does not play via VoD you can conclude it is not a "good" file. A "bad" file may exhibit any of the following behaviors: will not play via streaming; progressive playback will not start for a very long time; no audio or no video; does not display on iOS; video is broken up; will not play at all; audio/video is out of sync.

Encoding Parameters

For best results, follow these guidelines for encoding:

- Use the lowest bit rate that give acceptable quality. There is little point in using high bit rates for "talking head" videos that have little motion. Generally, a rate of about 500 Kbps is sufficient for most standard definition content, and about 1,000 to 2,000 Kbps for high definition content.
- You can use any output resolution, however the most common format is 640 x 360 HD 16:9. Encoding resolution does not affect the size of the video that is displayed (you set that via player height and width), it only affects how much information is in the encoded video file.
- Use key frames (I-Frames) at least every 5 seconds. More key frames means lower compression but higher resiliency. Set your reference distance (P-Frames) to 1, 2, 3, or 4. You may use B-Frames to increase compression if desired but is usually better to have no B frames.
- For iOS compatibility, be sure to use AAC audio. Older encoders such as "Tricaster" and free "FLME" software encoders may not support AAC.

Quick Response (QR) Codes

DEVOS automatically generates a Quick Response code image for each video. The image appears on the Video-on-Demand, Live Stream, and Encoder edit pages.

To copy the image, right-click on it and select "Save As" or "Copy Image" and paste the image into a document or printing label.

The QR code brings the viewer directly to that video viewing page.

QR Code readers are available for SmartPhones, Tablets, and other devices. Simply point your QR Code reader to the image and the video will automatically open and play.

Here are some possible uses for DEVOS QR Codes:

- Printed signs that advertise important events
- DEVOS Digital Signage image displays
- Instruction manuals that point to specific "How To" videos
- Printed stickers
- Insert image into your PowerPoint presentation for your audience to get more information

Web Filters

Some organizations use web filters that block access to selected servers or services. These generally have no effect on a DEVOS system except for organizations that block YouTube yet wish to use YouTube content in DEVOS.

Since Google converted to exclusive use of https for YouTube, you must be sure that your web filter technology can decrypt the IP headers and parse the http referrer field. The referrer field would point to your DEVOS system, and you will want to allow these requests to pass while perhaps blocking direct access.

Closed Captions

Closed Captions are supported.

```
WEBVTT

00:00:09.000 --> 00:00:11.000
You are going to stay with

00:00:11.000 --> 00:00:12.000
your aunt and uncle for a little while

00:00:12.000 --> 00:00:13.000
you will be safe here

00:00:14.000 --> 00:00:15.000
where are you going?

00:00:15.000 --> 00:00:16.000
something your mom and I have to do

00:00:17.000 --> 00:00:19.000
I want to go with you

00:00:19.000 --> 00:00:21.000
we have to go

00:00:33.000 --> 00:00:35.000
so tell us a little bit about

00:00:36.000 --> 00:00:37.000
yourself
```

A .vtt file can be created with any text editor, with many online tools, and with the free DiscoverVideo Caption Maker program (available from the DEVOS help page).

The file simply contains the times when a line of captions should be displayed, followed by the text and a new line.

Simply upload this file to any VoD, either at the time of upload, or later during VoD edit.

You can also upload the vtt file with the video by naming the vtt file with the video file name plus .vtt. For example, if you use FTP to upload "myvideo.mp4", also upload "myvideo.mp4.vtt".

Closed caption inserting is built-in to the DEVOS VoD editor.

You can automatically create captions for your VoD files using DV-Caption service or Cielo24 service, both part of the DEVOS system.

Live captions are supported via API and using live caption insertion tool found in the DEVOS help page.

END-USER LICENSE AGREEMENT

IMPORTANT-READ CAREFULLY
This End-User License Agreement ("EULA") is a legal agreement between you (either an individual or a single entity) and DiscoverVideo LLC and its suppliers for the software product identified above, which includes computer software and may include associated media, printed materials, and "online" or electronic documentation ("SOFTWARE PRODUCT"). By installing, copying, or otherwise using the SOFTWARE PRODUCT, you agree to be bound by the terms of this EULA. If you do not agree to the terms of this EULA, do not install or use the SOFTWARE PRODUCT; you may, however, return it to your place of purchase for a full refund of the price paid for this software product.
SOFTWARE PRODUCT LICENSE
The SOFTWARE PRODUCT is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The SOFTWARE PRODUCT is licensed, not sold.
1. **GRANT OF LICENSE**
This EULA grants you the following rights: Application Software. You may install and use the SOFTWARE PRODUCT on one computer. You may not redistribute software. Additional rights may or may not be granted upon request.
Storage/Network Use. You may store a copy of the SOFTWARE PRODUCT on a storage device, such as a network server, used to install or run the SOFTWARE PRODUCT on other computers over an internal network for backup purposes PROVIDED it is not possible to access the software from the public Internet.
2. DESCRIPTION OF OTHER RIGHTS AND LIMITATIONS
Limitations on Reverse Engineering, Decompilation, and Disassembly. You may not reverse engineer, decompile, or disassemble the SOFTWARE PRODUCT, except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.
Separation of Components. The SOFTWARE PRODUCT is licensed as a single product. Its component parts may not be separated for use on more than one computer, and 3rd party software is not allowed to use or access any installed component.
Rental. You may not rent, lease, or lend the SOFTWARE PRODUCT.
Support Services. DiscoverVideo LLC may or may not provide you with support services related to the SOFTWARE PRODUCT ("Support Services"). Any supplemental software code provided to you as part of the Support shall be considered part of the SOFTWARE PRODUCT and subject to the terms and conditions of this EULA. With respect to technical information you provide as part of the Support Services, we may use such information for business purposes, including for product support and development.
License Control. Licensee acknowledges that the Licensed Products may contain code or require devices that detect or prevent unauthorized use of, or disable, the Licensed Products, and Licensee agrees not to circumvent or disable such code or devices.
Software Transfer. You may transfer this SOFTWARE PRODUCT to another party, PROVIDED the party agrees to this EULA. If the SOFTWARE PRODUCT is an upgrade, any transfer must include all prior versions of the SOFTWARE PRODUCT. Transfer does not imply that any related service may be transferred.
Termination. Without prejudice to any other rights, DiscoverVideo may terminate this EULA if you fail to comply with the terms and conditions of this EULA. In such event, you must destroy all copies of the SOFTWARE PRODUCT and all of its component parts.
3. UPGRADES
If the SOFTWARE PRODUCT is an upgrade or a revision of a component of a package of software programs that you licensed as a single product, the SOFTWARE PRODUCT may be used and transferred only as part of that single product package and may not be separated for use on more than one computer.
4. COPYRIGHT
All title and copyrights in and to the SOFTWARE PRODUCT (including but not limited to any images, photographs, animations, video, audio, music, text, objects, dll's, applets, and other components incorporated into the SOFTWARE PRODUCT), the accompanying printed materials, and any copies of the SOFTWARE PRODUCT are owned by DiscoverVideo LLC or its suppliers or partners. The SOFTWARE PRODUCT is protected by copyright laws and international treaty provisions. Therefore, you must treat the SOFTWARE PRODUCT like any other copyrighted material except that you may install the SOFTWARE PRODUCT on a single computer provided you keep the original solely for backup or archival purposes. You may not copy the printed or online materials accompanying the SOFTWARE PRODUCT except for internal training purposes.
5. DUAL-MEDIA SOFTWARE
You may receive the SOFTWARE PRODUCT in more than one medium, including downloading from the public Internet. Regardless of the type or size of medium you receive, you may use only one medium that is appropriate for your single computer. You may not use or install the other medium on another computer. You may not loan, rent, lease, or otherwise transfer the other medium to another user, except as part of the permanent transfer (as provided above) of the SOFTWARE PRODUCT.
6. U.S. GOVERNMENT RESTRICTED RIGHTS
The SOFTWARE PRODUCT and documentation are provided with RESTRICTED RIGHTS.
7. MISCELLANEOUS
If you acquired this product in the United States, this EULA is governed by the laws of the State of Connecticut. If this product was acquired outside the United States, then local law may apply.
8. EXPORT RESTRICTIONS
Licensee agrees that it will not export or re-export the SOFTWARE PRODUCT to any country, person, entity, or end user subject to US export restrictions.
9. NO WARRANTIES
THIS SOFTWARE PRODUCT IS SOLD "AS IS". ANY USE OF THE SOFTWARE PRODUCT IS AT LICENSEE'S OWN RISK. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, DISCOVERVIDEO LLC AND ITS SUPPLIERS DISCLAIM ALL WARRANTIES AND CONDITIONS, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT, WITH REGARD TO THE SOFTWARE PRODUCT, AND THE PROVISION OF OR FAILURE TO PROVIDE SUPPORT SERVICES. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHERS, WHICH VARY FROM STATE/JURISDICTION TO STATE/JURISDICTION.
10. LIMITATION OF LIABILITY
TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL DISCOVERVIDEO LLC OR ITS SUPPLIERS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES WHATSOEVER (INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, OR ANY OTHER PECUNIARY LOSS) ARISING OUT OF THE USE OF OR INABILITY TO USE THE SOFTWARE PRODUCT OR THE PROVISION OF OR FAILURE TO PROVIDE SUPPORT SERVICES, EVEN IF DISCOVERVIDEO HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN ANY CASE, OUR ENTIRE LIABILITY UNDER ANY PROVISION OF THIS EULA SHALL BE LIMITED TO THE GREATER OF THE AMOUNT ACTUALLY PAID BY YOU FOR THE SOFTWARE PRODUCT OR U.S. $1.00. BECAUSE SOME STATES AND JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY, THE ABOVE LIMITATION MAY NOT APPLY TO YOU.
11. EVALUATION
BY INSTALLING THIS SOFTWARE, YOU AGREE THAT YOU HAVE HAD AMPLE OPPORTUNITY TO EVALUATE A DEMONSTRATION OR EVALUATION VERSION OF THIS SOFTWARE AND THAT YOU HAVE DETERMINED IT IS ADEQUATE FOR YOU
12. PERMISSION / AGENT
YOU HAVE GIVEN DISCOVERVIDEO PERMISSION TO INSTALL REQUIRED 3RD PARTY SOFTWARE ON YOUR BEHALF AND TO ACCEPT EULA TERMS ON YOUR BEHALF.

The products sold by DiscoverVideo are not intended for and will not be used in life support systems, medical equipment, nuclear facilities or systems, aircraft, aircraft devices, aircraft/emergency communication devices or other critical systems whose failure to perform be reasonably expected to result in significant injury or loss of life or catastrophic property damage. Accordingly, DiscoverVideo disclaims any and all liability, and should buyer use or sell such products for use in such ultra-hazardous applications, it does so entirely at its own risk. Furthermore, buyer agrees to fully indemnify, defend and hold DiscoverVideo harmless for and against any and all claims, demands, actions, litigation, and proceedings of any kind arising out of or related to such ultra-hazardous use or sale.