



Media Intelligence Service

Observer 8.1 User Guide

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Document Details

Document Name:	Observer 8.1 User Guide
Part Number	
Related Software Versions	8.0

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1 INTRODUCTION

1.1 Purpose

Welcome to the Volicon Media Intelligence Service (MIS) Observer 8.1 User Guide. This document will provide the details and instructions necessary to guide you through MIS operation. It addresses specific MIS functions, including the use of bookmark media clips; proving FCC compliance, advertisement verification and general media management.

1.2 Definitions and Acronyms

8VSB	8-level vestigial sideband modulation - used for ATSC over the air broadcast
AC3	Dolby Digital Audio Codec 3 - compression used by ATSC
AFD	Active Format Description - metadata describing format i.e. 4:3 or 16:9
ARL	As Run Logs - used to extract program schedule
ASI	Asynchronous Serial Interface - used to carry MPEG-TS
ATSC	Advanced Television System Committee – set of standards for US digital television
Bookmark	Short program segments marked on the MIS server to facilitate auditing and sharing
CALM Act	Commercial Advertisement Loudness Mitigation – FCC requirement for audio loudness
CEM	Content Export Module – optional software package to export program clips to social media sites.
Clear QAM	Clear Quadrature Amplitude Modulation – non encrypted Cable video distribution
CC/TT	Closed Captioning/ SMPTE Timed Text - Protocols used to add text description of the audio
Component video	Analog video with separate Red, Green, Blue channels using three RCA connections
Composite video	Analog video over a single RCA connection
Dialnorm	AC3 metadata used to control playback gain
DPI	Digital Program Insertion – metadata that allows downstream insertion of commercial or short programs.
DPI – In Point	Entry point to switch to a different stream
DPI – Out Point	Return to normal stream
DVB	Digital Video Broadcasting - international suite of digital television standards

Encoder	MIS observer function that receives and processes media signals
Fault Clips	Portions of audio or video stream that fails to meet MIS quality thresholds
SD/HD-SDI	Uncompressed standard or high definition video serial data interface
GPI	General Purpose Interface Metadata - used for broadcast automation
HDMI	High Definition Multimedia Interface – digital interface used to transport audio and video short distances
IP	Internet Protocol – used to send digital data from one computer to another
Metadata	Data-about-the-data - Additional information carried by the program used to describe program details
MH	Media Hub – internal MIS Observer component
MPEG	Motion Picture Expert Group - international organization that sets audio and video compression and transmission standards
MPEG-TS	MPEG Transport Stream - a standard container for audio, video, Program and System Information Protocol (PSIP)
Multiview	MIS feature that allows you to configure multiple channels and monitoring widgets into a single display screen
NAVE	Nielsen audio video encoder – psychoacoustic symbols inserted in programs to facilitate automatic viewer tracking
NTP	Network Time Protocol – Internet standard used to synchronize computer real time clocks
OTT	Over the top program delivery using Internet protocols
PID	Packet identifier: a unique 13-bit value used to identify elementary streams of a program in a single or multi-program Transport Stream
Probe	Observer Ingest server housing one or more encoders
PSIP	Program and System Information Protocol – method used to transport program metadata such as: sub channels, program guide, and content ratings

S-Video	Separate Video – Variation of composite video that separates luminance (black and white) from chrominance (color) to enhance video quality
Services	A/V program content with the associated metadata
SMPTE	Society of Motion Picture and Television Engineers – creates numerous technical standards
STB	Set top box - device used to make programming available to customers
Storyboard	Sequence of video frames to assist visualization
VANC	Vertical ANCillary data space in digital streams
W3C	World Wide Web Consortium - sets standards to advance use of the world wide web
XDS	Extended Data Services – analog NTSC metadata

2 VOLICON MIS OVERVIEW

A firm understanding of Volicon Media Intelligence Service will help you with your work flow. Core MIS features:

- **Record and store** broadcast content (multiple interface/qualities). Support for a variety of input broadcast signals, with storage built to scale, different encoding qualities and proxies.
- **Collaborative platform** to exchange content between colleagues.
- **Professional Multi player** easy access to channels and groups of channels, with dynamic searches, PIP, full screen and split screen features.
- **Enhanced player** professional frame by frame (even with live content) and fast forward and rewind speeds to allow for maximal efficiency.
- **On screen Metadata** display with multi language, various metadata and visuals alerts.
- **Content Sharing** with social media sites
- **Export Content** to your computer or other servers.
- **Error Alarms** MIS constantly monitors each stream and generates an alarm if it does not meet programmed quality metrics.
- **Web-based** user access via multiple browsers and OS.
- **Enterprise scale** Easy to configure and maintain system with access control and auditing, design for high availability, tools to ease administration and built to scale.

MIS has the ability to log content from multiple video sources in the post production, transmission, delivery, and reception video distribution chain. You can log content at any stage of the video production or delivery process: the amount of content you can log is limited only by available storage space.

MIS logs video content down to the individual frame level, at the same standard frame rate as the source. MIS allows you to log content from many different input types such as HD/SD-SDI, ASI, IP, DVB-(S, S2, T, T2), 8VSB, Clear QAM, Component, Composite, S-Video, and HDMI.



Fig: MIS Data Flow

MIS constantly ingests and stores each video and audio stream in native resolution and bit rate. The Low Bit Rate Proxy (LBRP) is used to create lower resolution copies of the original stream. There are several reasons for creating a low bit rate proxy of incoming video content:

- It allows multiple users to access the Volicon solution simultaneously without interfering with one another
- It minimizes impact on network resources
- It allows the MIS to store content on each server for much longer periods of time

2.1 Using Your Stored Content

Your stored content serves multiple purposes.

Share: Easy to use mechanism to share your stored content with social media sites and other delivery methods.

Compliance: In the event of FCC inquiries about noncompliance about any video segment you aired, you can use your stored content to investigate the charge and to either a) prove compliance with FCC regulations; or b) establish precisely which frames of the video were out of compliance.

Customer Complaint Resolution: You can use your stored content for business purposes, especially as a historical record to support resolving customer

complaints about whether or not a commercial played during the contractual time frame. MIS's frame-by-frame record allows you to investigate not merely whether or not the commercial played, but whether or not the commercial played in its entirety, and at what specific time it played.

Playing back broadcast clips on your website. MIS allows you to bookmark the start and end of each clip you want to display and export the content. You then can post that content to your website. You can use this feature not only for current clips, but for older clips as well – as far back as you have stored content.

Monitoring what you and your competitors are doing. MIS can access and record public programs, not merely the ones you generate.

Assessing Nielsen Ratings on a particular program or set of programs. MIS can import the Nielsen Ratings and tie them to the video with which they are associated.

2.2 Stored Content Parameters

By default, Volicon MIS stores every frame of transmitted content:

- From every active input
- Locally on each MIS server
- In the High Definition/Standard Definition format native to that input

2.2.1 Storage Duration Customization

The number of days each video stream is stored on the MIS system is customized based on preconfigured parameters requested by each customer. Please inquire with your local MIS administrator about the storage days configured for your specific system.

3 INITIAL CONNECTION

MIS is a web based system accessible from a wide variety of computers using a multitude of different browsers. This section discusses MIS client requirements and how to access the system.

3.1 PC Client Minimum Requirements Checklist

Before using MIS, check that your computer meets or exceeds the PC Client Minimum Requirements listed below:

- Windows 7, or Windows 10 64 bit
- 3.5 GB of RAM or greater
- Browser
 - Microsoft Internet Explorer (ActiveX)
 - Chrome, Edge, Firefox, Safari (HTML5)
- Minimum network bandwidth
 - You will need bandwidth greater than or equal to 1.2-1.5x the sum of the bandwidth of the streams you are viewing. For example, to view two 512 Kbps streams smoothly, you need between 1.2 Mbps and 1.5 Mbps of available bandwidth.

In addition to the physical requirements listed above, you must also:

- Place the URL or IP address of the Web server in your browser's **"Trusted Sites"** zone
- Have administrative privileges on your machine, to install the signed ActiveX control used by Internet Explorer

3.2 Log in

1. At the top of your Browser search bar, enter the IP address or URL provided by your MIS System Administrator.
2. You will then be prompted for your log in credentials (Username/Password). This will also be provided to you by your MIS System Administrator.

3.2.1 Your Initial Log in Screen

MIS greets you with a log in screen. Enter your user name and password then Press <Sign In>.

The browser may ask if you want it to remember your password. If this is the computer you always use and trust, allowing the browser to remember your password is convenient. If you are not sure what to do, click on the **X** and the browser will ask again the next time you log in.



Figure: Browser Password Storage

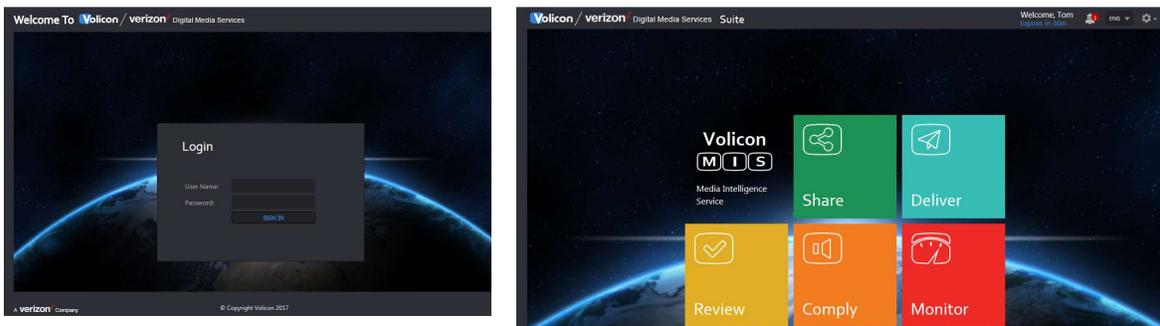


Figure: MIS Home Page

Assuming you entered your account credentials correctly you will be greeted with the MIS home page. The specific icons displayed depend on your account settings and the installed MIS options.

3.2.2 High Level Page Controls

At the upper right hand side of each MIS page are a number of high level controls. Your account name is displayed and below it is the automatic log out timer. MIS monitors your account activity. If it has been idle for a period of time the system automatically logs you out.

To the right is a System Warning icon. If there are active alerts the number is displayed in a red circle. Left clicking on the icon displays warning details.

MIS can be configured to use different languages. Use the pulldown to select the desired language.

At the extreme upper right is the tool icon. This will be discussed in detail later.



Figure: Home Page Controls

3.2.3 Log Out

To log out, click the **<Gear>** icon at the upper right corner of any MIS page. The **<Gear>** icon appears on all MIS pages so you don't have to go back to the home page to log out. This opens another menu; click on **<Log Out>** at the bottom of the list. MIS asks you to confirm that you really want to log out.

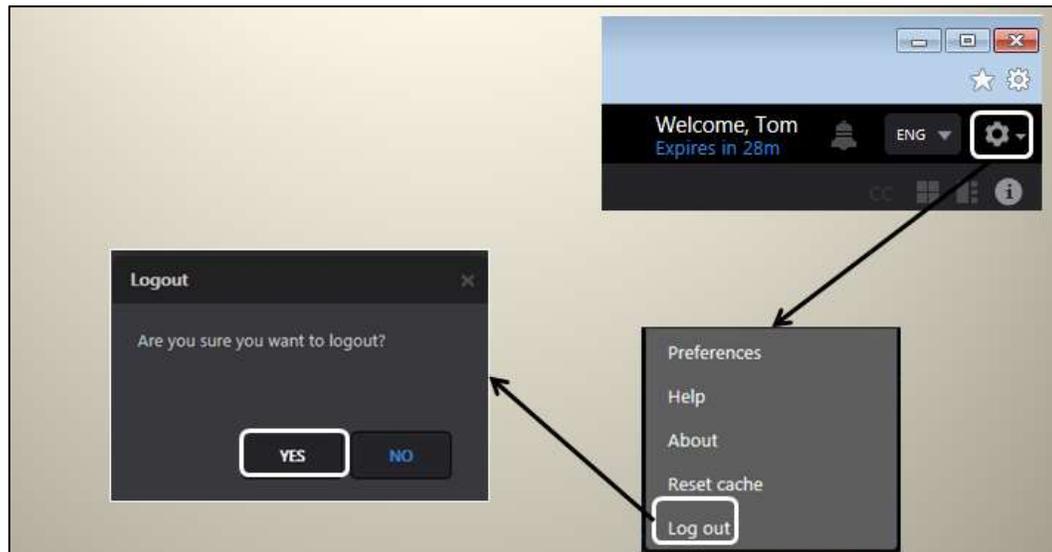
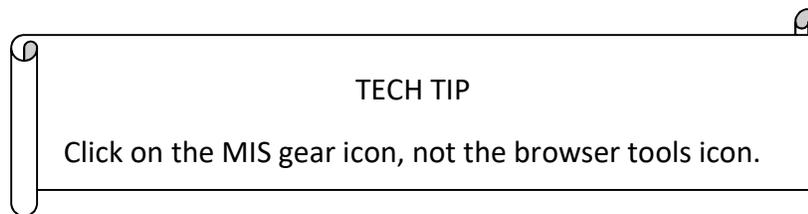


Figure: MIS Logout

3.2.4 MIS Internet Explorer Settings

When using Internet Explorer for the first time you must set "Compatibility mode".

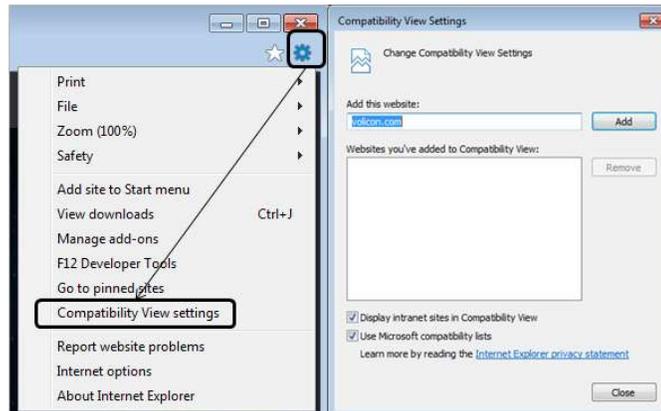


Figure: Setting IE Compatibility View

1. After you log into MIS left click the **<Gear>** symbol at the upper right of IE and then choose **<Compatibility View Settings>**. Note: this is the IE tools icon, not the lower tool icon for MIS.
2. The URL or IP address of the MIS server should automatically populate under **"Add this website:"** Click on **<Add>** to set IE to access the MIS web site in compatibility mode. Next, set the location of the MIS server as a trusted site. This allows you to restrict ActiveX (used by the Volicon player) when browsing the Internet while still allowing its use when logged into MIS.
3. From the same **<Tool>** icon used to set compatibility mode select **<Internet Options>**. Select the **Security** Tab and click on **<Trusted Sites>**. Then click the **<Sites>** button. The MIS web site URL should be showing under **"Add this website to the zone:"** The IE default policy to allow placing a server in trusted zone is that it must use SSL/TLS security (HTTPS). If the MIS server does not use SSL/TLS you need to uncheck the **"Require server verification"** check box. Press **<Add>** to update the trusted site list then **<Close>**.
4. To verify you successfully added MIS click **<Trusted Sites>** again then **<Sites>**. The MIS server URL should show in the **<Websites:>** box.

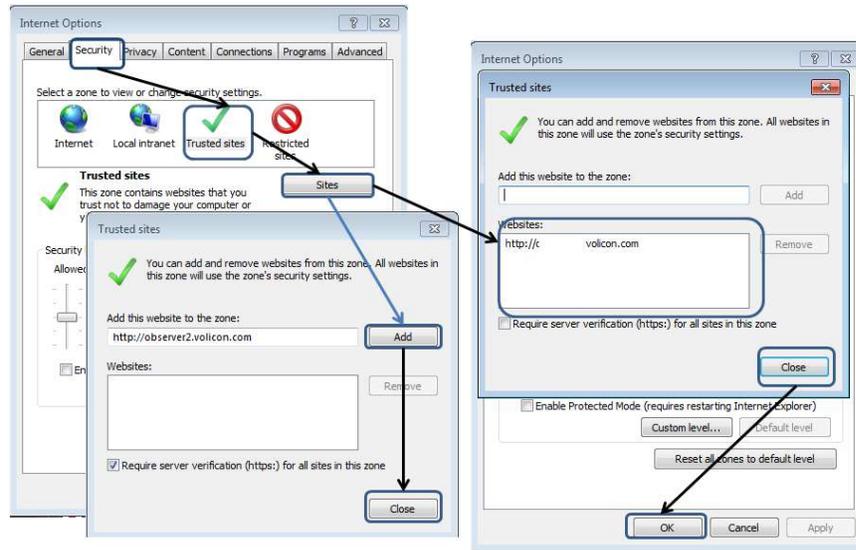


Figure: Add MIS to Trusted Sites

3.3 MIS Home Page

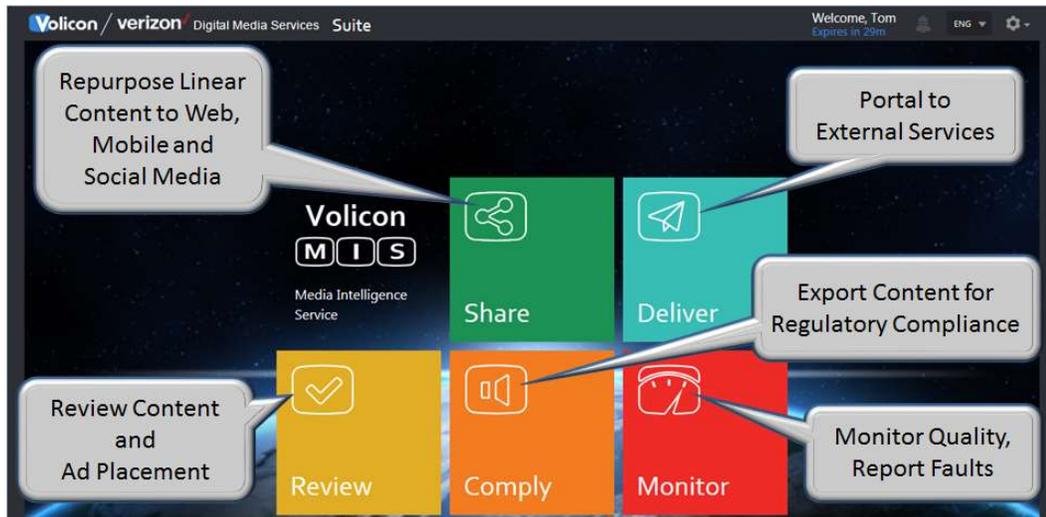


Figure: Main Menu

The main action buttons are in the center of the screen. Your account name is displayed in the upper right corner along with the session expiration time. If MIS detects an idle session it will eventually time out and automatically close the session. Click on the gear icon in the upper right to log out or access MIS tools.

The Main Menu gives you access to the various Volicon Media Intelligence Service functions. Depending on installed options and account permissions a different set of icons may be visible.

3.4 Installing the Volicon Media Player

When you log into MIS for the first time using Internet Explorer, you are prompted to install the Volicon media player.

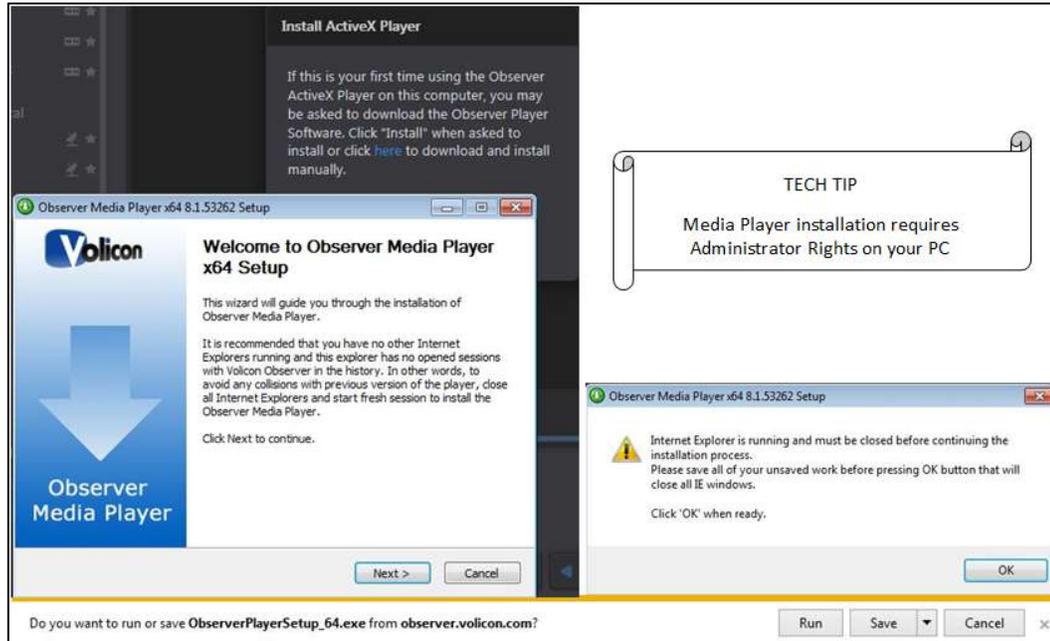


Figure: Initial Connection

If your Volicon MIS Administrator has not previously installed the Volicon media player on your PC/laptop, you must have administrative rights (the ability to install software on your PC) for the initial install of the player software. Any subsequent logins will require only the permissions you currently have on your PC/laptop. The first time you connect to the Volicon solution, IE will take approximately 30 seconds to load the Media Intelligence Player install software.

Shutdown IE, accept the browser warning by clicking **<Run>** then press **<Next>**. MIS will launch the Observer Media Player Setup Wizard.

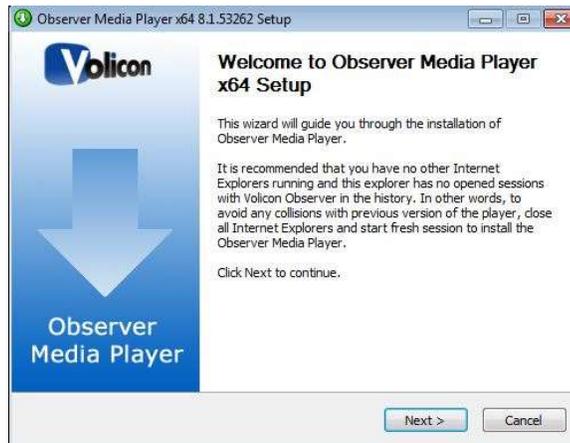


Figure: Observer Media Player Setup Wizard

If an older version of Volicon media player has been installed it will be removed automatically. Click **<Next>** to continue. Accept the terms of the License Agreement and click **<Next>** to continue.



Figure: License Agreement

You have the option of choosing into which folder MIS will install the Media Player. Unless Volicon Support has instructed you otherwise, accept the default folder and click **<Install>**.

3.4.1 Optional Settings

Observer will present you with the Optional Settings window.



Figure: Optional Settings Window

Optional Setting/Selection: Internet Explorer shortcut

If you want to add a quick connect button to your Internet Explorer tool bar, enter the URL or the IP address for your Volicon MIS in the field provided. Leave the field empty if you do not want MIS on your tool bar.

Optional Setting/Selection: Intel video adapter workaround

Volicon recommends that if your computer has an Intel video card, or a video card with an Intel chipset, that you enable the Intel “flickering video” workaround checkbox as a precaution. Enabling the checkbox will not affect the performance of the Intel chip sets that do not have issues with multiple video streams, and will protect you in the event that your chipset is one of those with known issues.

Optional Settings/Selection: Favor Quantity over Quality

Volicon also recommends that you check the **Enable “Favor Quantity over Quality”** checkbox for the best experience using Internet Explorer to run multiple players.

Make your choices, and click **<Next>**.

Observer presents you with the “Completing the Observer Media Player Setup Wizard” window.

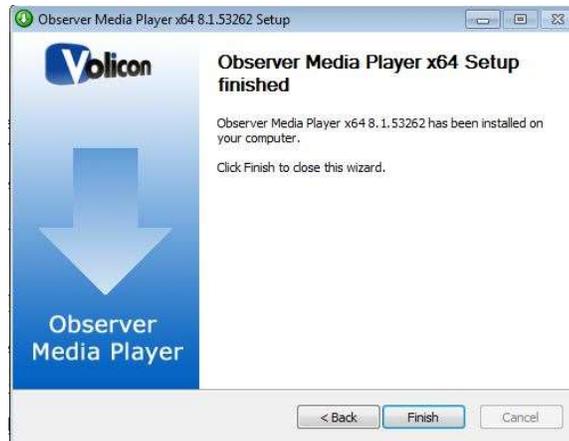


Figure: Completing the Observer Media Setup Wizard Window

Click <Finish> to exit setup.

3.4.2 Updating the Volicon Player

From time to time you may receive notification there is a new version of the player available. Follow the prompts and install the upgrade. You will be prompted to shutdown IE to perform the install.

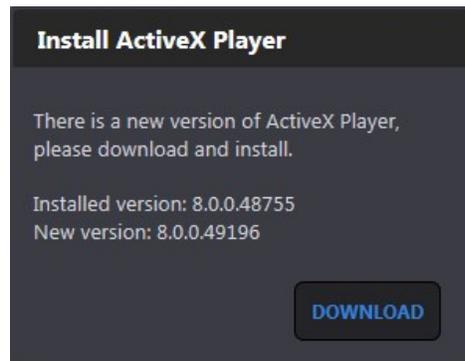


Figure: Update Volicon Media Player



4 COMMON FUNCTIONS

Each of the task icons takes you to a task specific suite. At the left side of each page is a ribbon with a multiple icons optimized for the task at hand and color coded to the home page icons. Six tasks are common to all pages. The remaining tasks are unique to the specific suite. Depending on your permissions and optional components not all icons may be visible.

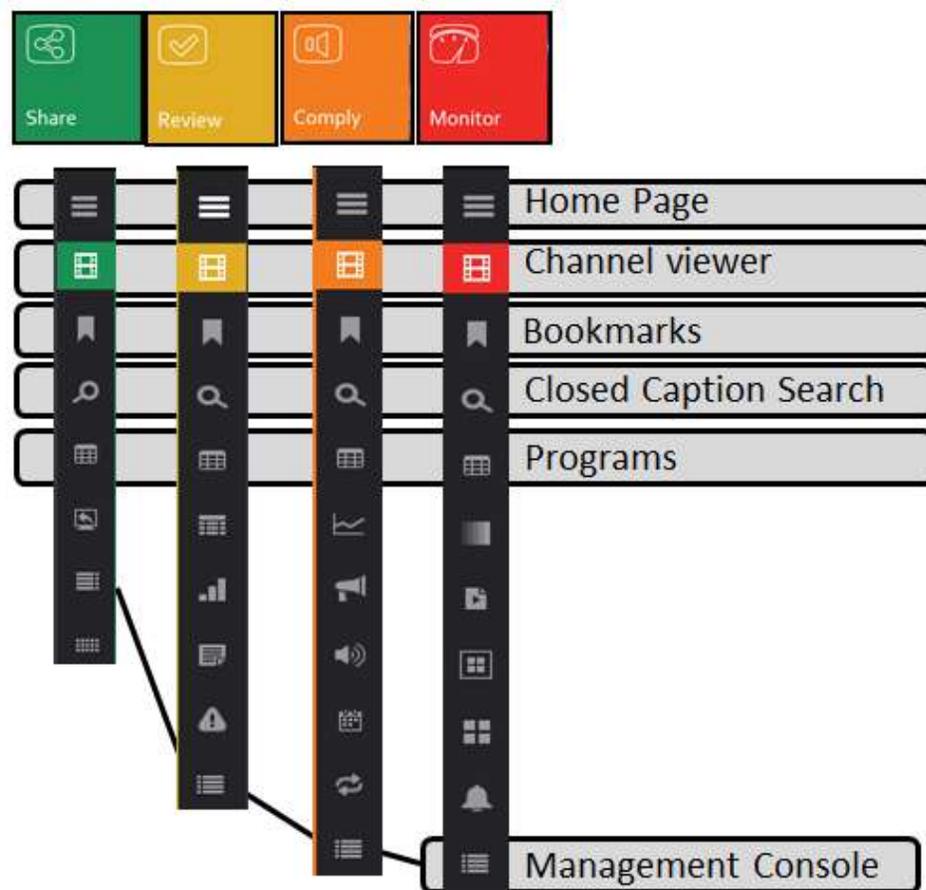


Figure: Common Functions

We will use the **Share** suite to illustrate how to use the common MIS functions and then delve into the specific details of each function.

4.1 Channel Viewer Tab

Pressing the <Share> icon on the home page opens the **Share** suite in Viewer mode. The **Viewer** initially shows up as a large gray space to the right of the **channel dashboard**. Multiple programs may be viewed simultaneously; you may either view different channels or different programs within a single channel.

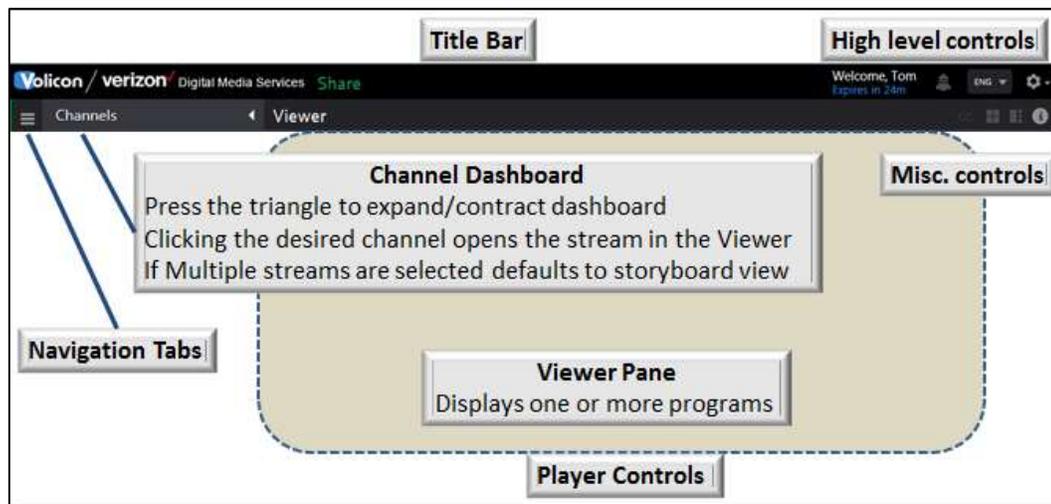


Figure: Viewer Page Layout

As channels are selected they appear in the viewer. If more than one channel is selected audio of subsequent channels is inhibited. To activate audio of another channel hover over that program and left click. The channel name turns blue indicating it is the active audio channel.

At the bottom of each channel player are various controls. If the channel is available in more than one bit rate or resolution the options are displayed in a pulldown to the left of the **Live** icon.

If MIS does not have enough space to display all the controls they are collapsed; hovering over the control ribbon expands to display any hidden icons. If multiple channels are selected the channel viewers are shrunk to fit the available space while maintaining the correct aspect ratio.

The number of video streams you can watch simultaneously depends on the Volicon software license, your computer's performance and the speed of your network connection. Assuming sufficient network bandwidth the player should be able to display up to 24 SD or 12 HD programs.

4.1.1 Channel Dashboard

The viewer tab gives you access to the **Channel Dashboard**, which lists all the video channel(s) to which you have been allowed access. Clicking the triangle at the upper right of the Channels heading expands/contracts the channel pane. For quick access to a particular video channel, click the checkbox beside the desired channel. MIS will open that stream in the Player Window.

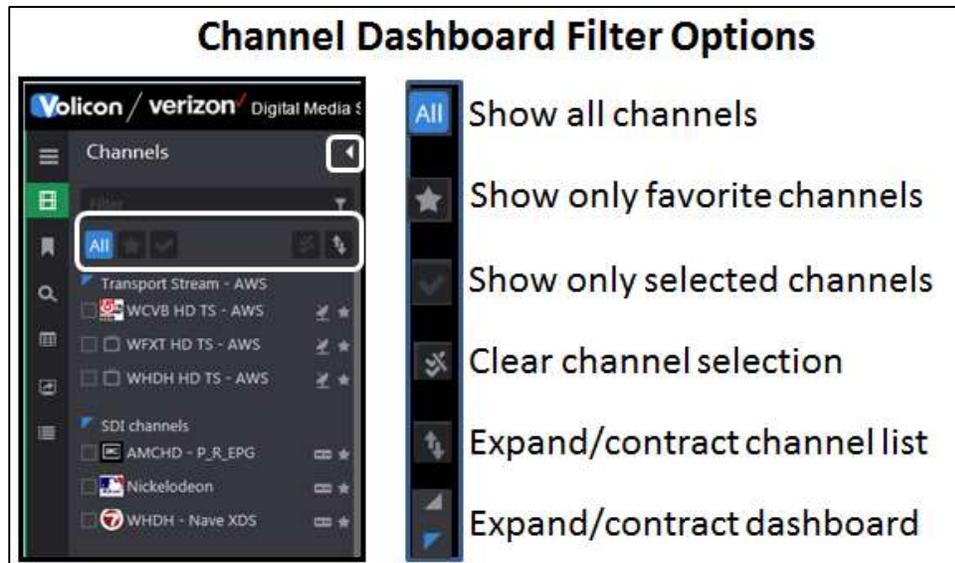


Figure: Channel Dashboard

The **Filter** feature at the top of the Dashboard provides a quick way to restrict the channel display by typing in the desired channel name into the **Filter** text box. MIS then displays only channels that match the string. You do not need to enter the entire channel name.

To set a channel favorite hover over the favorite icon to the right of the desired channel and left click to turn it gold . Left clicking toggles it back to grey.

The **Channel Dashboard** displays all the Video Streams available to you. To display a Video Stream in the Player Window click the check(s) by the Video Stream names you wish to display. The MIS will display your Video Streams in the player window.

MIS automatically adjusts for different aspect ratios and resizes player windows if multiple streams are selected. Audio is enabled on the first stream selected and disabled on subsequent streams. To enable audio on a different video stream, click on the desired player window. The stream with active audio is

indicated with a blue background in the Channel Dashboard and the channel name changes from white to blue in the player.

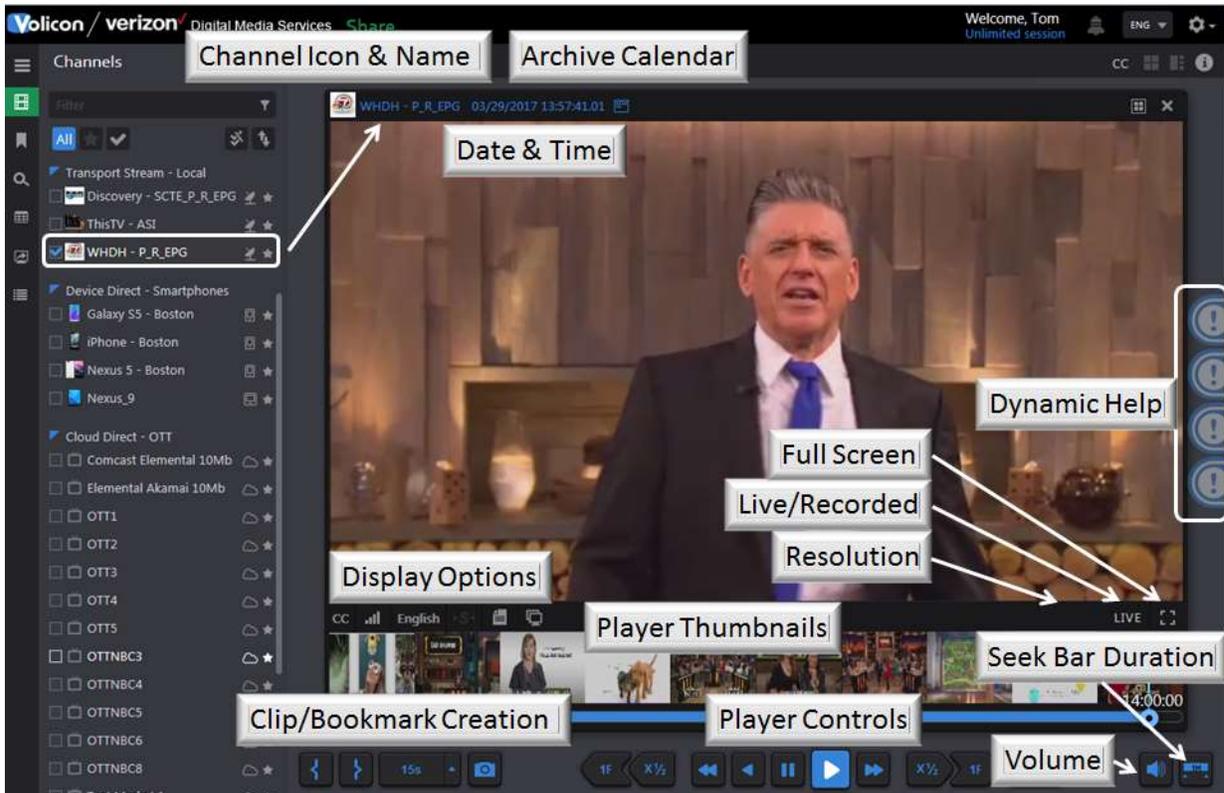


Figure: Player Controls

4.1.2 Miscellaneous Viewer Controls

At the upper right of the Viewer are controls to select Split screen or Picture in Picture view when multiple players are active. At the extreme right is an info button that displays MIS hot keys. Lastly, if only a single player is active the icon is displayed; this enables you to view closed caption text.

4.1.2.1 Player Views

Use the two icons at the upper right corner of the **viewer** page to switch between **<Split-Screen>** and **<Picture-in-Picture>** view. To return to channel view press **<ESC>**.

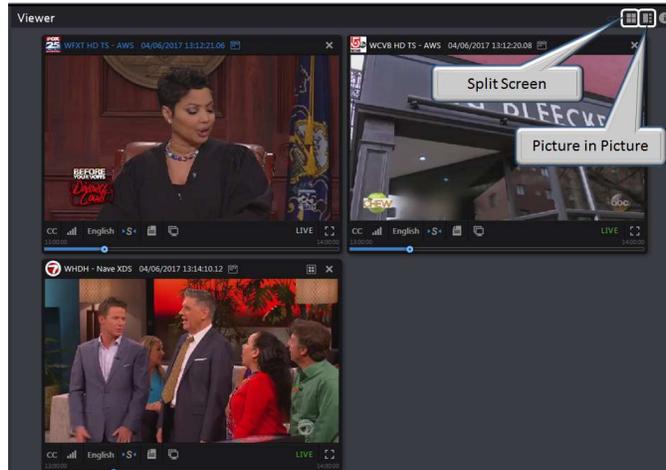


Figure: Channel View



Figure: Split Screen View



Figure: Picture in Picture View

4.1.2.2 Keyboard Hotkeys

In addition to the on screen icons, many viewer functions can be controlled via keyboard hotkeys. This is often more convenient than using the mouse for common operations. Pressing the  information button at the top right of the player window opens the hotkey info page.



Figure: Keyboard Hot Keys

4.1.2.3 Online Help

Depending on your browser and system configuration you may see a series of icons at the extreme right of your screen. Click on these for quick access to help topics about specific features. There are more help topics available from the **<Tool>** bar under the **<Help & Tutorials>** section. They will be discussed in details in the Tools section.

4.1.2.4 Closed Captioning Icon

When a single stream is being viewed a 4th icon is displayed at the top of the viewer pane . Pressing this icon displays a list of closed caption text at the right side of the screen. Text duration is the entire seek time for recorded programs and up to the current time for Live programs. Press the icon again to close the CC display.

To highlight specific text enter a string into the Keyword box.

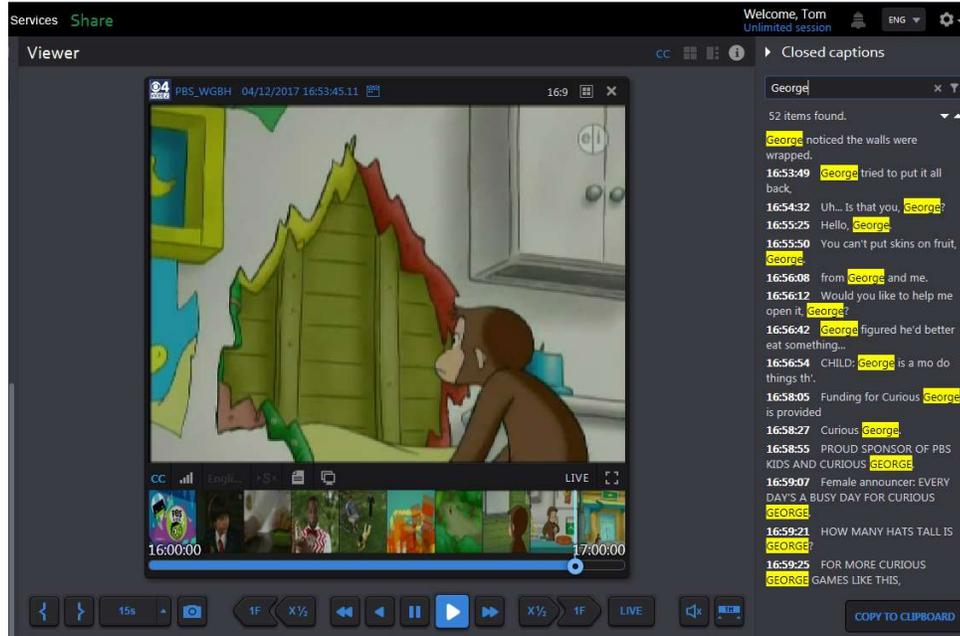


Figure: Closed Caption List

Click on the **<Copy to Clipboard>** icon to paste the CC text into your computer's clipboard. Depending on which browser you are using this may require installation of Adobe Flash. MIS displays an alert at the top of the page once the text has been successfully copied.

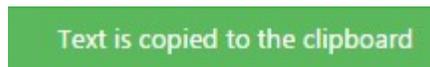


Figure: Copy CC to Clipboard

Once copied to the clipboard you can paste the text into another document.

4.1.3 Using the Player Window

To close a stream click the **<X>** in the upper right hand side of the stream or click the **<channel name>** in the Channel Dashboard. The player displays the program date and time at the top of the player window. The **LIVE** symbol at the lower right of the player is green **LIVE** when the program is being displayed in real time. When a recorded program is playing the icon is white **LIVE**.

4.1.4 Seeking Back in Time

MIS lets you switch between watching the channel live or a recorded version up to the limit set by your MIS administrator.

To select a different date and time click on the **<calendar icon>** to the right of the date/time display.

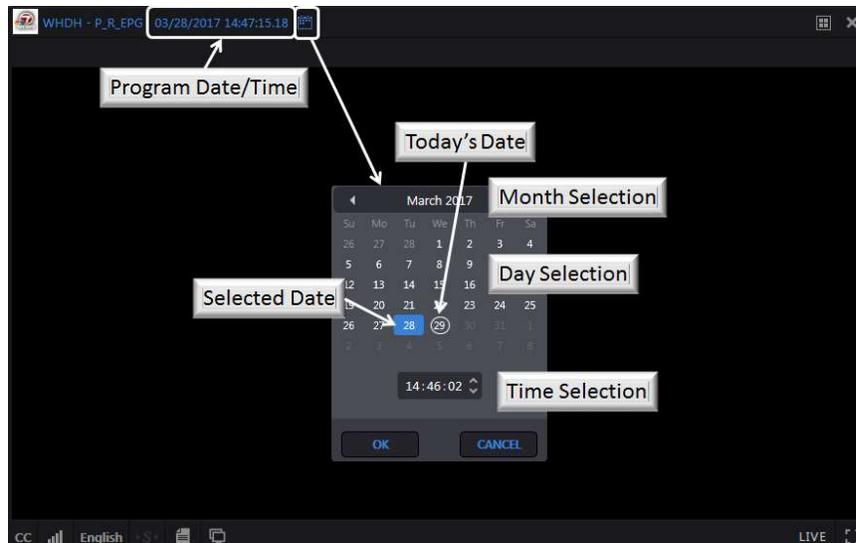


Figure: Recorded Program Time & Date

The Calendar Function allows you to access your historical feeds by date and time. The Calendar function is sticky, if you close the stream and reopen it the player resumes from where it left off. Pressing the **<LIVE>** button on the right of the Media Player Bar switches to live stream and resets the calendar to the current time.

INFO TIP

You can only view historic video back to the date either when the system was initially installed or back to the time configured for video storage duration, whichever time is most recent.

If you select a video that is not available an error message is displayed at the top of the Viewer frame. The player will continue with the previous time. The alert indicates the oldest date that is available.

WHDH - Nave XDS -- No video found. Nearest available time is: 03/02/2017 01:30:35

Figure: Video Not Found Error Message

In some cases the desired program is archived off line. In that case you are presented with a dialog box asking if you want to retrieve the archived program.



Figure: Offline Program Retrieval

An alert message at the top of the screen indicates the program is being retrieved.

WFXD HD TS - AWS: Retrieving archived content from remote storage. Player will resume when content becomes available. Press LIVE to abort.

Figure: Offline Retrieval Status

4.1.5 Controlling Your Video Streams

After you select a video stream(s) for display, a Media Player Bar opens along the bottom of the display frame. The Media Player Bar controls all the Video Stream(s) in your window simultaneously.

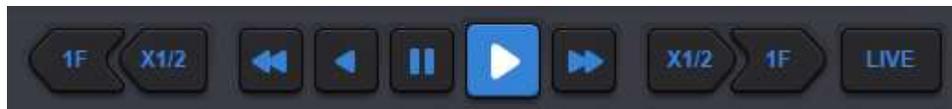


Figure: Media Player Bar

The player buttons allow you to rapidly scan through historical programs. From left to right, the buttons perform the following functions:

- **1Frame Rewind** – rewinds one frame each time the button is pressed
- **X1/2 Half Speed Rewind** – rewinds at half the normal frame rate
- **Fast Rewind** – rewinds at twice the normal frame rate, or click again for 8x
- **Rewind** – rewinds at the normal frame rate
- **Pause** – stops playback
- **Play** – moves forward at the normal frame rate
- **Fast Forward** – moves forward at 2x the normal frame rate, click again for 8x
- **X1/2** – half speed forward playback
- **1Frame Forward** – advances one frame each time button is pressed
- **LIVE**: synchs up all the Video Streams in the Player Window with the most recent content. There are two ways to ensure you are viewing the most recent content: 1) The **LIVE** indicator on the player turns green when playing a live feed and is white when playing a historical program and 2) by the Date/Time identification at the top of the player.

The power of Volicon MIS is in its ability to support many sessions or users simultaneously without affecting other users. For example, **what you do in the Player Window only affects your Player Window. It has no effect on other users.** MIS is the only program of its kind that provides you with the complete freedom to perform your job functions when and as you need to perform them.

In the example below, both video streams were paused. Clicking on the **LIVE** button caused the MIS to simultaneously retrieve the current live content for both streams.

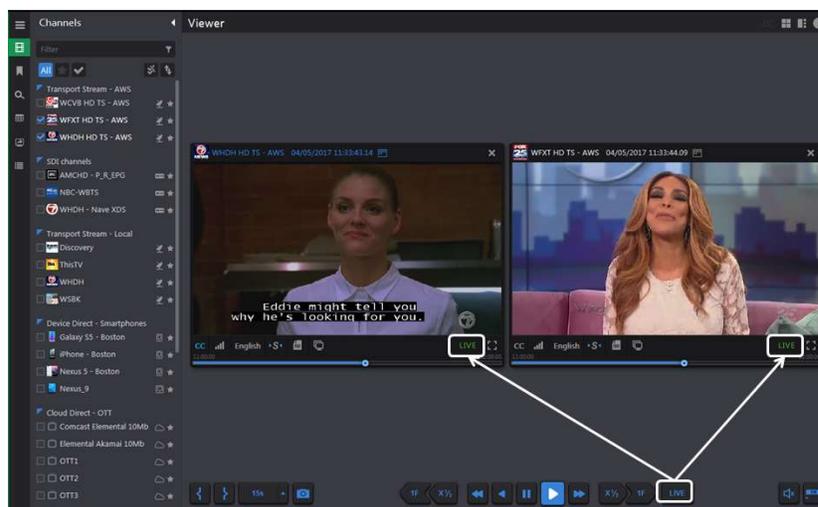


Figure: Simultaneous Control

4.1.5.1 Volume Control

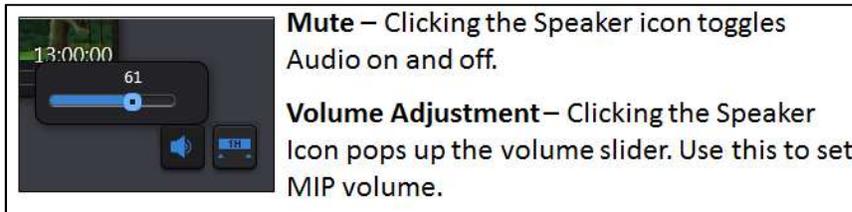


Figure: Volume Control

Use the volume control, located in the lower right hand corner of the page, to set or mute audio. If you have multiple video streams open, you only hear audio from a single stream. Left clicking inside any open video stream enables audio for that stream and mutes the others. The Channel name turns blue to indicate the active audio channel.

4.1.5.2 Seeking Within a Program

The MIS Media Player video feeds do not have a finite end to the video stream like other internet based video streams. Therefore, we cannot count down to the end of currently playing video. Instead the seek bar is used to select a time duration. Once selected the value is displayed in the Seek bar as a reminder.



Figure: Seek Control

Clicking anywhere on the **<Seek>** bar resets the program to a new time relative to the duration of the **Seek** bar. If the program has been recorded you can easily seek forward or backward in time. When the program reaches the end of the **Seek** bar duration the bar is automatically reset to the next interval, either forward or backward in time.

Click on the **Seek Time** button at the lower right hand corner to change the duration of the seek bar.

Time info is displayed at the top of the player. To return to the most recent content, click the **<Live>** button and all video streams will begin playing live content again. Each open window may be individually controlled in the same manner by clicking on the **<Live>** icon within the individual video player.

4.1.5.3 Live Program Time Accuracy

In this context “live” means “real time to MIS.” MIS ingests live video, transcodes it, stores it, and streams it out to you as an end user. This process takes a few seconds. Thus, the “live” feed is several seconds behind real time.

Due to the time it takes MIS to ingest the video stream and the accuracy (or lack thereof) of your PC real time clock, the time displayed on the live video stream may lead or lag the time on your computer by several seconds. The size of the difference is a combination of the time it takes MIS to ingest the video stream and how accurate and often your PC is synchronized to an NTP server.



Figure: Time Accuracy

4.1.6 Player Thumbnails

A few moments after the video begins playing you may see it resize and thumbnails populate below the video. Thumbnails are only displayed when viewing a single channel and if the service has been enabled by your MIS administrator. With a recorded program you can use thumbnail storyboard to quickly move forward and backward in time. With a live program, obviously, you are only able to move backward.

At the end of the seek interval the thumbnails are automatically updated with the next time increment.



Figure: Recorded and Live Thumbnails

4.1.7 Stream Advanced Actions Bar

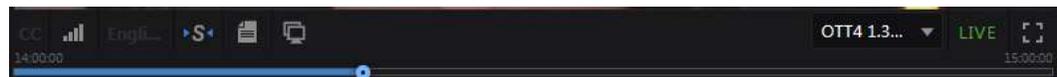


Figure: Advanced Actions Bar

MIS provides you with several tools for managing individual Video Streams within the Video Stream window itself. Located below each player window is the advanced actions bar. From right to left these actions are:

- **Closed Captions** – Display closed caption text.
- **Audio Loudness Meter** – Displays audio level bar chart.
- **Lang** – Selects audio track. Greyed out if there is only a single audio track.
- **Synch to Me** – Forces other players to the same time as this one. Only visible when watching more than one program.
- **Metadata** – Displays various metadata about the program.
- **Clone** – Open another viewer with the same program.
- **Resolution** – If program is available in more than one resolution or bitrate use this icon to select. Only visible if more than one version of the program is available.
- **LIVE** – **green** when live, white for recorded program. Clicking this icon will change the player to Live. Does not affect other players.
- **Full Screen** – Changes program in full screen. Press <ESC> to return.

4.1.7.1 Closed Captioning

You can turn Closed Captioning on or off for individual Video Streams by using the <CC> button in the lower left portion of the viewer window. If the stream is not configured for Closed Captioning the CC button is greyed out.

The default Closed Captioning setting (on or off) can be set from the Preferences section of the MIS tool bar. This is explained in the Tools section of this manual.

MIS always captures the CC data if the admin has configured it to do so, which allows you to go to any point in time and view it. When MIS displays the Closed Caption text, it conforms to the SMPTE profile of W3C Time Text Markup Language which preserves the: position, transparency, font, color, and timing.



Figure: Closed Captioning

4.1.7.2 Loudness Meter

The loudness meter displays real time audio loudness in bar graph format.



Figure: Loudness Meter

4.1.7.3 Audio Language

If the program supports multiple languages or numbers of audio channels, use this button to select the desired version. The loudness meter automatically reflects how this option is set.



Figure: Language Selection

4.1.7.4 Sync to Me

If you have several Video Streams open and need to know what each Video Stream was displaying at a specific date and time, you can move a single Video Stream to a specific date and time and then click the **<Sync to me>** button. MIS will set all open Video Streams to match the date and time of your selected program.



Figure: Sync to Me

4.1.7.5 Metadata

The data stream contains additional information about the program; this is called metadata: data about the data. Clicking the **<Metadata Information>** icon allows you to select metadata sets associated with the video stream. Available metadata will vary depending on the specific channel.



Figure: Different Channel Metadata Menus

Video and Audio Metadata displays the video codec, resolution, bits per second, frames per second and audio sampling frequency of each Video Stream. The audio status displays the metadata for selected active audio if the program includes multiple audio tracks such as English and Spanish.

If the Closed Caption display is turned on the CC: field lists details about CC; otherwise it is listed as: None.



Figure: Video and Audio Metadata

XDS if present in the Video Stream: displays the source, title and program rating.

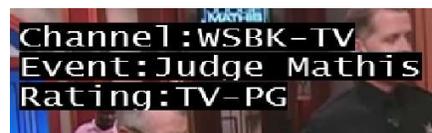


Figure: XDS Metadata

NAVE (Nielsen Audio Video Encoder) Watermark if the Video Stream you are watching carries a NAVE watermark, this option will display that metadata.



Figure: NAVE Watermark

Audio Loudness displays the audio regulatory environment from which the Video Stream originated. If the channel includes multiple audio versions the active one is displayed.

Intv	Algo	Loud	LRA	TruePeak
10s	70-3	-26.2	2.1	-11.0
15s	70-3	-25.8	2.2	-11.0
20s	70-3	-25.4	2.2	-11.0
30s	70-3	-25.4	2.4	-11.0
45s	70-3	-25.4	2.1	-10.9
1.0m	70-3	-25.3	1.9	-10.9
1.0h	dial	-26.9	4.00	-9.88
6.0h	dial	-26.8	3.79	-9.44
1.0d	dial	-26.8	4.07	-8.52

Figure: Audio Loudness Metadata

AC3 Properties is the technical name for Dolby Digital Audio Compression. It has been standardized by the Advanced Television Systems Committee (ATSC), and is used for the efficient encoding of surround sound. If your Video Stream is carrying AC3 information to create surround sound, choosing AC3 will display that metadata.

SampleRate=48000
CodingMode=7
BitRate=384000
ChannelCount=5
LFEChannel=ON
DialNorm=27
CenterMixLevel=0
SurroundMixLevel=0

Figure: AC3 Metadata

AFD (Active Format Description) is a standard set of codes for television or set-top-box decoders. AFD displays that metadata on your Video Stream. The AFD information instructs the MIS as to what specific format is being sent, either 4:3 or 16:9. Since programs can vary in format in a given stream, the MIS will use the AFD to adjust the format dynamically for display.



Figure: AFD Metadata

DPI (Digital Program Insertion) allows cable headends and broadcast affiliates to insert locally-generated commercials and short programs into remotely distributed regional programs before they are delivered to home users. If your Video Stream is displaying locally generated programming, you can see its parameters by observing the DPI metadata.

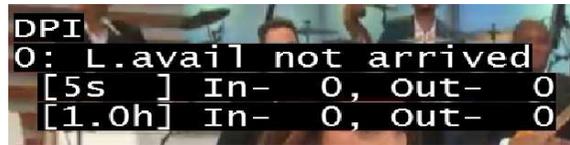


Figure: DPI Metadata

Input Name displays the name of the MIS input used to ingest the stream.

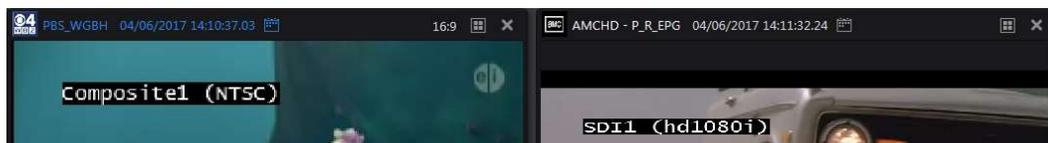


Figure: Input Name Metadata

4.1.7.6 Clone

The Clone function  allows you to open multiple viewers displaying the same video stream. Once opened each stream may be set to a different date and time and display different metadata. In the example below a Live stream is displaying both English and Spanish audio loudness.

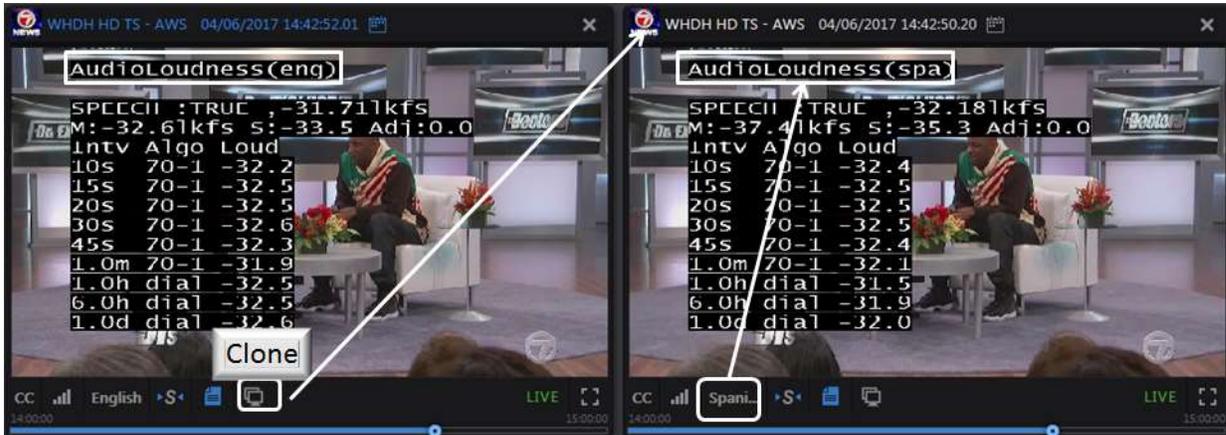


Figure: Player Cloning

4.1.7.7 Resolution

If the program is available in more than one bit rate or resolution use the pulldown to select the desired version.

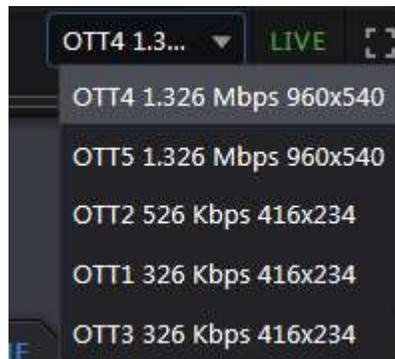


Figure: Program Resolution & Bit Rate

4.1.7.8 LIVE

The  icon at the bottom right of each player is green if a program is live and turns  white when playing recorded material. Use the calendar feature at

the top of the screen to select a recorded program. Clicking the **LIVE** icon on each player toggles that player between live and recorded.

Pressing the **Live** button at the bottom of the page switches all players to real time view.

4.1.7.9 Full Screen

The full Screen icon  expands the viewer to full screen. If multiple viewers are active only the viewer selected for full screen is expanded: the others are unaffected. Pressing the **<ESC>** key reverts back to normal view.

4.1.7.10 Manual Tuning Mode

Normally MIS permanently assigns a Probe ingress port to each channel. Optionally one or more ingress ports may be configured for manual control using a virtual set-top-box. This allows the viewer to be switched between multiple programs. Channels thus configured will have a  set-top-box icon left of the **<Favorites>** star.

When using this feature the player connects in **Live** mode and most player controls are locked out except for volume and hour span. A list of predefined services (i.e. channel names) opens between the Channel dashboard and viewer. Clicking on a service name changes the viewer to that channel.

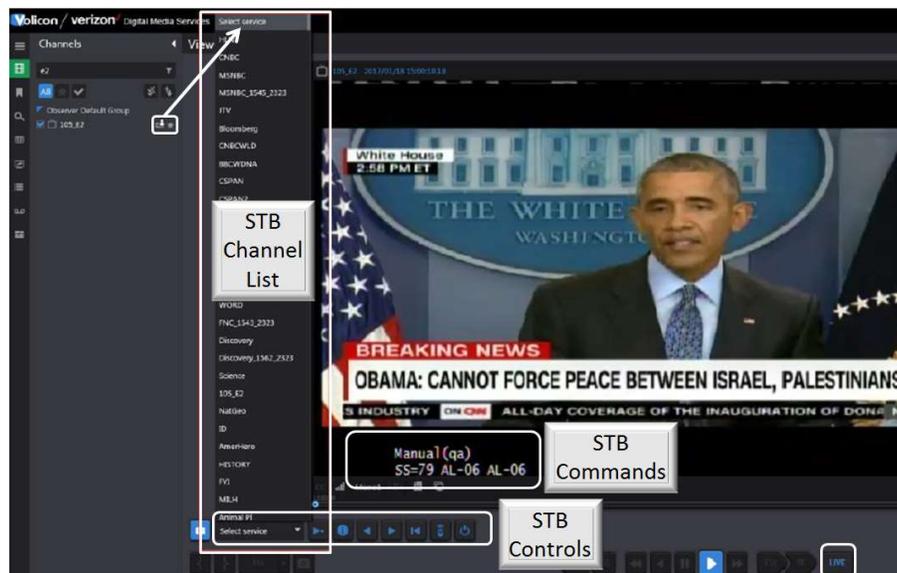


Figure: Manual Tuning

When this feature is activated a remote control tuning bar is displayed above the normal player controls. From Left to right controls are as follows:

Services	Connect to the named channel displayed to the left of the viewer
Command	Text box used to enter commands directly into the STB. The text box is immediately below the video in the viewer.
Enter	Execute text box commands
Info	STB displays info about current program
Previous	Switches to previous channel
Next	Switched to next channel
Last	Switches STB to last view channel
Remote Control	Displays image of remote control (optional)
Power	Switches STB between normal and standby

Table: STB Tuning Controls

Virtual Remote Control

The system may be configured with a virtual remote control. In that case an image of the STB remote control appears to the right of the player. Hover over a function and click just as if using a real remote.



Figure: Virtual Remote Control

Manual Mode Control Options

An ingress port configured for manual mode may be in one of several states. In addition to direct user control MIS allows the recording of specific channels and programs to be performed automatically under scheduler control.

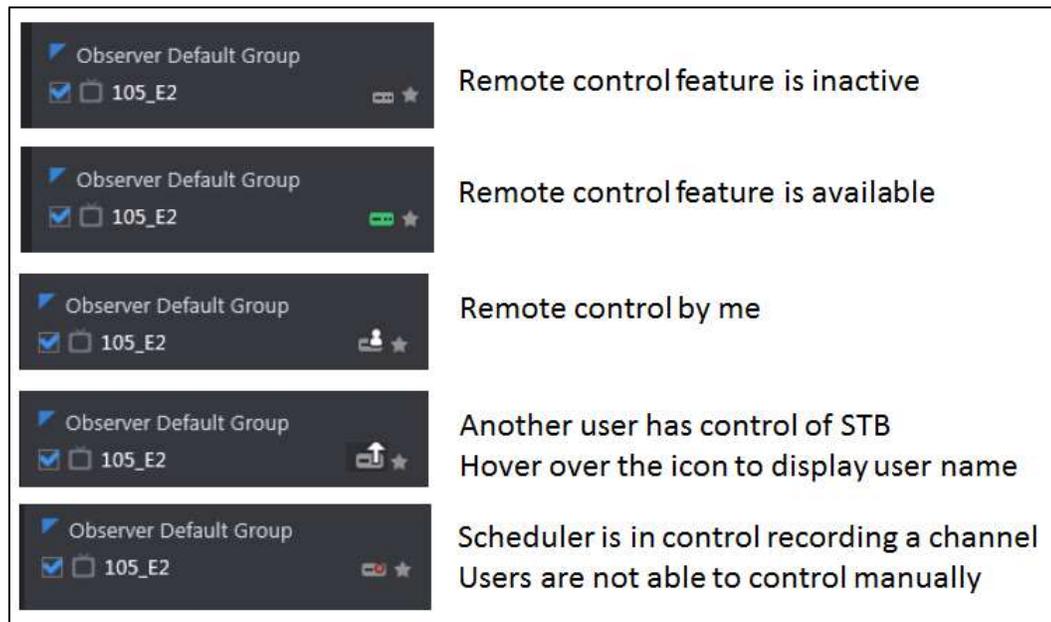


Figure: Manual Mode Operational Modes

Scheduler – MIS is able to automatically control the STB, this feature is typically configured by your MIS administrator.

4.1.8 Storyboard View

The Storyboard feature works when viewing a single channel. Open the player and click on the **<Storyboard>** icon at the upper right corner of the player. The player will reduce in size and move to the left. The right hand side of the screen is populated with storyboard thumbnails. Use the icons at the top of the storyboard to select the storyboard duration and to move forward or backward in time.

Click on a thumbnail to have the player move to that frame. To exit click on the in the upper right corner of the screen.

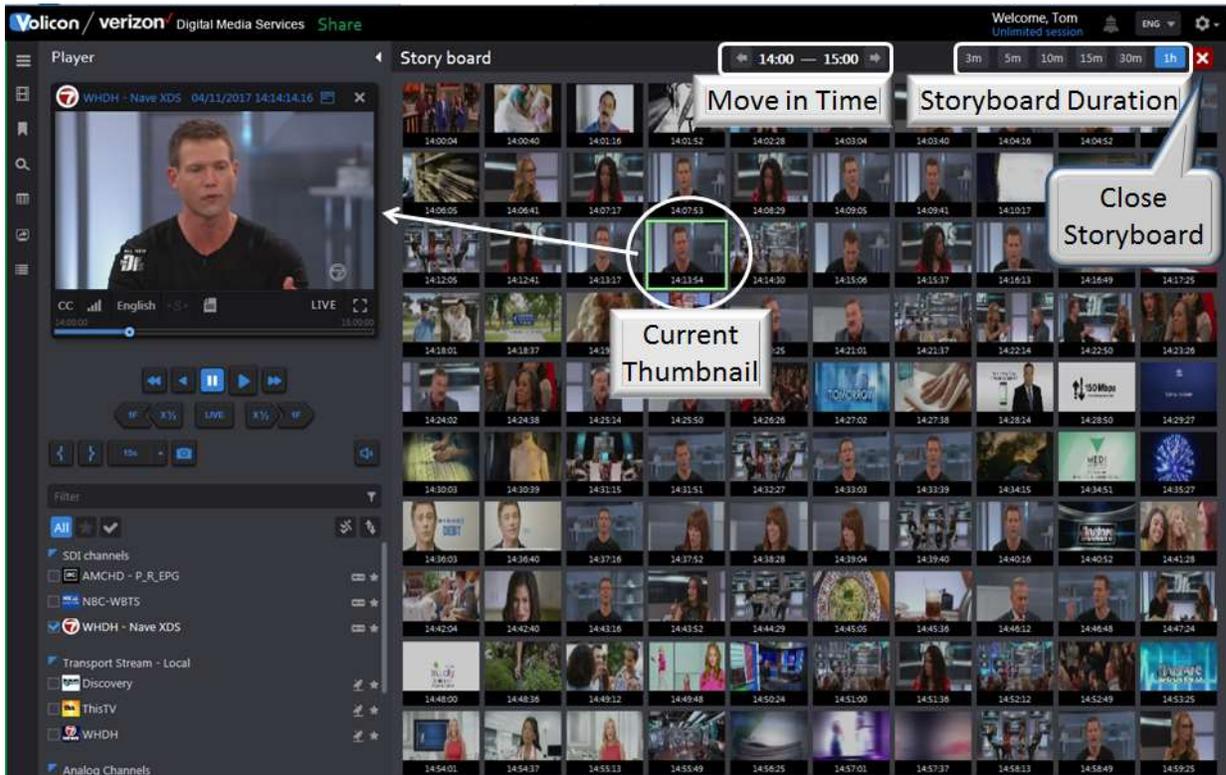


Figure: Storyboard View

4.1.9 Snapshots

Clicking the camera icon  (located lower left side of the screen) creates a JPG of the active player. The storage location defaults to the browser download setting. MIS automatically creates an alphanumeric file name consisting of the channel name and sequence number. You can override the default location and the file name by using the **Save As** pulldown.

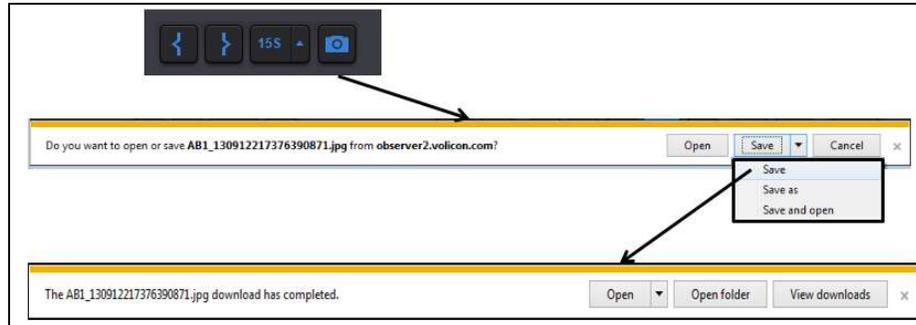


Figure: Create a Program Snapshot

Once saved the image can be manipulated and shared as any other picture.

4.1.10 Bookmarks

MIS allows you to identify portions of your video streams, called Bookmarks, and stores those identifications for future use. Creating a Bookmark does not create a unique copy of the video; it simply marks a portion of a video stream and is available for as long as that particular channel stream is archived within MIS.

The term “clip” can be misleading, as it implies that when you create a clip you are choosing content, cutting it out of the stream (or perhaps making a copy of it), and storing it somewhere else. MIS does **not** use this process for clip generation. Instead, MIS creates a “clip” by inserting bookmarks at the start and at the end of your chosen content. It stores those bookmarks along with the streams themselves in your main storage folder. When you call up a clip, MIS uses those bookmarks to rapidly search your stored content to play the stream you are looking for.

This process provides many benefits.

- Rapid retrieval of content you have identified and clipped
- Because the clips are actually bookmarks inserted in the main stream, you can create as many clips as you like without consuming any of your storage space. This allows you to save metadata along with segments of video.

- Allows you to export a permanent copy of content from MIS to your PC/laptop

MIS stores clips for the same amount of time as the video is stored. After that time, the clip and any associated video will be deleted.

For example: you create a clip from live content. If content is retained on MIS for 90 days, clips will be stored for 90 days. If you created the clip from 60 day old historic content, the clip will be stored for the next 30 days. The clip will be saved on the system based on the origination of when the video was logged, not from when the clip was created.

MIS allows you to search manually for the content you wish to bookmark. You can create individual clips by marking the video stream. You can also create multiple clips at once by opening multiple streams. For example, if you **<Mark In>** and **<Mark Out>** with four streams open, MIS will create four clips.

4.1.10.1 Setting Bookmark Length

Using the **<Mark out>** button lets you manually set bookmark length. Clip length may also be preset. Clip length is relative to the start time. That way you can easily create bookmarks that even begin before you click **<Mark In>**. To define clip length press the **<up>** triangle located to the right of the **<Quick Clip>** button. Select the desired clip length. Once you select a length it is displayed on the face of the **<Quick Clip>** button.



Figure: Setting Bookmark Length

4.1.10.2 Creating a Bookmark

Consider a circumstance in which a customer wishes assurance that their commercial did, in fact, play at 4:13 PM on WFXT. Start by calling up the WFXT stream. Use the **<calendar>** function to select to desired date and time.

Press the **<Mark In>** button to initiate the clip creation process. To mark the end of the clip you have two options. Pressing the **<Mark Out>** button manually terminates the clip. The other option uses the **<Quick Clip>** button to the right of the **<Mark Out>** button. As a reminder it displays the preset clip length.

The player control buttons allow stepping forward and backward on a frame by frame basis enabling you to precisely mark the section of interest.

If you have multiple players open MIS creates a bookmark of each one. The bookmark is relative to the current seek time so individual players do not need to be set to the same time or date.

4.1.10.3 Bookmark Clip Management Pane

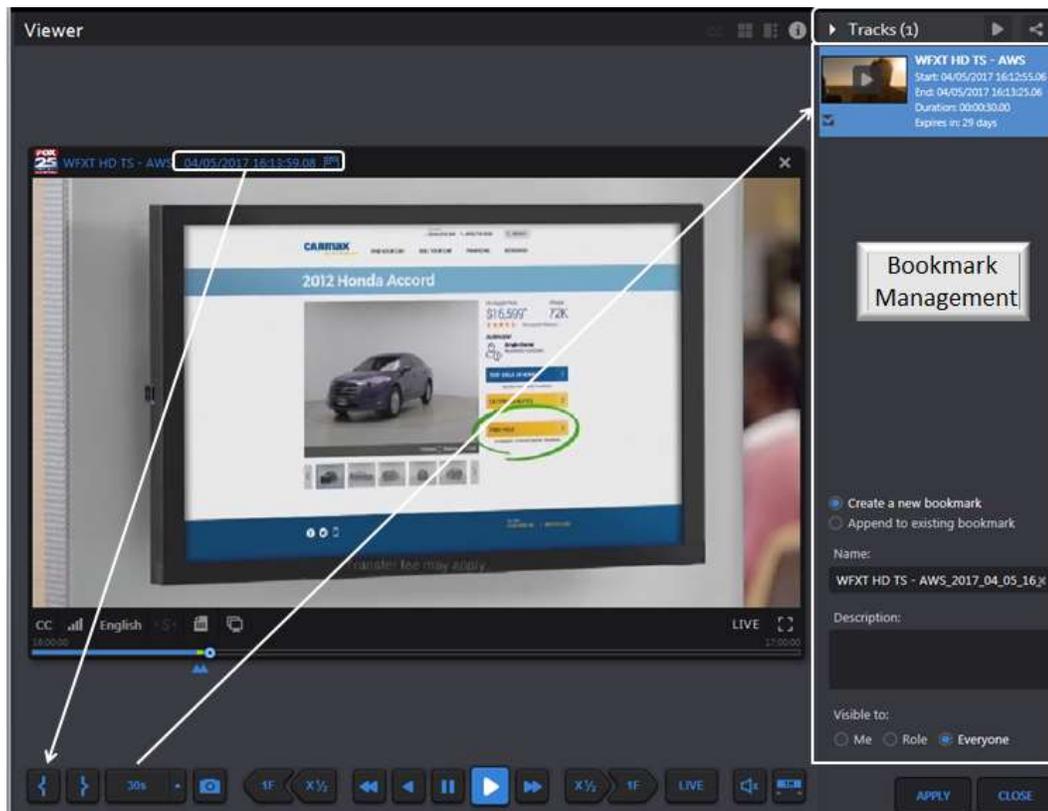


Figure: Bookmark Creation

When the <Mark In> button is pressed the Viewer automatically opens the Clip management pane on the right hand side of the screen.



Bookmark Control Pane

From left to right the controls are as follows.

Triangle –collapses and expands the management pane

Tracks (x) –denotes number of bookmarked tracks in the pane.

Play – plays the track if there is only one or plays the next track if there is more than one; when the last track is played goes back to the first. Each time the button is pressed the next clip is played.

Share all tracks as one –if there are multiple clips, combines them into a single group. Except for grouping the **Sharing** feature is the same as under the individual clip.

4.1.10.4 Individual Bookmark Clip Controls

There are several controls that apply to individual clips. Position the mouse cursor over the clip preview frame to activate the additional controls.

From left to right the controls are as follows:

Play – plays the individual clip

Share Track – publish clip to external sites. The sharing options are set via **Tools**→ **Settings** option

Export Track – this feature allows you to copy the clip to your PC

Trash Can – delete the bookmark

Edit Track – allows you to make changes to the bookmark

Start – jump to beginning of the bookmark

End – jump to end of the bookmark

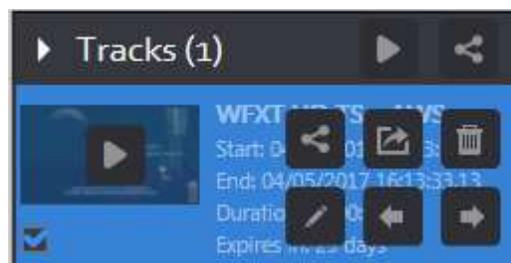


Figure: Bookmark Controls

4.1.10.5 Saving and Naming Bookmark Clips

The lower portion of the Tracks Pane lets you name the clip and determine who has access to it.

Immediately below the thumbnail(s) are two radio buttons, **<Create a New Bookmark>** and **<Append to Existing Bookmark>**. Create is the default. When you save the clip(s) a new bookmark will be created; if the **Append** option is selected the new clip(s) will be appended to an existing bookmark. Begin typing the name of an existing clip in the **<Name>** field. As you type MIS will displays a list of matching clip names. Keep typing until the desired clip is displayed or use the mouse to highlight the one you want.

Name: – defaults to the channel name with date and time appended. If multiple clips are created **Name:** is that of the first clip. To change the name hover the mouse over the text string and left click. An **X** will appear to the right of the name. Click on the **X** to delete the text and type the new name. To edit the name position the mouse over the location you want to change and insert the new text.

Description: – enter text to further identify the purpose of the clips.

Visible to: – defaults to **Everyone**. Select **Me** or **Role** to change who has access to the Bookmark.

Apply – saves the clip(s). To view the clip(s) press the **Bookmark** button at the left of the screen.

Close – closes the clip Bookmark management pane, any unsaved bookmarks will be lost.

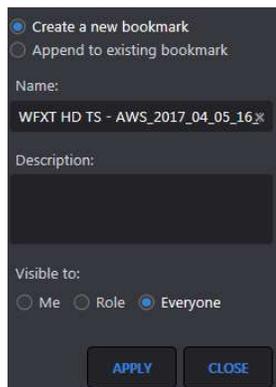


Figure: Create Bookmark

When you click **<Apply>** the bookmark is added to the Bookmark list. This will be discussed in detail later. A confirmation bar appears at the top of the page.

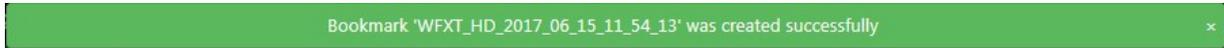


Figure: Bookmark Confirmation Message



Figure: Saved Bookmark

4.1.10.6 Publishing and Exporting Clips

The Share and Export options are used to publish clips to a third party or save them on your PC. There are two slightly different versions of the buttons. At the top of the clip management pane the Share All and Export All buttons combine multiple tracks and publish them as a single entity. The feature requires the combined clips are all derived from the same channel.

Sharing Clips

Pressing the **<Share>** icon opens another window allowing you to select how the clip is shared and to select and modify the thumbnail. This feature requires the Volicon CEM export module.

Clip Title and Description

If desired the title and description may be changed at any time.

Selecting and Cropping the Thumbnail.

By default the thumbnail is the first frame of the clip. If you want to use a different frame press the **<Select Thumbnail>** button below the player. This expands the player and allows you to move the frame cursor. When you have selected the desired frame press the **<Capture>** button to replace the default thumbnail. MIS allows you to crop the thumbnail. Press the **<Crop>** button and

adjust the borders of the crop outline. At the bottom of the crop box press the  checkmark to save the thumbnail or the  X to exit without saving.

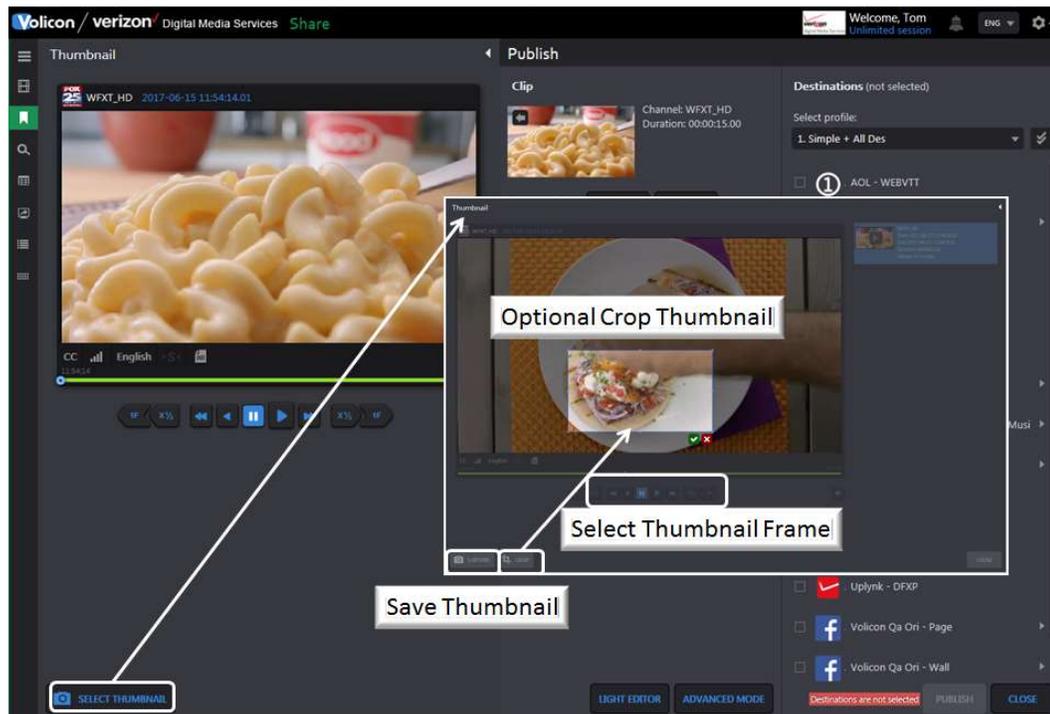


Figure: Changing and Cropping Thumbnail

Saving a thumbnail to your PC

The **<Download>** and **<Upload>** buttons allow you to download the thumbnail image to your workstation, modify it, and then upload it back to MIS. This enables you to do things like incorporate a corporate logo or add annotation as shown in the example above.

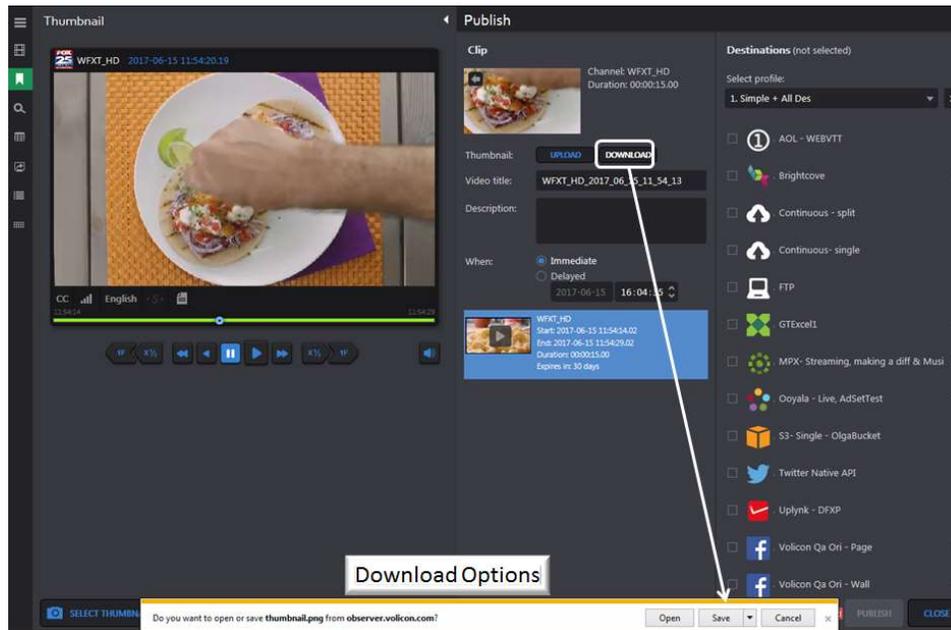


Figure: Download & Upload Thumbnail

Share Light Editor

The Share Light Editor enables you to add: Intro, Outro, Slate, Fade in, Fade out, and splice tracks. It is discussed in detail in the Asset Management section.

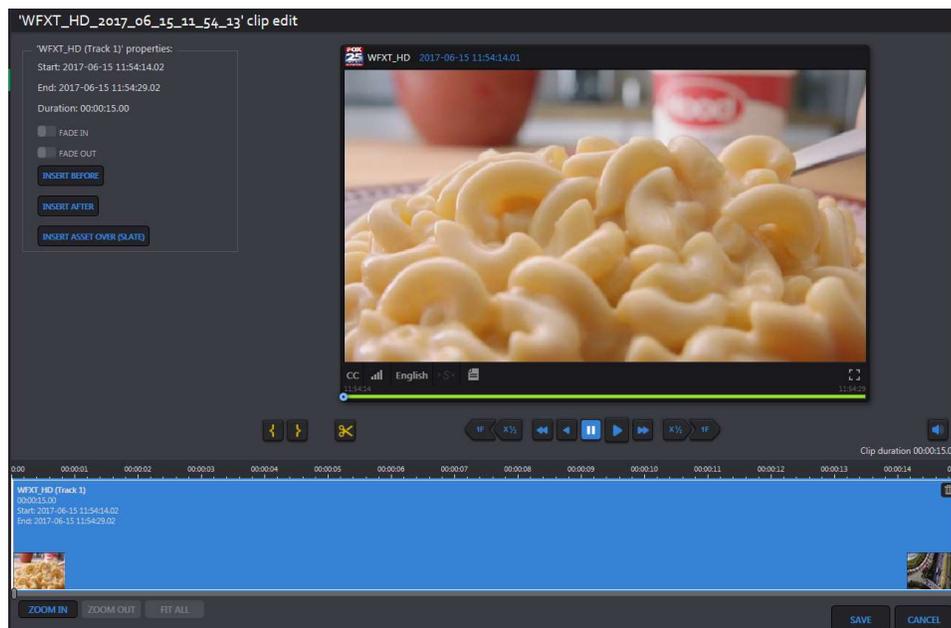


Figure: Light Editor

Advanced Mode/Simple Mode

Clicking the **<Advanced Mode/Simple Mode>** button at the bottom of the center panel toggles between the two modes. **<Simple Mode>** is the default. **<Advanced Mode>** opens another panel to give you greater control over the clip. Clicking **<Simple Mode>** resets the center pane.

- **Transcoding** – Use the pulldown to save clip in a different video format.
- **Streams** – Defaults to both audio and video. Unchecking audio or video deletes that from the clip.
- **Default Video** – If there are sub encoders configured for this channel use this option to select different resolution/bandwidth.
- **Closed Captions** – include closed captions with the clip. If stream is not captioned an error message appears if this option is selected.
- **Metadata** – selects metadata to include with the clip.
- **Resolution** – pulldown to select the desired resolution.
- **Target Bitrate** – pulldown to select the desired bitrate.
- **Timestamp** – Allows you to burn a timestamp to the video and select a different time zone.
- **Banner** – Uploads a file. Use the Alignment arrows to position the banner and the Transparency option to select transparency. The Width: and Height: option let you control how much of the screen is occupied by the banner.
- **Maximum Time Accuracy** – Gives accurate frame by frame time in the export file.

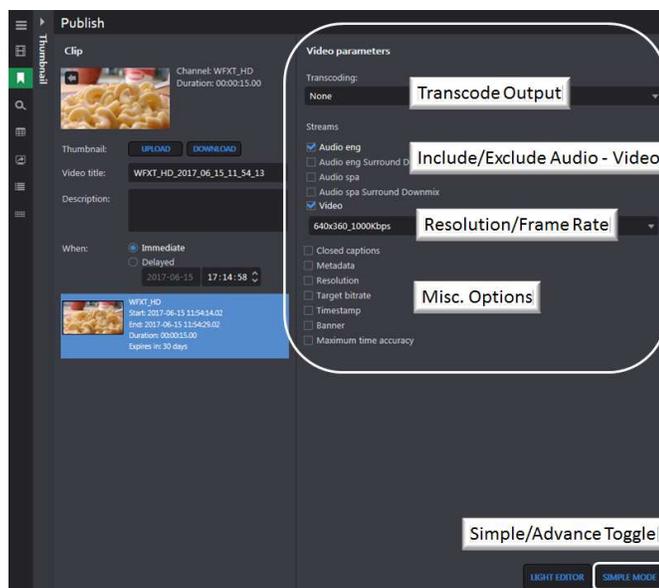


Figure: Advanced Mode

Publish Clip

When publishing a clip the default setting is Immediate. If desired you can specify a delay. Once set MIS will automatically publish the clip at the specified date and time.

Destinations are grouped by **<Profile>**. Select the profile and one or more destinations. A single clip may be sent to multiple destinations simultaneously. Some destinations allow the entry of additional information, denoted by a triangle to the right of the name. Click the triangle to open the dialog box. Enter the relevant information and click **<OK>** or **<Cancel>**. Then press the **<Publish>** button at the bottom of the page.

Status messages appear at the top of the screen announcing **Publish** has started and whether it not it was successful. These announcements will close after a short period. Publish destinations are typically configured by your MIS administrator rather than individual users.

At the top of the left hand pane are the **Export duration** and **File Name** tags. Duration information is read only. The bookmark name defaults to channel name and time stamp. If desired you can change it to something more descriptive.

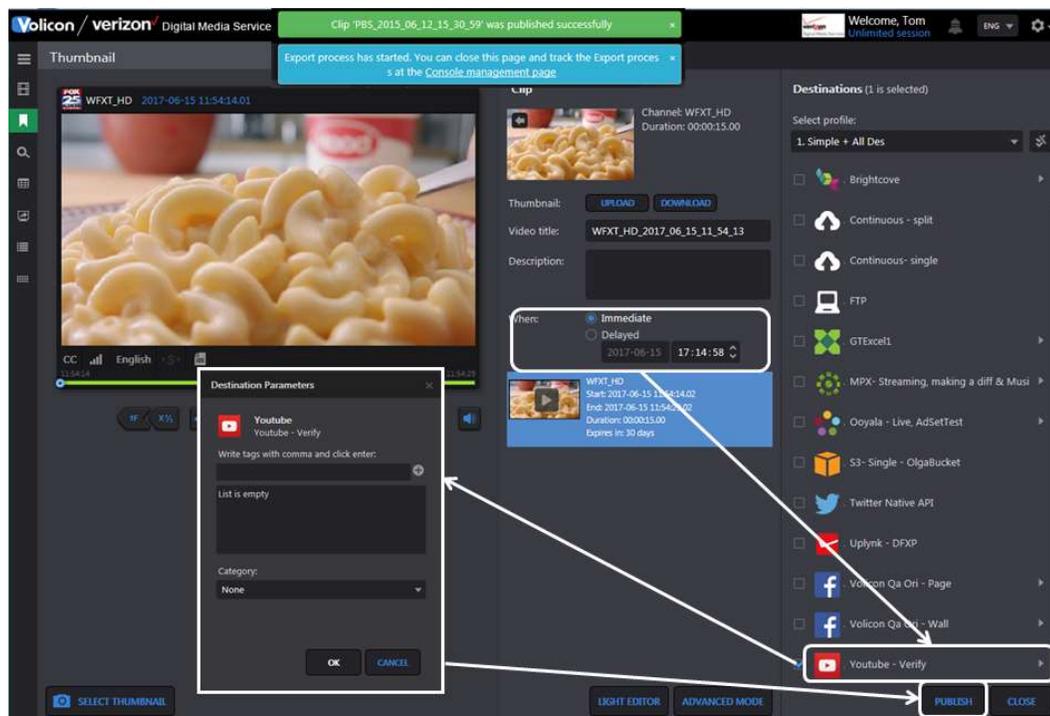


Figure: Publish Clip

Export Clip – using Internet Explorer

This feature works much the same way as publishing but allows you to save the clip to your PC. When using IE pressing Export opens a dialog box allowing you to select the location and specify how the clip is encoded. A completion message is displayed once the clip has been saved.

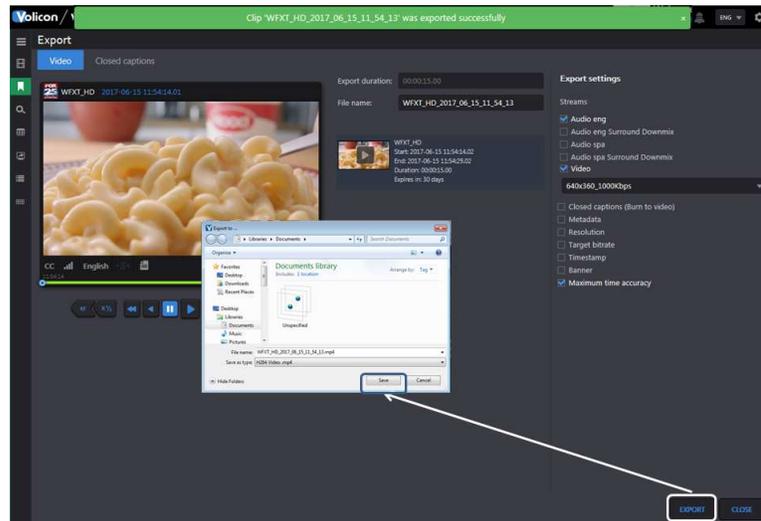


Figure: IE Clip Export

Export Clip – using Volicon CEM

When using other browsers the process is slightly different; the clip is saved on the CEM server. The server generates a link allowing the user to access the clip.

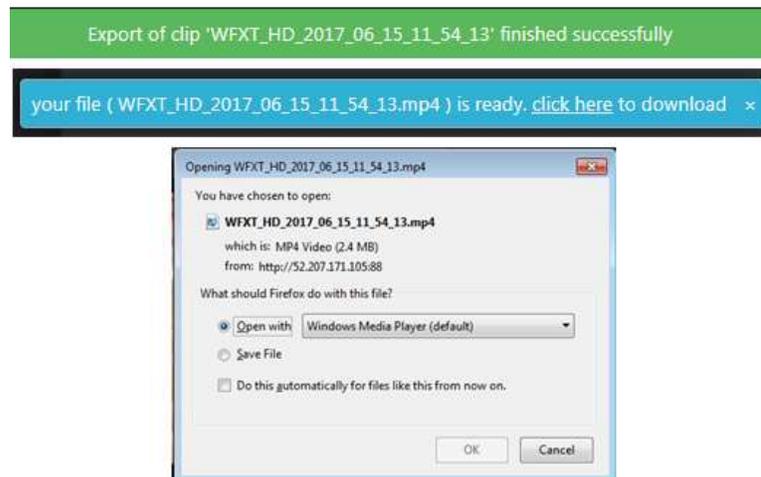


Figure: CEM link to Saved Clip

4.2 Bookmarks Tab

Bookmarks are short sections of video. MIS allows bookmarks to be private accessible to just you, accessible to everyone or limited to particular roles.

4.2.1 Managing Bookmarks

To access your bookmarks click on the **<Bookmarks>** icon in the left hand pane.

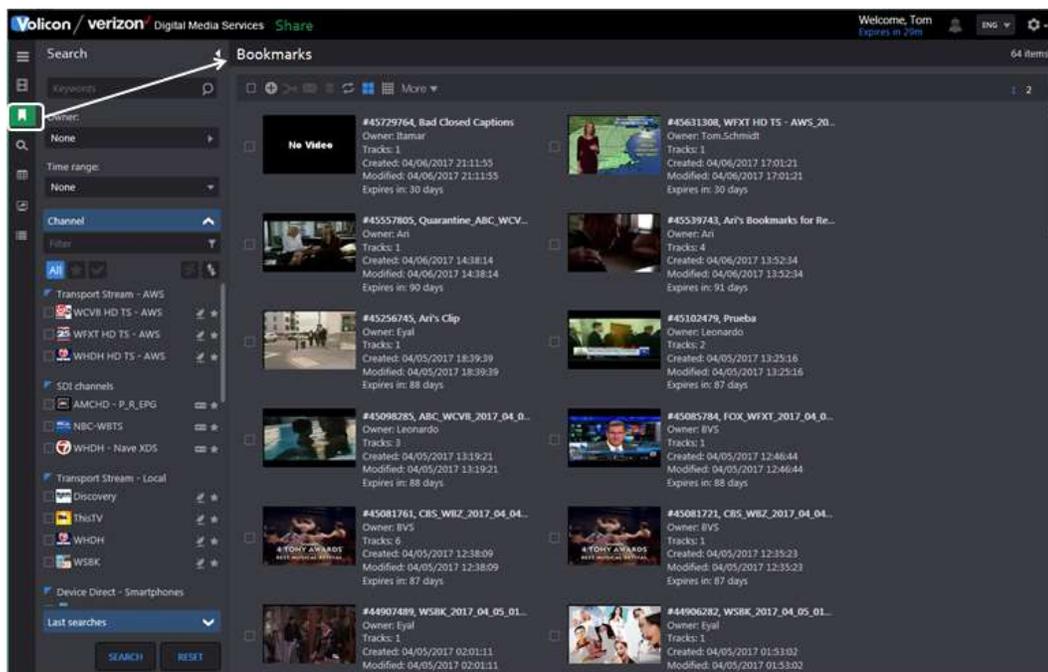


Figure: Bookmarks Page

This will display not only your bookmarks but any bookmarks that others have chosen to share with you.

4.2.1.1 Searching Bookmarks

The left hand search pane allows you to select only those bookmarks of interest. Search criteria include:

Keyword – Searches words in the bookmark description.

Owner – Account name of the person who created the bookmark. MIS does smart matching as you type the account name so you don't have to type the entire name.

Time Range – limit search to date bookmark was created or modified or to a video time range.

Channel List – restricts search to specific channels. The feature may be expanded or collapsed by pressing the chevron on the right. Typing all or part of a channel name into the **Filter** text box limits the display to matching channels.

Last Searches – remembers the last 5 searches; this feature may also be expanded or collapsed by pressing the chevron on the right.

Once you have entered your search criteria press **<Search>** at the bottom of the pane. The page will be refreshed with only bookmarks that match the search criteria. To clear search parameters press **<Reset>**.

Let’s say you want to review all the Bookmarks for CBS and PBS. Expand the channel list if not already expanded and select CBS and PBS. Press **<Search>**. The page will refresh, but now it only shows bookmarks that match your search criteria. The number of matches is displayed in the upper right. In this case there are more bookmarks than can be displayed at one time so you need to use the **<Scroll>** bar at the extreme right.

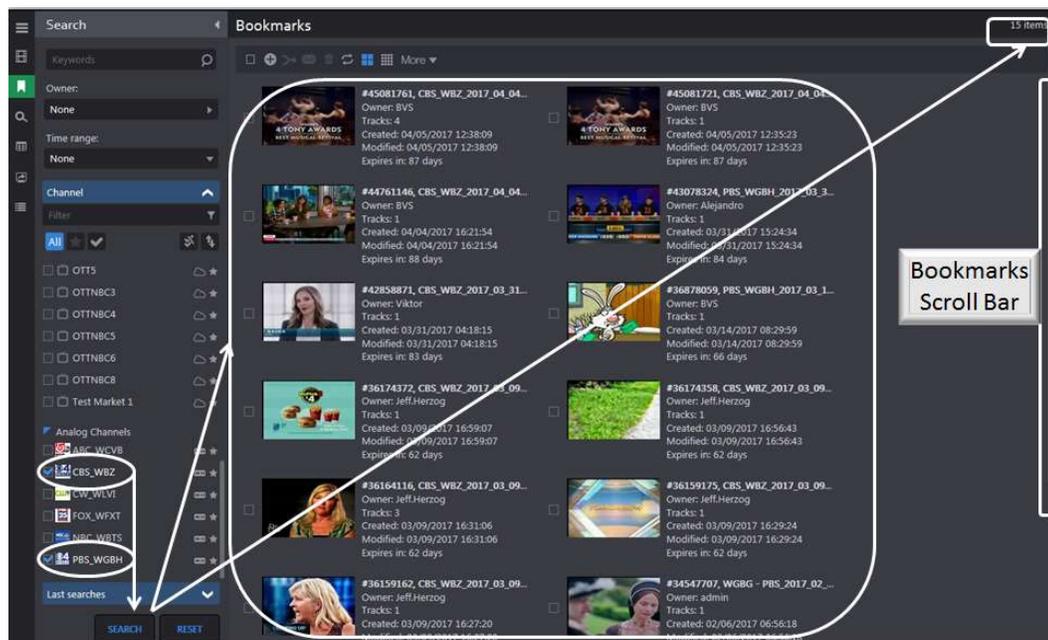


Figure: Bookmark Search Result

Note: since we searched by channel the displayed clips have multiple owners. Whether or not a particular Bookmark is visible depends on how the Bookmark owner set sharing policy.

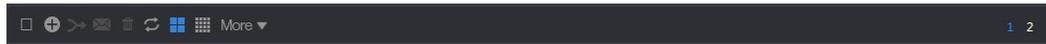


Figure: Bookmark Ribbon

The ribbon above the bookmarks provides tools to manage and combine bookmarks. Icon descriptions from left to right are:



Select/Deselect all – this is useful if you need to merge bookmarks, rather than individually selecting each one.



Add Bookmark – displays channel list allowing you to select a channel, time, date to create a new bookmark.



Merge – combines multiple clips into one. This edit feature operates the same as when the clip was first created.



Send Select Bookmarks – email bookmarks to specific entities.



Delete – deletes all selected bookmarks.



Auto Refresh – automatically updates the page every 30 seconds.



Grid view – displays thumbnail and description of the bookmark.



List View –shrinks the thumbnail and display more information about the bookmark.



Customize Columns –only displayed in List view. Check or uncheck desired columns.

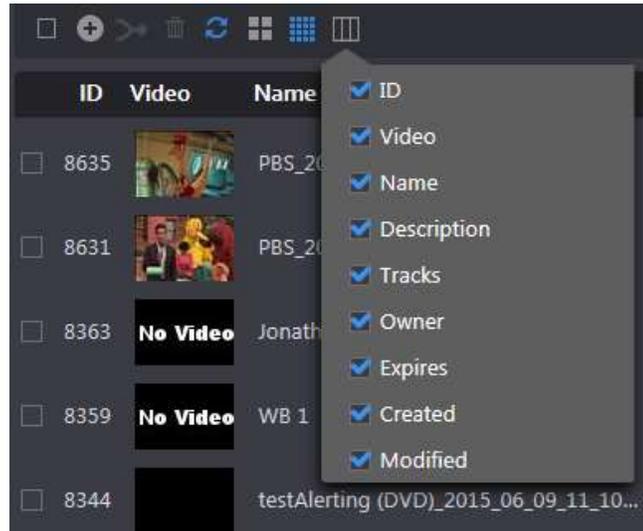


Figure: Customize Bookmark Columns



More – There are three options: **<Delete all>**, **<Deselect all>** and **<Export list>**. **<Delete all>** removes all bookmarks. If any bookmarks are selected pressing **<Deselect all>** unchecks them. Pressing **<Export List>** creates an Excel spreadsheet of all bookmarks. A dialog box appears allowing you to view or save the spreadsheet.



Figure: Save Bookmark Dialog

Page # – If there is a lengthy bookmark list that straddles multiple pages you can use these icons to go to a specific page.

4.2.1.2 Editing and Playing Bookmarks

Hover over the desired bookmark; the area surrounding the bookmark turns blue. Click the Thumbnail to play the clip. Clicking the **<Pencil>** allows you to edit the bookmark. Clicking on the **<trashcan>** deletes it.



Figure: Play/Edit Bookmark

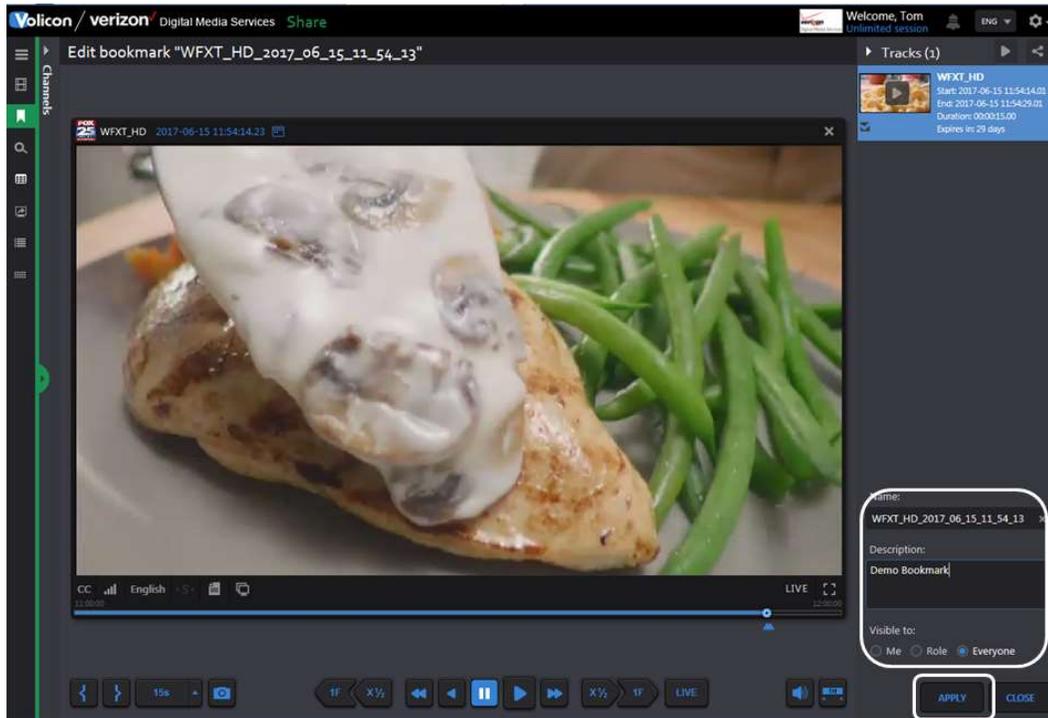


Figure: Bookmark Edit Window

Edit window functionality is identical to what you are able to do when initially creating a Bookmark: sharing, naming, visibility, etc. Press **<Apply>** to update your changes.

4.2.1.3 Sharing and Exporting Your Bookmarks

Sharing and Export works the same way in the edit window as it does when first creating the bookmark.

4.3 Closed Caption Tab

This page displays clips of programs that include Closed Caption text. When this tab is first clicked the page displays all Closed Captioned programs. The clips can be displayed in either **Grid View**  or **List View**  by pressing the appropriate icons at the top of the program list. **Grid View** displays a thumbnail of each clip, Closed Captioned text and the time and channel. In **<List View>** the icon is smaller and information about the clip is displayed in columnar format. The **<Customize Columns>** icon only appears in **<List View>** use it to specify which columns to display.

In a typical system there will be a large number of closed captioned clips; MIS lists the page numbers at the upper right of the screen. Use this feature to move through multiple pages.

Use the search feature at the left of the page to reduce the number of clips displayed.

In the example below we searched the ABC-WCRB channel for 20 second clips.

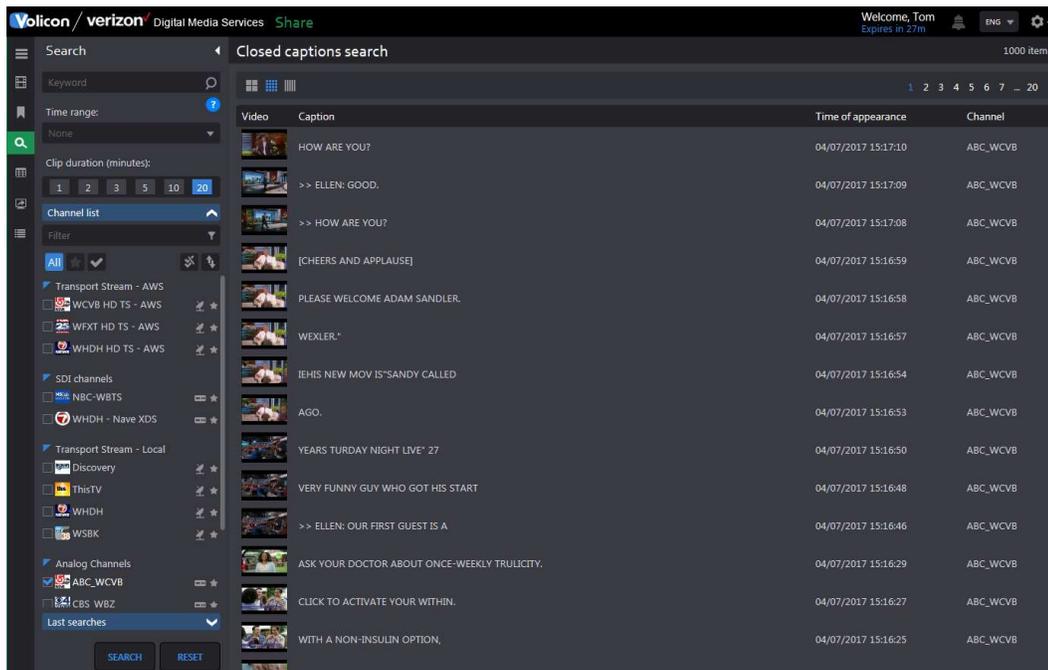


Figure: CC Search Result

Left clicking the desired clip opens up the player and displays the Closed Captioning text to the left with a movable highlight bar synchronized to the video. The clip name is displayed above the player.

While viewing the clip you are able to edit and share it with others.

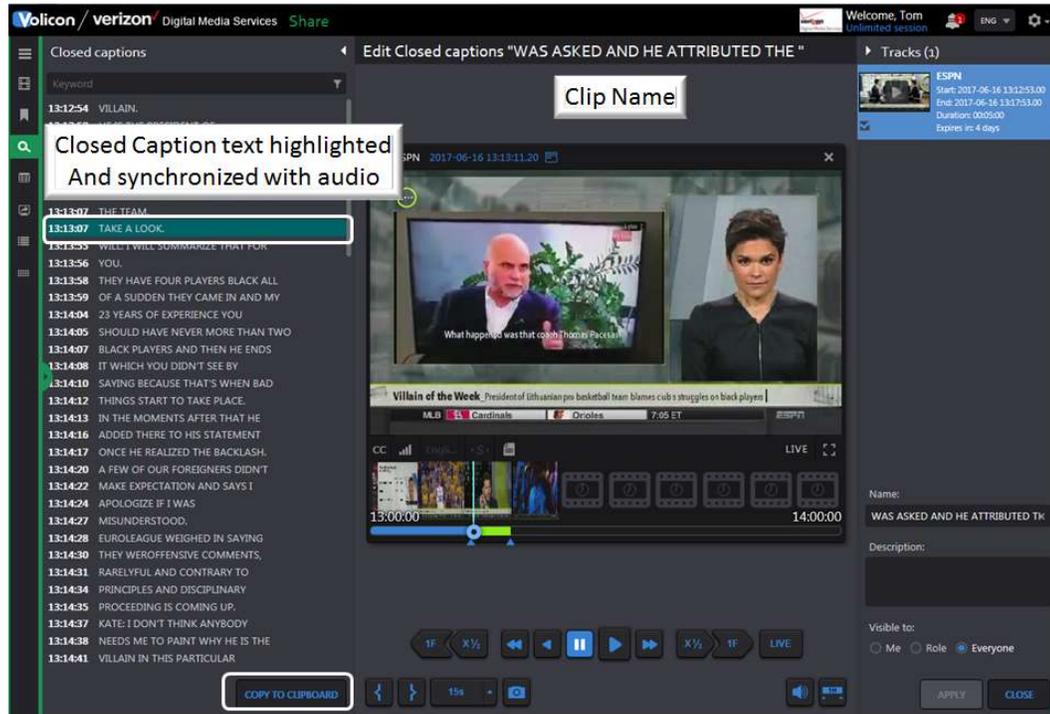


Figure: Playing Closed Captioned Clip

4.3.1 Copying Closed Caption text

At the bottom of the Closed Caption text is a **<Copy to Clipboard>** button. Pressing the button copies the Closed Captioned text from the clip into the clipboard on your computer. From there you can paste it in a document.

If this feature has not been enabled you will receive the following error message:

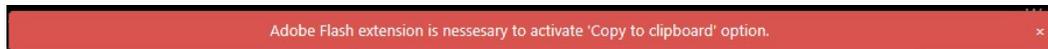


Figure: Closed Caption Paste Error

4.4 Programs Tab

Program is typically a one track clip normally used to save broadcast assets, such as commercials.

Program is usually set up by the MIS administrator in the form of as-run files. This will automatically insert programs into the system using the hot folder.

This feature works much the same as Bookmarks. You can search for a particular program. Hovering over the program opens the player and allows you to view and share it.

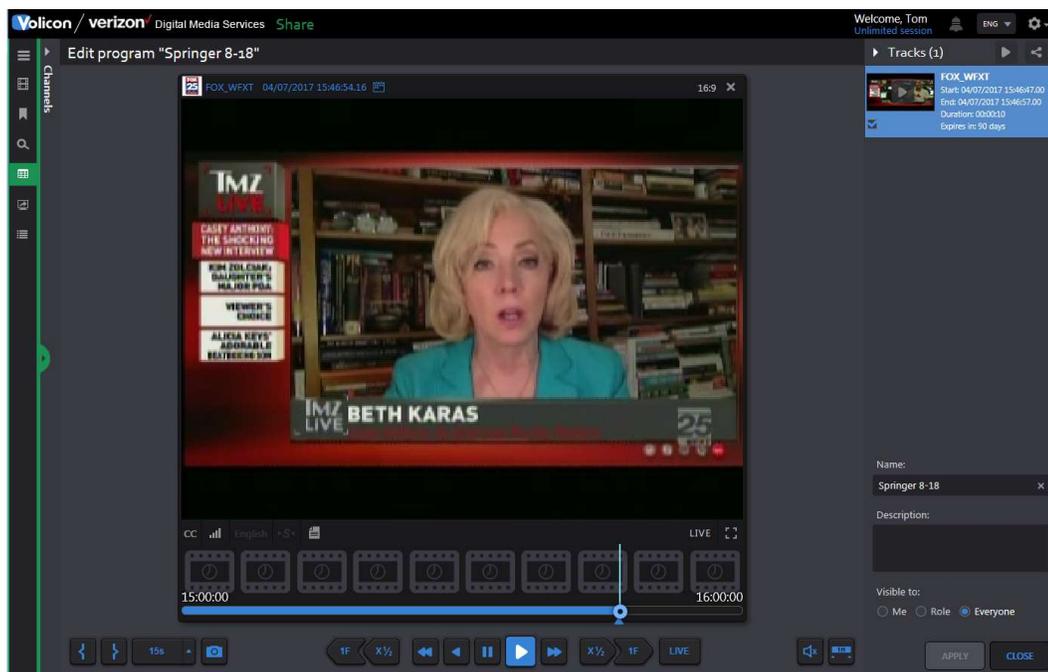


Figure: Program Viewer

To manually add a program use the  add program icon at the top of the page. This opens the New Program page. Select a channel and use the **<Mark In>** and **<Mark Out>** icons to create a new program much like any other clip.

4.5 Management Console Tab

This tab will only appear if the Content Export Module (CEM) server is installed. It displays jobs that were exported using the optional CEM server.

The **Column Selector** is used to specify what information to display.

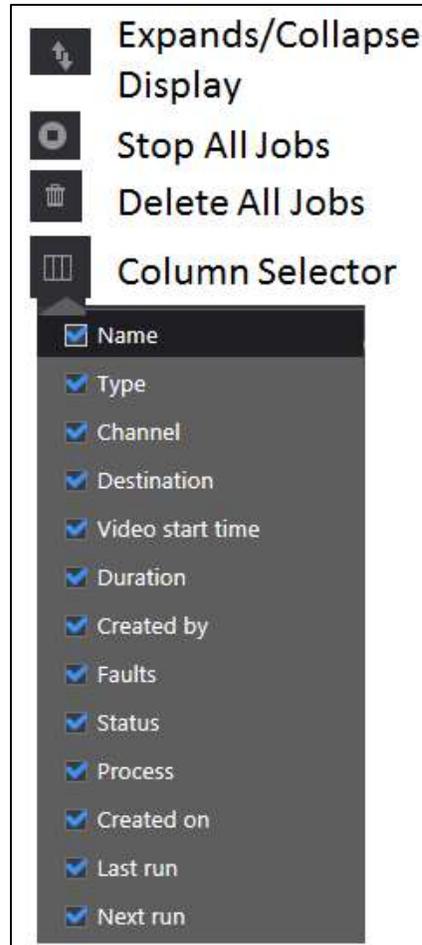


Figure: Management Console Column Selection

If the list is long numbers appear in the upper right, allowing you to quickly move to different pages. To reduce the amount of displayed information use the search function.

Management console 37 items

Name	Type	Channel	Destination	Video start time	Duration	Created by	Faults	Status	Process	Created on	Last run
+ Local Export_Quarantine_ABC_WCVB_2017_04_06_14_38_41	ABC_WCVB			04/06/2017 14:38:41	00:00:15	BVS	0/1	Completed		04/07/2017 14:33:37	04/07/2017 14:33:41
+ Ari's Bookmarks for Review_1 Simple + All Des	WHDH	Multi		04/06/2017 11:04:44	00:03:15	Ari	1/1	Completed with Errors		04/06/2017 13:52:34	04/06/2017 13:52:37
+ Local Export_FOX_WFXT_2017_04_05_11_41_55	FOX_WFXT			04/05/2017 09:39:49	00:00:30	BVS	0/1	Completed		04/05/2017 12:46:44	04/05/2017 12:46:45
+ WSBK_2017_04_05_01_42_08_1 Simple + All Des	WSBK	MPX- Streaming, making a diff & Mus...		04/05/2017 01:42:08	00:00:15	Eyal	0/1	Completed		04/05/2017 02:01:11	04/05/2017 02:01:14
+ WSBK_2017_04_05_01_49_34_1 Simple + All Des	WSBK	Volicon Qa Ori - Page		04/05/2017 01:49:34	00:00:15	Eyal	0/1	Completed		04/05/2017 01:53:02	04/05/2017 01:53:05
+ WSBK_2017_04_05_01_49_34_1 Simple + All Des	WSBK	Multi		04/05/2017 01:49:34	00:00:30	Eyal	1/1	Failed		04/05/2017 01:52:10	04/05/2017 01:52:12
+ Local Export_CW_WLVI_2017_04_03_11_15_07	CW_WLVI			04/03/2017 11:15:07	31:37:29	Eyal	1/1	Failed		04/04/2017 18:52:30	04/04/2017 18:52:47
+ CW_WLVI_2017_04_03_11_14_47_1 Simple + All Des	CW_WLVI	Volicon Qa Ori - Page		04/03/2017 11:14:47	00:00:20	Eyal	0/1	Completed		04/04/2017 18:51:40	04/04/2017 18:51:41
+ ABC_WCVB_2017_04_04_14_01_1 Simple + All Des	ABC_WCVB	Volicon Qa Ori - Page		04/04/2017 17:14:01	00:00:05	Mark	0/1	Completed		04/04/2017 17:13:56	04/04/2017 17:14:19
+ Local Export_CBS_WBZ_2017_04_04_16_05_21	CBS_WBZ			04/04/2017 14:18:12	00:02:30	BVS	0/1	Completed		04/04/2017 16:21:54	04/04/2017 16:21:56
+ Local Export_ThisTV_2017_04_04_19_23_04	ThisTV			04/04/2017 14:23:04	00:04:03	bsari	0/1	Completed		04/04/2017 14:40:35	04/04/2017 14:40:36
+ Local Export_ABC_WCVB_2017_04_04_08_01_34	ABC_WCVB			04/04/2017 07:01:34	00:00:04	Leonardo	0/1	Completed		04/04/2017 10:50:03	04/04/2017 10:50:04

Figure: Collapsed View

Management console 37 items

Name	Type	Channel	Destination	Video start time	Duration	Created by	Faults	Status	Process	Created on	Last run
- Local Export_Quarantine_ABC_WCVB_2017_04_06_14_38_41	ABC_WCVB			04/06/2017 14:38:41	00:00:15	BVS	0/1	Completed		04/07/2017 14:33:37	04/07/2017 14:33:41
- Local Export_Quarantine_ABC_WCVB_2017_04_06_14_38_41	ABC_WCVB			04/06/2017 14:38:41	00:00:15		0/0	Completed			04/07/2017 14:33:41
- Ari's Bookmarks for Review_1 Simple + All Des	WHDH	Multi		04/06/2017 11:04:44	00:03:15	Ari	1/1	Completed with Errors		04/06/2017 13:52:34	04/06/2017 13:52:37
- Ari's Bookmarks for Review_1 Simple + All Des	WHDH	Multi		04/06/2017 11:04:44	00:03:15		1/3	Completed with Errors			04/06/2017 13:52:37
- Ari's Bookmarks for Review_1 Simple + All Des_FTP	WHDH	FTP		04/06/2017 11:04:44	00:03:15			Publishing failed			04/06/2017 13:54:26
- Ari's Bookmarks for Review_1 Simple + All Des_MPX- Stre...	WHDH	MPX- Streaming, making a diff & Mus...		04/06/2017 11:04:44	00:03:15			Completed			04/06/2017 13:54:26
- Ari's Bookmarks for Review_1 Simple + All Des_Volicon Q...	WHDH	Volicon Qa Ori - Page		04/06/2017 11:04:44	00:03:15			Completed			04/06/2017 13:54:26
- Local Export_FOX_WFXT_2017_04_05_11_41_55	FOX_WFXT			04/05/2017 09:39:49	00:00:30	BVS	0/1	Completed		04/05/2017 12:46:44	04/05/2017 12:46:45
- Local Export_FOX_WFXT_2017_04_05_11_41_55	FOX_WFXT			04/05/2017 09:39:49	00:00:30		0/0	Completed			04/05/2017 12:46:45
- WSBK_2017_04_05_01_42_08_1 Simple + All Des	WSBK	MPX- Streaming, making a diff & Mus...		04/05/2017 01:42:08	00:00:15	Eyal	0/1	Completed		04/05/2017 02:01:11	04/05/2017 02:01:14
- WSBK_2017_04_05_01_42_08_1 Simple + All Des	WSBK	MPX- Streaming, making a diff & Mus...		04/05/2017 01:42:08	00:00:15		0/1	Completed			04/05/2017 02:01:14
- WSBK_2017_04_05_01_42_08_1 Simple + All Des_MPX- Str...	WSBK	MPX- Streaming, making a diff & Mus...		04/05/2017 01:42:08	00:00:15			Completed			04/05/2017 02:01:32

Figure: Expanded View

Depending on the specific status hovering over an item may bring up additional icons at the far right with: detailed information, rerun the event or delete it.

4.5.1 Management Console Search

The search feature enables you to home in on a specific event rather than needing to scroll through the entire list. At the bottom of the search pane are two buttons: **<Search>** and **<Reset>**. Search refreshes the page with new search results; **<Reset>** clears search parameters back to defaults for next search.

Keyword – accept matching text string. The search is not case sensitive.

Status - Limits search to the selected completion Status message.

Destination – Limits search to selected export destinations.

Time Range – Limits search to specific beginning and end times.

Created By – Limits search to specific user account.

Channel List – This search feature may be expanded or collapsed. It allows you to limit search to a specific channel. Entering text into **Filter** restricts channels to those that match the text.

Last Search – Displays recent search criteria. Clicking on the search refreshes the view with that search result.

5 USING SHARE

Share provides a convenient workflow for dissemination of captured assets to multiple distribution channels. The broadcaster can clip and export segments of existing content or repurposed content complete with accurate captions. One-button publishing profiles facilitate rapid processing of content to meet appropriate container and encoding requirements for an array of platforms, including target websites, YouTube, Twitter, and Facebook. Observer **Share** also makes use of existing closed captioning text to publish content that is compliant with government regulations.

Most **Share** features are common to the other MIS sections and have been documented previously.

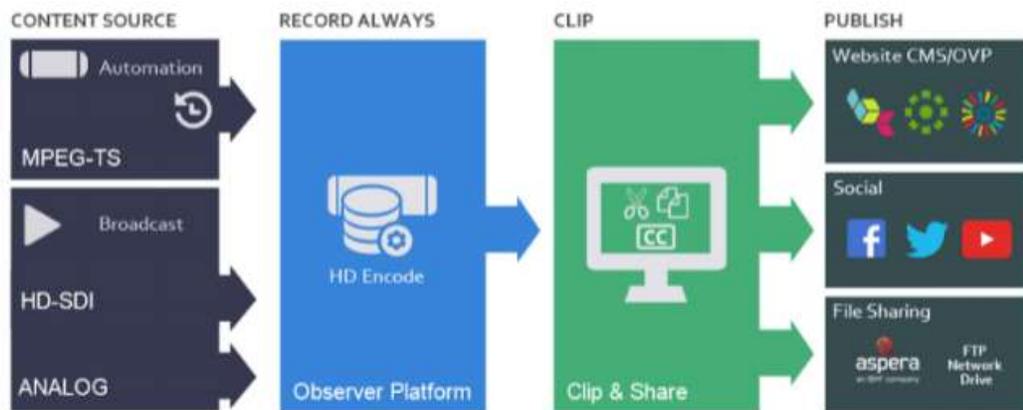


Fig: Share Workflow

5.1 Advanced Content Export Tab

ACE facilitates monitoring and ad verification use cases as well as content creation. ACE is integrated with As Run Log (ARL). It provides the ability to automatically create assets and place them in predefined locations. For example with ACE you can quickly choose an interval: for example from 5PM to 7PM and the system will show the breakdown of individual assets, with their names. From that you are able to filter by name, or duration to quickly remove irrelevant ads and merge the remaining assets into a single video file and share it.

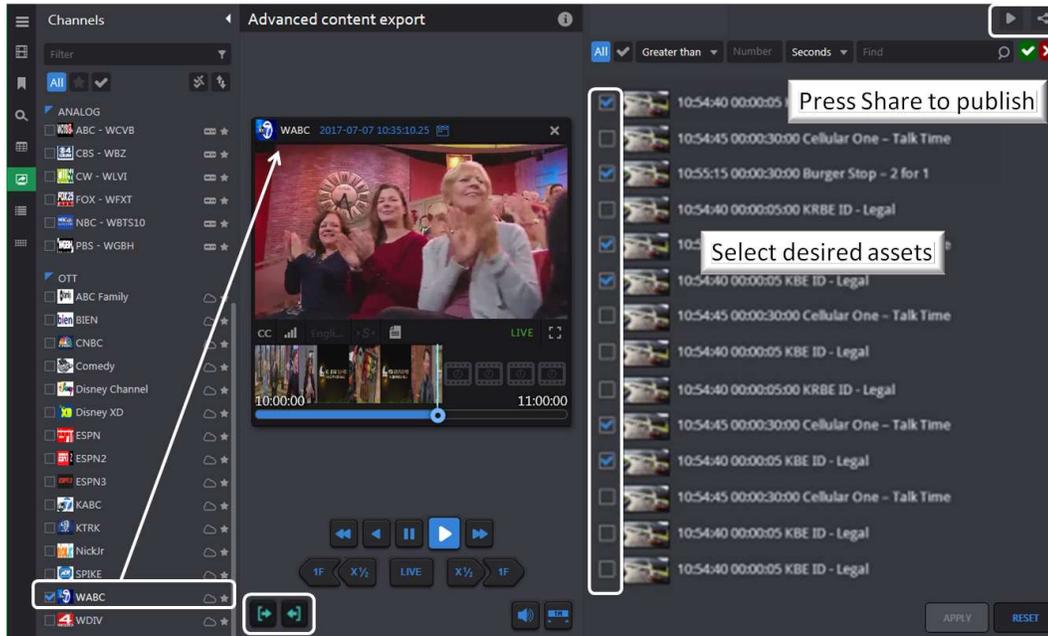


Figure: Advanced Content Export

Select the desired channel from the Channel Dashboard. The viewer is launched automatically. Press the **<Mark In>** button to begin the capture process. The right hand panel is populated with assets until **the <Mark Out>** button is pressed.

Initially all assets are unchecked. Use the search bar to select the desired assets.

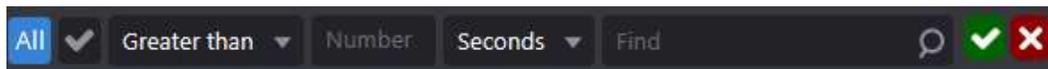


Figure: ACE Asset Search Bar

All ✓	Toggle search between all assets or only those checked
Greater than	Selects assets longer than preset time
Less than	Selects assets shorter than preset time
Number	Select number of occurrences
Seconds/Minutes	Select time interval
Find	Text box to select matching assets
✓	Search
✗	Reset search criteria

Once the desired assets are selected press **<Play All>** to view and **<Share Tracks as one>** to share/export the track much like other bookmarks.

5.2 Asset Management Tab

This page allows you to upload pre-defined assets (video or static image) in order to use them as input for the Share Light Editor (SLE).

5.2.1 Asset Search

If there are a large number of assets use the left hand Search pane to find the desired asset. Search criteria may be any combination of: Keyword, Type, Owner and Time Range. The search function works much like Search elsewhere in Observer. Use the **<Search>** icon at the bottom to restrict the display to desired assets or the **<Reset>** icon to clear previous search criteria.

5.2.2 Adding an Asset to the Library

Click the **<Add>** icon to access the CEM Assets folder structure. By default the name of the asset is the same as the uploaded file name.

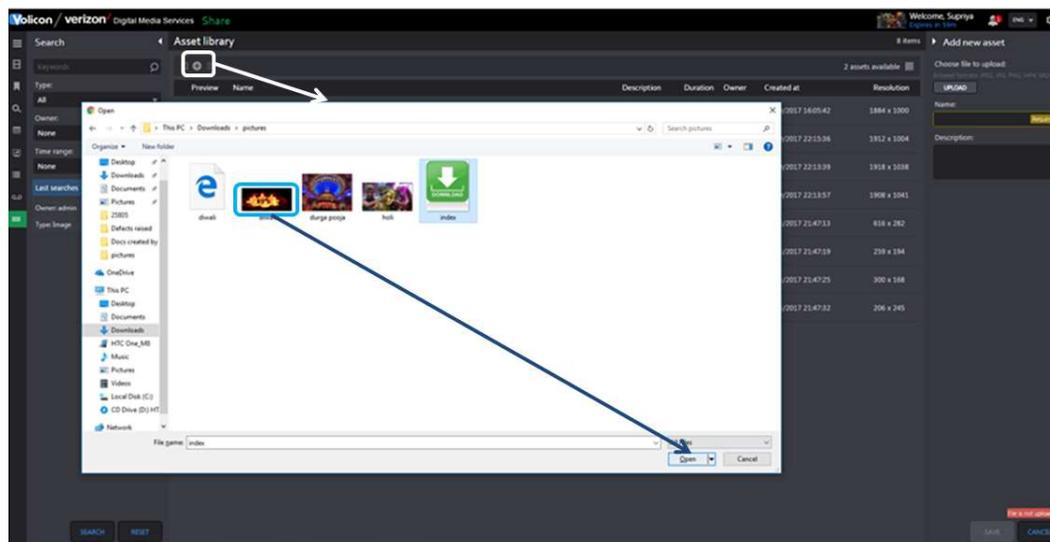


Figure: Adding File to Asset Library Pt1

Click the **<Save>** button at the bottom of the page to upload the asset. An Asset uploaded successfully message will appear at the top of the page.

Each asset will have properties such as: name—description—duration—owner—created and resolution.

Image assets have “Image” in the Duration column to differentiate them from video.

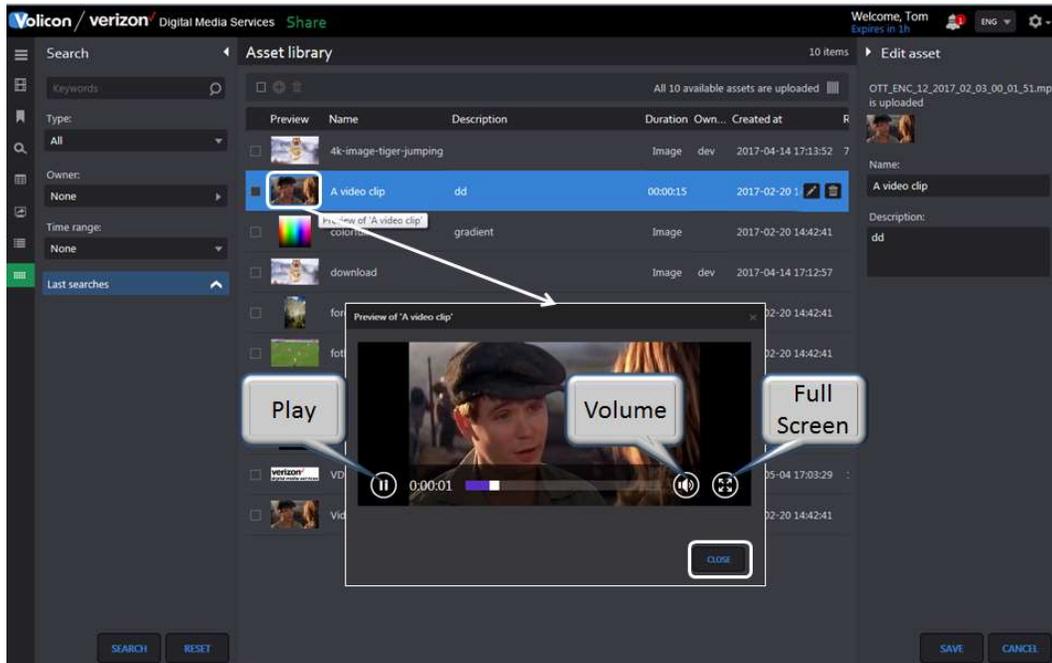
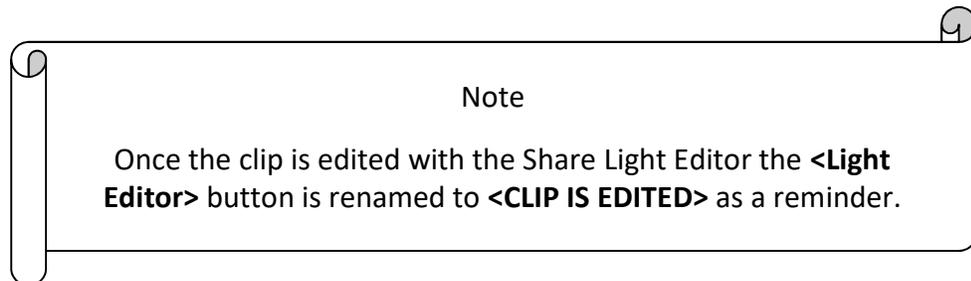


Figure: Asset Preview

5.2.6 Editing Video Assets

The Share Light Editor enables you to add: Intro, Outro, Slate, Fade in, Fade out, and splice tracks.

Any Asset or track can be deleted by clicking the **<Delete>** icon for the respective asset.



Select the clip you want to edit; this can be either an existing bookmark or newly created for the purpose. Click on **<Share Track>** to access the clip.



Figure: Selecting Bookmark Clip to Edit

Once you have the desired clip in sharing mode click the **<Light Editor>** icon at the bottom of the page to open the Share Light Editor (SLE).

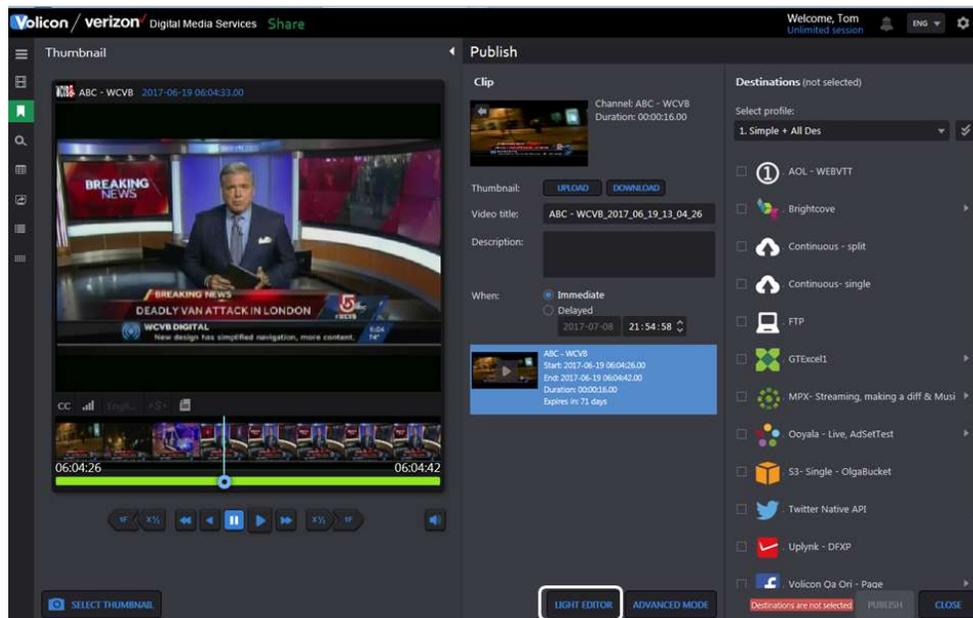


Figure: Invoking the Share Light Editor

5.2.6.1 Intro/Outro

To add an Intro/Outro the clip must be created and shared in the Asset Library. Click **<Insert Before>** to insert an Intro and click **<Insert After>** to insert an Outro. Use the **<Zoom In>**, **<Zoom Out>**, and **<Fit All>** to adjust the timeline display.



Figure: Intro and Outro

A panel pops up on the left to select the asset to be inserted as Intro/Outro. Click on the asset to select it.

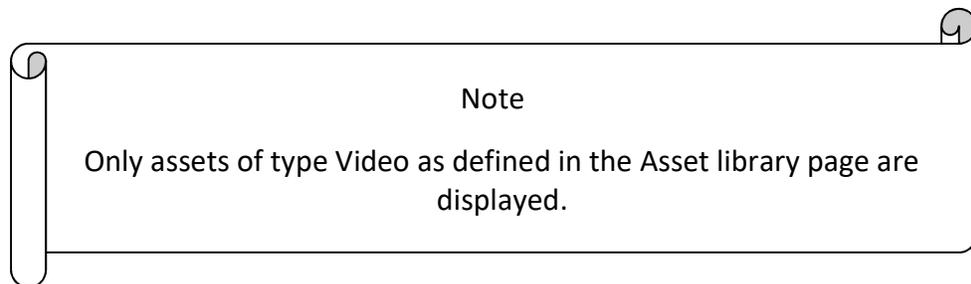




Figure: Selecting Intro or Outro Asset

After the asset is selected it is displayed in front and back of the clip in a different color to differentiate with the original track. Press the **<Save>** icon at the bottom of the page to update the clip.

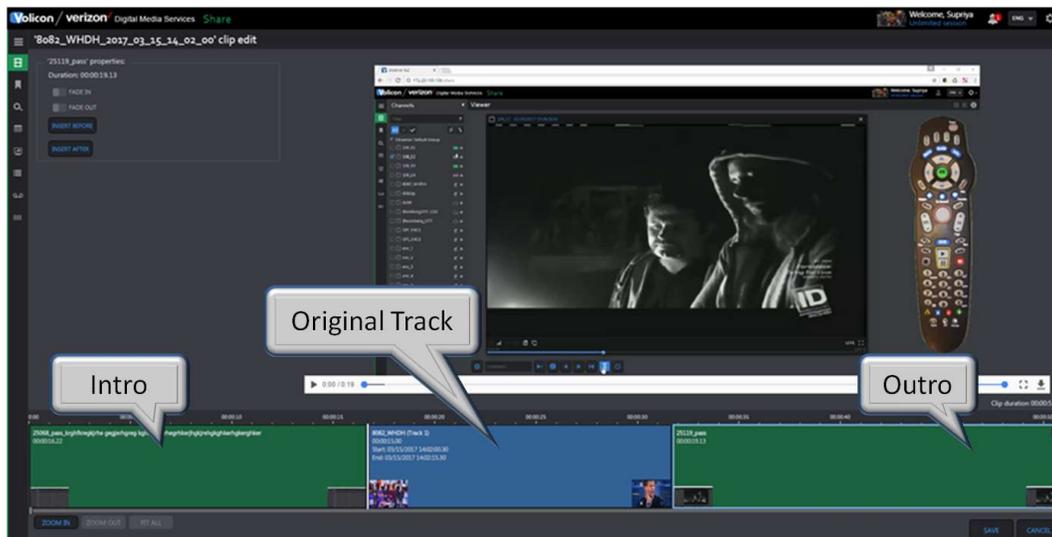


Figure: Inserting Intro and Outro

5.2.6.2 Fade in/Fade out

Click **<Fade In>** to add black frames at the start of a track and **<Fade Out>** to add at the end. Press the **<Save>** icon at the bottom of the page to update the clip.

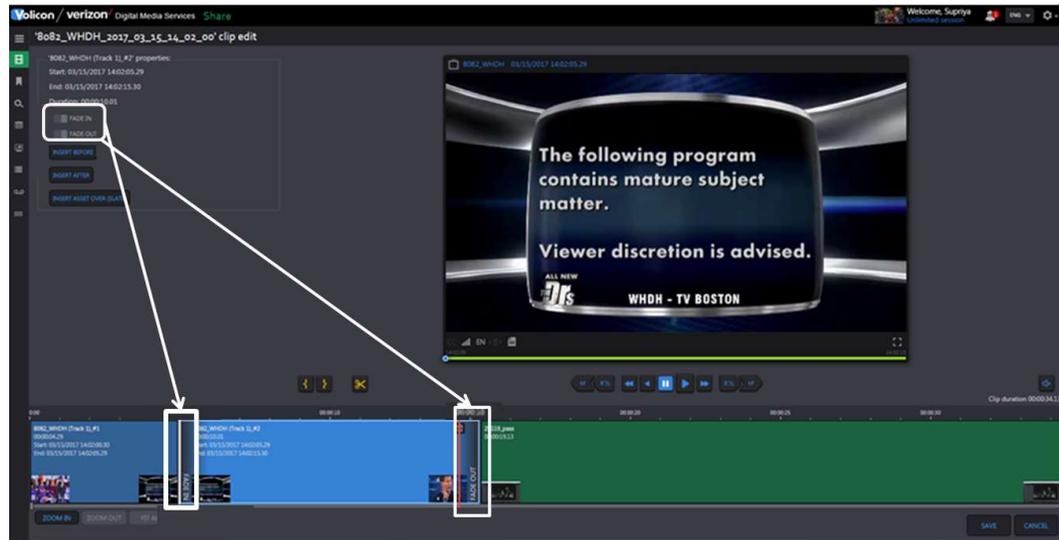


Figure: Inserting Fade In and Fade Out

5.2.6.3 Slate

To insert Slate click on **<Insert Asset over (Slate)>**. A Panel will appear with the list of Image assets as defined in the Asset Library.



Figure: Insert Slate

Once Slate is selected you can change the start and end time and duration. Press the **<Save>** icon at the bottom of the page to update the clip.

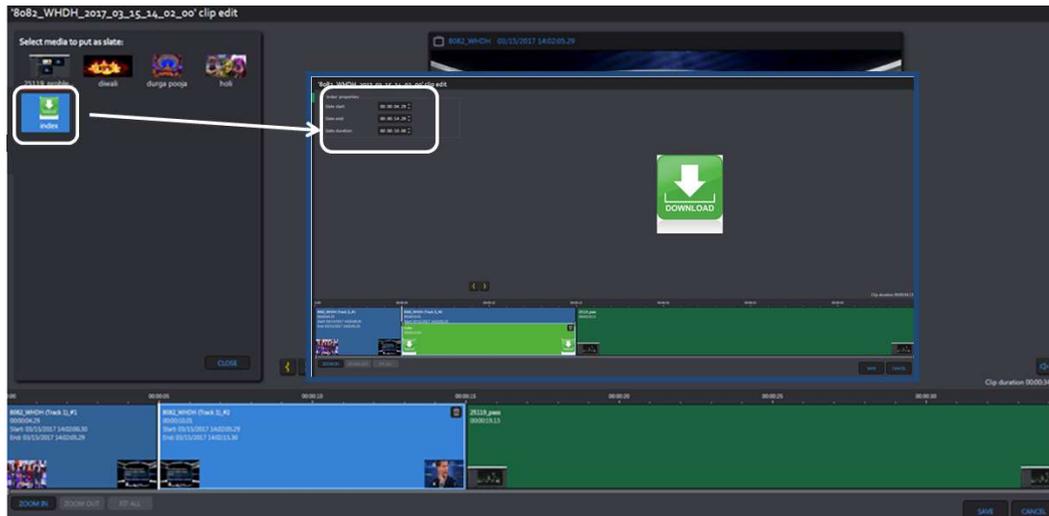


Figure: Adding Slate

Slates cannot overlap Intro and Outro but they can overlap multiple tracks, spliced or otherwise.

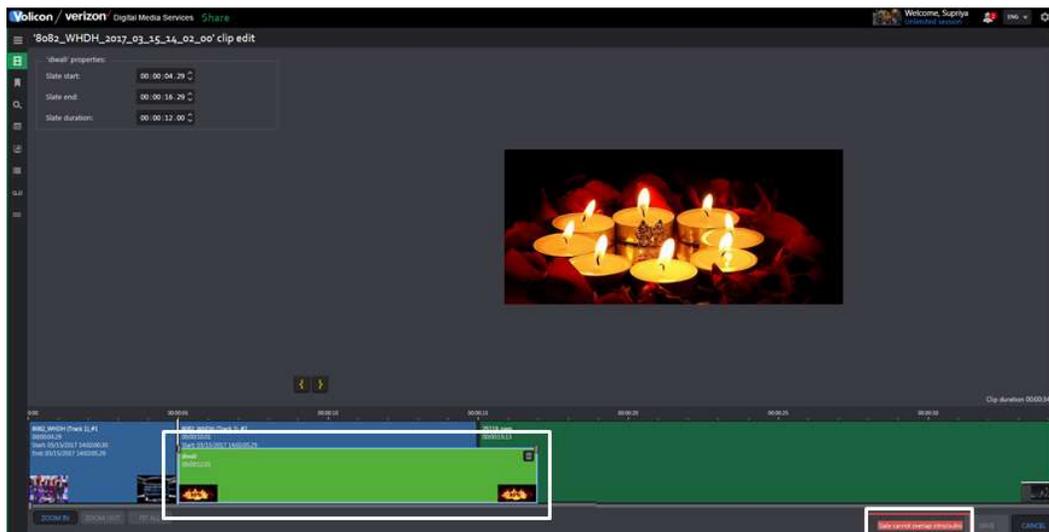


Figure: Slate Overlap Restriction

5.2.6.4 Splice Tracks

A track can be divided into multiple tracks by using the splicer function located below the player. Click on the desired time in the track pane then click the

<Splice> icon to divide the track. If the track is too short to split an error message appears at the tip of the page.

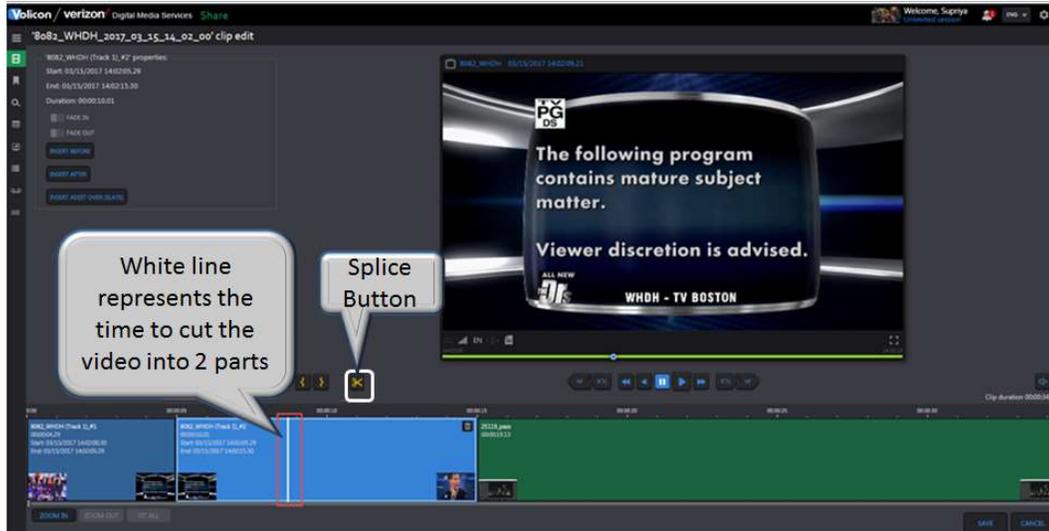


Figure: Splitting Video into two Parts

After splicing you will see multiple tracks on the Bookmark page, instead of just one.

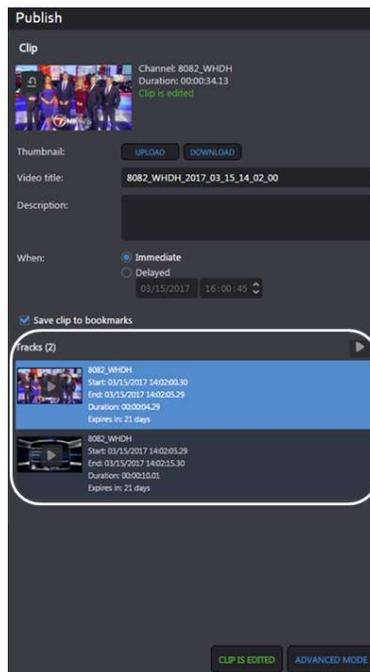


Figure: Splice Result

6 USING REVIEW

Review provides the tools needed to create winning content strategies for increased ratings, insightful competitive analysis, and improved strategies for escalating advertising revenues.

Review gives you the power to monitor what other channels are doing, review ratings, and analyze content. This power is essential, especially in the world of competitive news and sports. In the newsroom, where time is always of the essence, broadcasters want the ability to compare, review, and analyze program content of other channels, or multiple channels, within a particular area or across networks.

This section provides information about unique **Review** features. Functionality common to all MIS sections has been documented in the previous section.

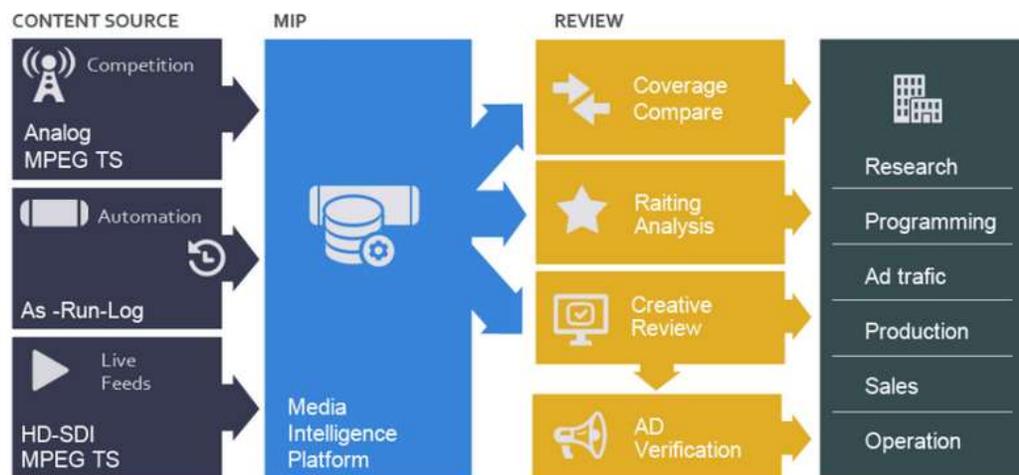


Fig: Review Workflow

6.1 XDS Clips Tab

The section enables you to search for Extended Data Services metadata. Note XDS is limited to NTSC analog video streams.

If any of the video channels include XDS metadata use this feature to display relevant bookmarks. The search feature works like other MIS searches. When the page first opens all search constraints are wild carded so the page will show all bookmarks that include XDS metadata. If needed, use the search function to narrow down the list.

The icons at the top of the clip section allow you to: select/deselect all clips, Merge clips, Delete a clip or all clips, Refresh the clip page, Change how clips are displayed, enable/disable specific columns, and export the clip list. At the far right is a page list if there are a large number of clips.

Hovering over a clip allows you to play, edit or delete the clip.

ID	Video	Name	Description	Channel	Duration	Start time	End time	Expires
47434222		Judge Alex	XDS Clip	WHDH	00:30:00	04/12/2017 02:05:03	04/12/2017 02:35:03	91 days
47434183		Comics Unleashed With Byron Allen	XDS Clip	WSBK	00:30:00	04/12/2017 02:00:02	04/12/2017 02:30:02	
47411207		Judge Alex	XDS Clip	WHDH	00:30:00	04/12/2017 01:35:03	04/12/2017 02:05:03	91 days

Figure: Select, Play, Edit XDS clips



Figure: XDS Clip

6.2 Ratings Graph Tab

The ratings graph tab allows you to display rating information for one or more channels. The feature extracts data from the customer's rating file.

In the example two channels were selected and the Sync-to-me feature was used so the ratings chart is synchronized for both channels.

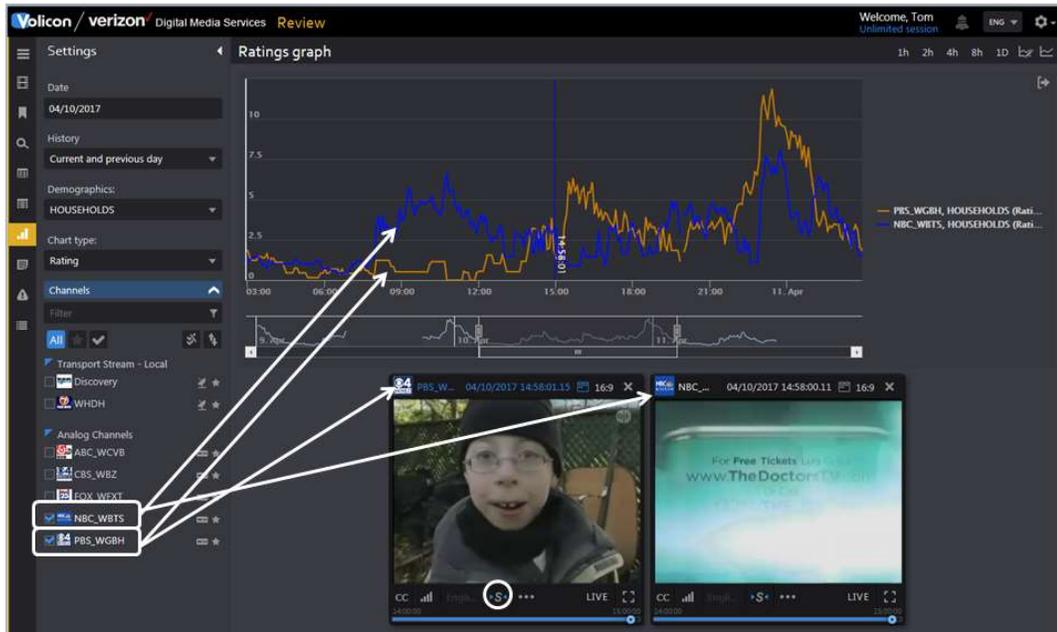


Figure: Two Channel Ratings Graph

Hovering over the ratings graph displays the instantaneous value.

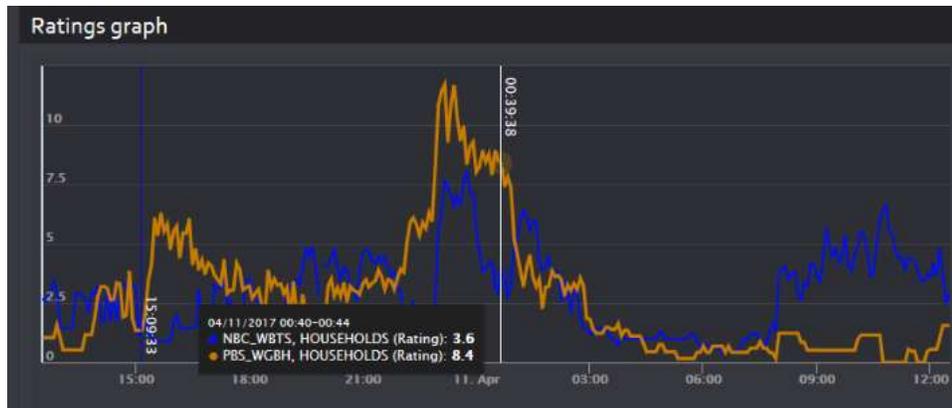


Figure: Instantaneous Ratings

6.2.1 Selecting Ratings

The **Settings Dashboard** on the left side of the screen is used to select:

Date – select the date, you may also set date using the viewer calendar function.

History – set the graph duration

Demographics – select desired demographics

Chart Type – toggle between Ratings and Share

Channels – select one or more channels to display; this functions the same as other MIS features. If more than one channel is selected the graph is color coded by channel.

The icons at the upper right of the page control the chart time frame and channel color. Clicking on the timeline advances or retards the playback. Clicking the **<Chart Only>** icon hides the viewers.

6.3 DPI Monitoring Tab

This feature allows you to view PIDs used to insert additional programs into the video stream. In the example we are monitoring the Discovery channel and DPI metadata is enabled in the viewer.

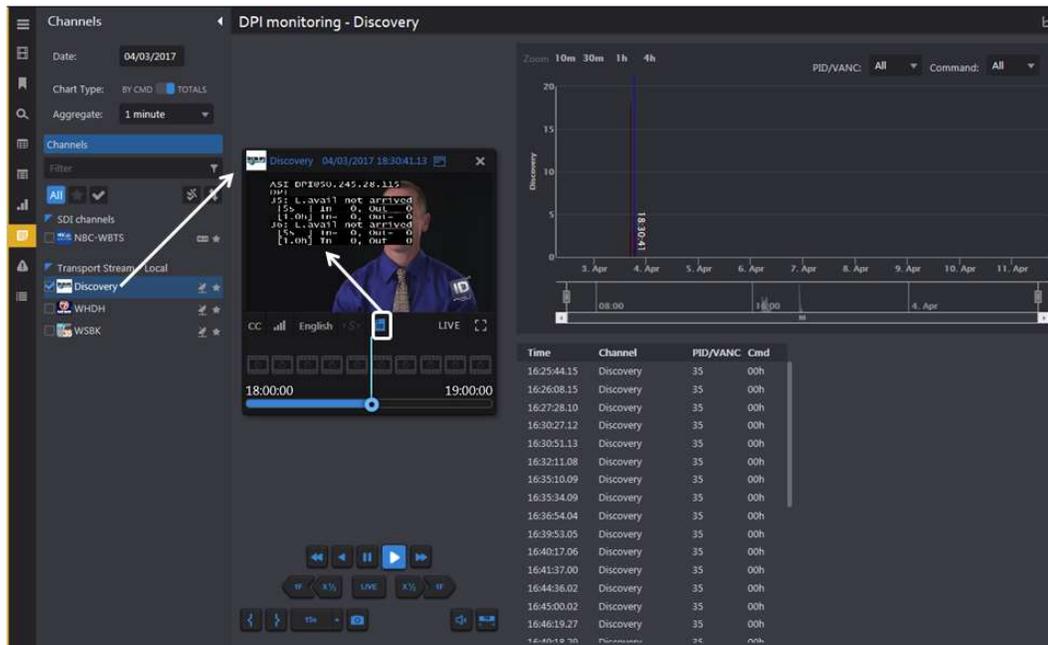


Figure: DPI Channel Monitoring

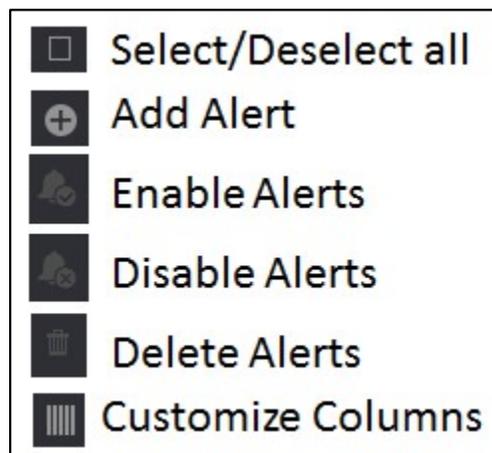
6.4 Keyword Alerts Tab

Use this section to have MIS monitor Closed Captioning for specific words and generate a notification email. The channel dashboard works much like other MIS section to restrict the display to specific alerts.

6.4.1 Search

The search field works much the same as in other MIS applications. You are able to search by keyword, Alert type, time, email recipients and channel.

6.4.2 Alert Controls



The ribbon at the top of the page gives you control over the alert feature. Pressing **<Add>** opens another page giving you complete control over how MIS treats a fault condition and who is notified. The **<Enable>** and **<Disable>** buttons allows you to selectively enable or disable each alert. Lastly the **<Customize>** button controls which alert fields are displayed. Use the pulldown to select which alert columns you want MIS to display.

6.4.3 Create a Keyword Alert

Pressing the new alert icon  opens a new page composed of three sections.

The left hand pane allows you to set which email addresses MIS uses to send out the alert and define the alert name and email subject line. By default the alert is sent to your email address. You can delete your address and add multiple other addresses. If there are multiple addresses the Email to field changes from the email name to **Multi(x)** indicating how many emails are selected. Opening the pulldown displays a list of email addresses.

Below that are **Advanced** options used to limit how often and when to send the alert.

The **Keywords** middle pane is used to specify keywords. Each time you enter a keyword the system automatically generates another text box to enter an

additional keyword. If you enter multiple keywords MIS will generate an alert if any match the closed captioned text.

Lastly the right hand **Assign Channels** pane allows you to select the channel or channels you want to monitor. Typing all or part of the channel name into the **Filter** text box at the top of the display list restricts the display to matching channels.

Press **<Save Changes>** at the bottom of the page to add an alert.

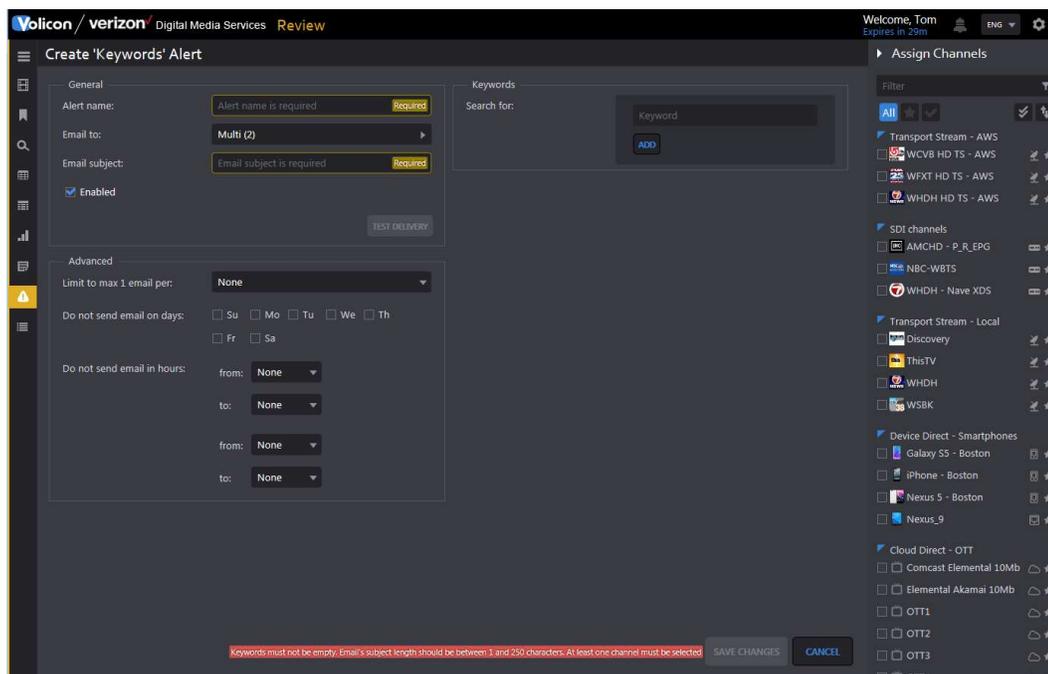


Figure: Closed Captioning Alert

6.4.4 Editing/Deleting a Keyword Alert

To edit or delete an Alert, hover over the alert. MIS will display the edit  icon on the right hand side of the alert. Pressing the icon opens the same page you used to create the alert, except now it is filled in. Press **<Save Changes>** when you are finished editing the alert. Use the **Trashcan** icon to delete the alert.

7 USING COMPLY

Comply continually and automatically captures, stores, and streams on-air feeds, offering simultaneous users 24/7 access to live and recorded broadcast content from desktop computers or smart devices. The intuitive, streamlined user interface gives authorized users the ability to access, play, pause, and search recorded content conveniently and with ease.

By automatically recording broadcasts, Comply greatly simplifies the ability to respond to inquiries regarding loudness, closed captioning, and decency and to comply with the regulations for content archiving.

This section provides information about unique Comply features. Functionality common to all MIS sections has been documented in the previous section.

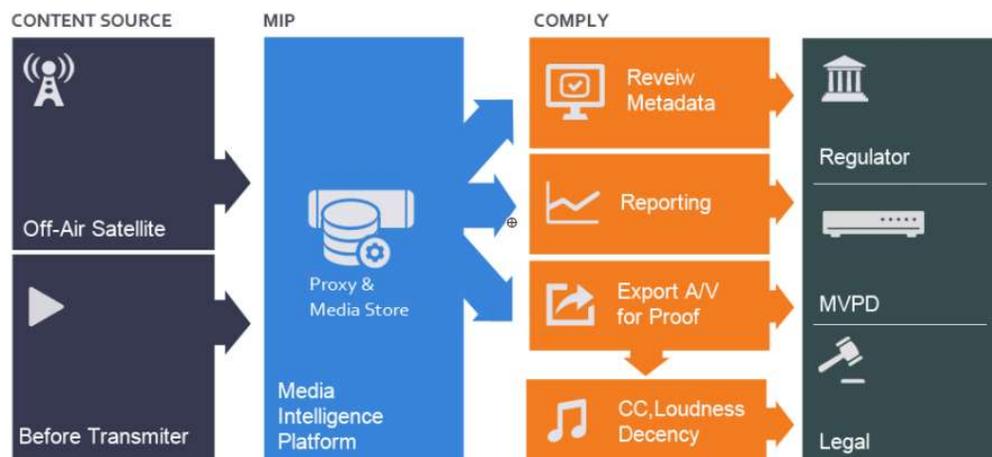


Fig: Comply Work Flow

7.1 DPI Graph Tab

Displays insertion and end points for inserted streams.

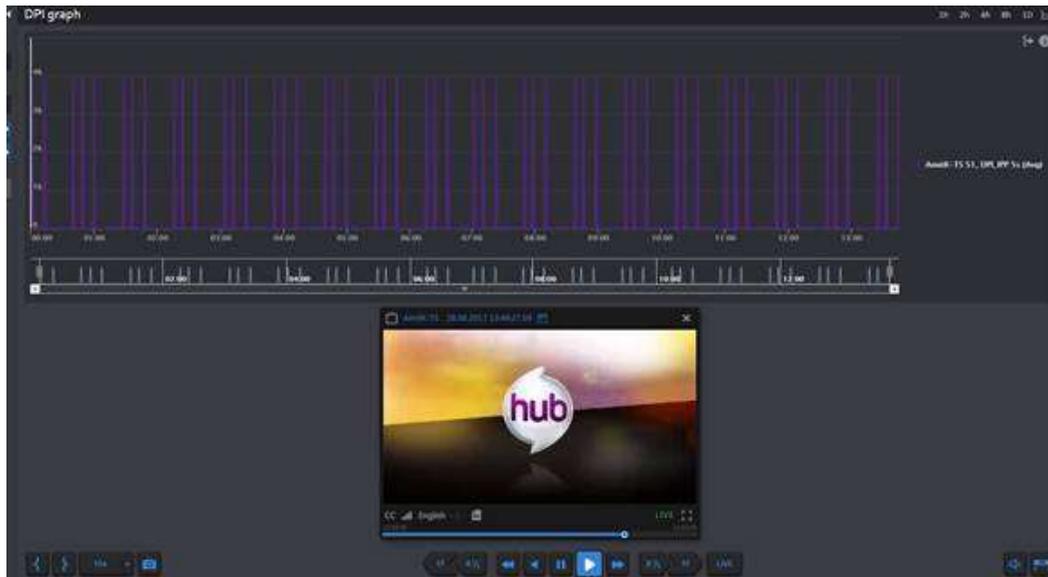


Figure: DPI Graph

7.2 Program Loudness Report Tab

The program loudness report tab is used to display audio levels of digital content. MIS compares the program to a user defined reference value. If a violation occurs MIS turns that portion of the graph red. The info  icon provides more information about each of the reporting options.

Use the **Search** feature to select the channel/program of interest, loudness settings and report timeframe. MIS supports several loudness monitoring methods. Once the method is selected additional fields are displayed.

To hide programs that do not contain loudness data click the  show/hide icon at the top of the report page.

Use the Audio Channels selector to set which channels are used by the report.

If desired you can play the clip by clicking on the video icon.

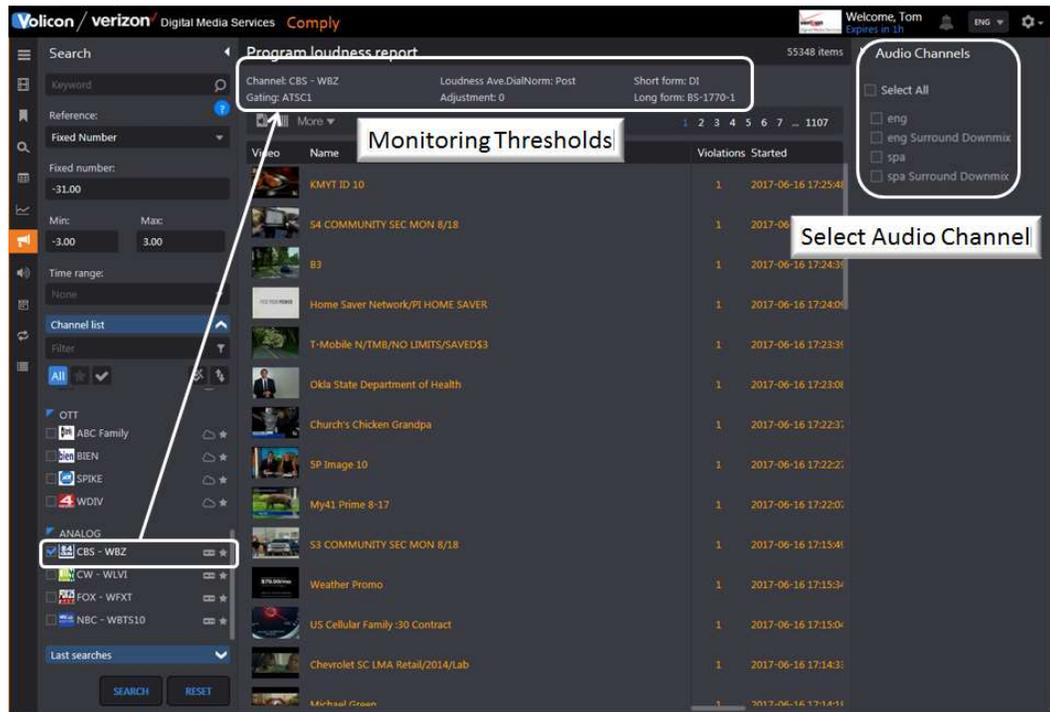


Figure: Channel Loudness Report

7.2.1 Report Measurement Fields

Gating	Pauses loudness measurement during soft passages for a more accurate report.
Dialnorm	(Dialogue normalization level) - Metadata received from the digital AC3 stream used to control playback gain. Integer value with a range of 1 – 31 corresponding to a playback gain of 0 – -30dB (unity). The loudness graph is displayed as Loudness K-weighted relative to full scale (LKFS) to comply with FCC CALM requirements.
Long IPL	Weighted average selectable for the last hour or last 24 hours.
Fixed Number	Use this setting to override the default Dialnorm value of -31.
Min/Max	Use these values to set the loudness window. If loudness is lower than or higher than set point MIS turns that section of the graph red indicating a loudness violation.

7.3 Loudness Graph Tab

The Loudness graph feature is used to display channel volume. Click the **<Speaker>** icon. At the bottom of the **<Settings>** pane select a channel. This opens the media player and populates the bottom of the **Settings** pane with another icon title **Metrics**. Clicking the **<Chevron>** displays the name of the audio subsystem used to ingest the stream. Hovering over the subsystem displays a plus **+** icon. Press it to display a list of available graphs. In some cases the system allows you to display multiple graphs, in other cases only a single graph.



Figure: Loudness Graph

In the **Setting** pane specify program **Date** and **time**. You can adjust the date/time by using the calendar feature of the player. If this option is left blank the player is opened in the mode specified in user preferences in the Tools menu. The example shown is live which is why the loudness graph does not extend all the way to the end. The **History** pulldown sets the maximum duration of the graph.

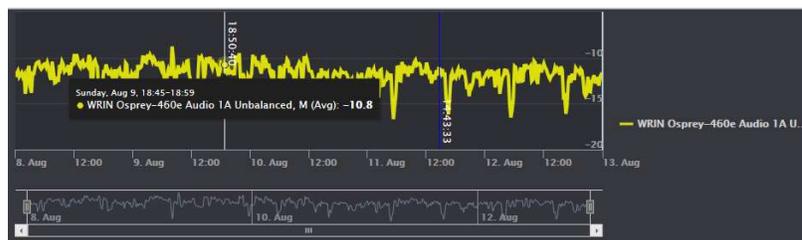


Figure: Loudness Detail

Positioning the cursor in the graph lets you zoom in on an area of interest and display the instantaneous loudness level. To examine the graph in more detail slide the bars at either end of the lower graph image to expand the upper graph. Once the graph is expanded use the left and right arrow keys of the lower graph to step through the entire range.

The graphs are color coded. Hovering over the graph identifies each color and the instantaneous value at the cursor position.

7.3.1 Graphing Options

M measurement	Momentary sliding rectangular (.4s) integrated window - sampling every 100 milliseconds, calculating its average every 400 msec. These values are not configurable.
S measurement	Short term sliding rectangular (3s) integration window - sampling every 100 milliseconds, calculating the average every 3 seconds. These values are not configurable.
SI measurement	Short Integrated sampling every 100 milliseconds. MIS calculates the average every X seconds within up to 6 defined durations (usually left at the default value 10 seconds).
Speech_Exists	Binary True/False indication of speech.
Speech_Level	Speech audio level
Min	Graph Minimum loudness level
Avg	Graph Average loudness level
Max	Graph Maximum loudness level
Range	Shades the area between min and max graph

7.4 Schedule Export Tab

This feature allows you to schedule grabbing video clips and publishing them to one or more social media sites.

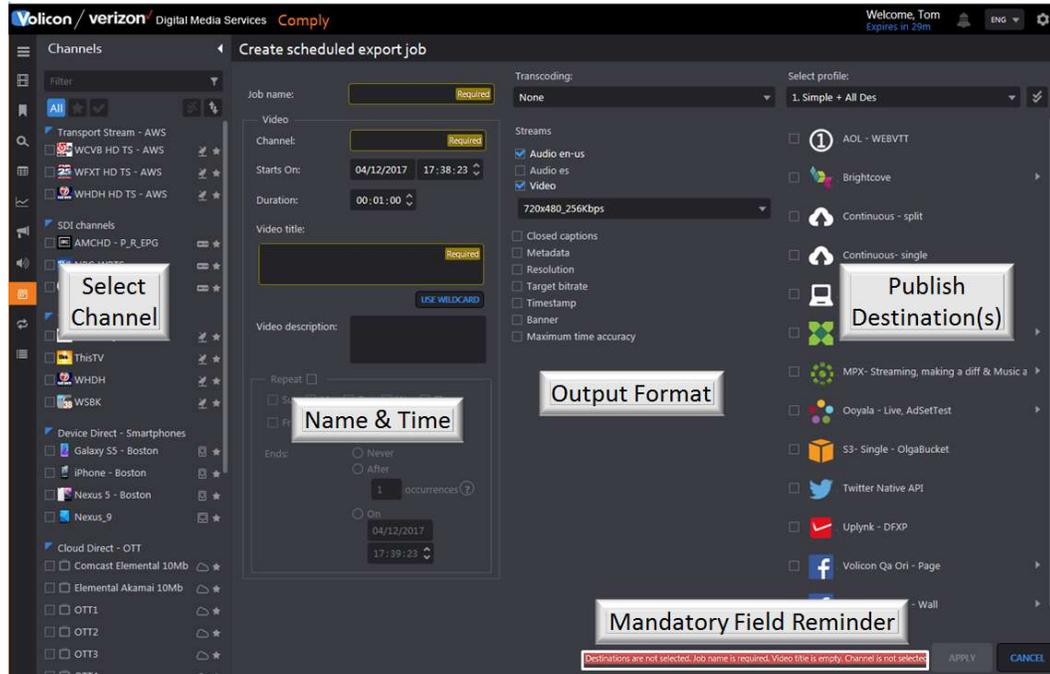


Figure: Schedule Export

Job name:	User friendly description of job.
Channel:	Channel to export. Create separate jobs for each exported channel.
Starts On:	When the job starts.
Duration:	Duration of program to be exported.
File name	User defined file name.
Wildcard	Predefined Observer file names.
Start overlap:	Seconds added at the start of the clip to capture previous program
End overlap:	Seconds added at the end of the clip to capture next program
Ends:	<p>Never – exports continuously.</p> <p>After – number of times job will run. An occurrence is the duration previously specified. For example: if the duration is set to 1-hour and occurrences set to 3, Observer will export 3 hours of programming beginning at the start time.</p> <p>On – date/time job will terminate</p>

7.5 Continuous Export Tab

This feature works much the same as scheduled export except you can configure it so it never ends or ends automatically after it has exported a number of programs. Used to archive programs from within Observer to internal share or via FTP.

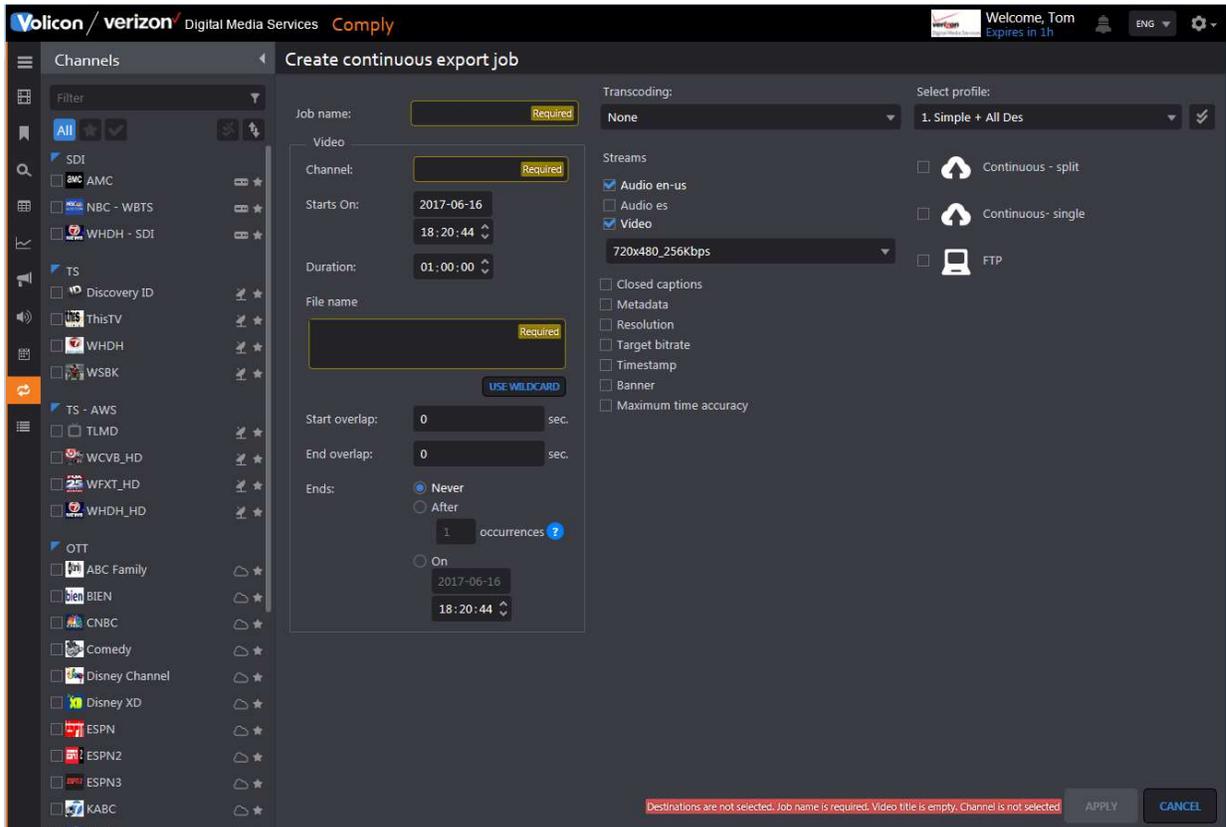


Figure: Continuous Export

8 USING MONITOR

With 24/7 monitoring and notification capabilities, you are able to monitor broadcast quality, report faults, respond to and fix issues, and use full recording to instantly review the impact of detected errors. Monitor measures loudness and DPI; alarm and record quality impairments such as black screen.

A unique MIS Monitor feature is “Multiview;” this allows you to configure a single screen to display the various items you are tracking.

This section provides information about unique Monitor features. Functionality common to all MIS sections has been documented in the previous section.

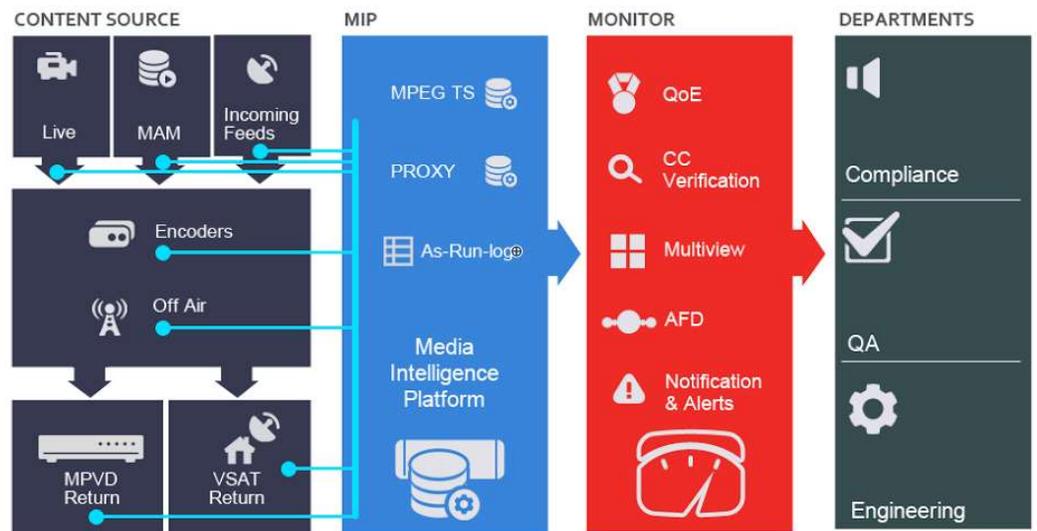


Fig: Monitor Workflow

8.1 Fault Clips Tab

Clicking this icon displays video clips flagged as meeting one or more MIS automatic monitoring fault conditions. When the page first opens all search constraints are wild carded so the page will show all bookmarks that include a MIS flagged fault. If there are a lot of faults the search function allows you to narrow down the list.

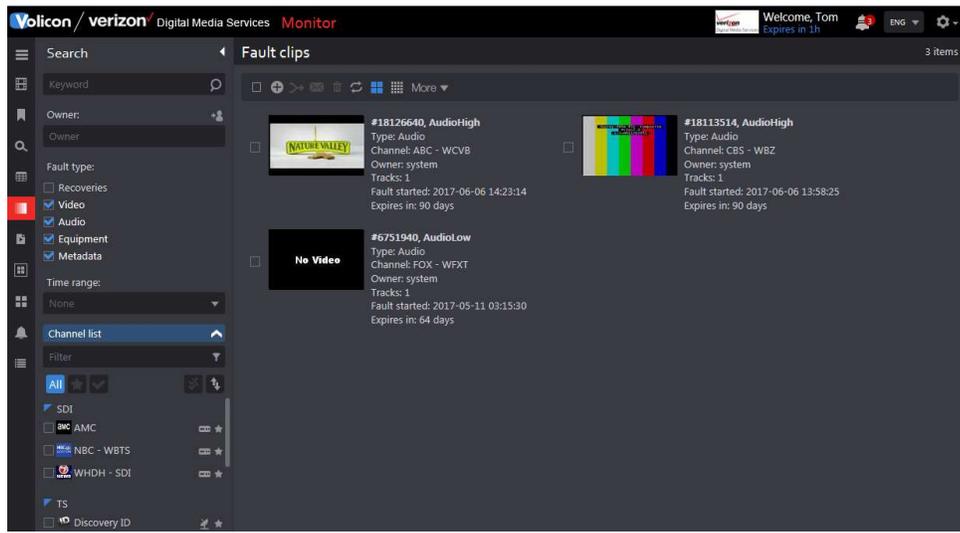


Figure: Fault Clips

8.1.1 Fault Search

The Search dashboard lets you display only those faults of interest.

Keyword	Free form text search
Owner	Owner the clip is assigned
Fault Type	Recoveries, video, audio, equipment and metadata
Time/Date	Restrict time and date range
Channel list	Click anywhere in the icon to expand or collapse the channel list
Filter	Enter all or part of a channel name to limit dashboard display to matching channels
Last Searches	MIS caches recent searches allow you to quickly redo an existing search

To reuse a previous search expand the **<Last Search>** icon at the bottom of the search pane by clicking the title. Highlight the desired search and press **<Search>**. To manage search history delete unnecessary old searches hover over the search name and press the **<X>** to the right. Pressing **<Reset>** at the bottom of the dashboard clears all searches.

8.1.2 Fault Clip Display Options

The ribbon at the top of the Fault Clips pane allows you to manage and modify captured faults.



Select/deselect all Fault Clips. If there are no clips this option is greyed out.



Manually create a new Fault Clip.



Merge multiple Fault Clips. Allows you to combine multiple reported faults into a single combined clip. The new composite clip shows up in the Bookmarks tab. If there are no clips this option is greyed out.



Send selected Fault clips – Opens dialog box to email one or more clips to selected user. Optionally create an email subject title. This option is greyed out if no clips are selected.



Delete selected fault clips. This option is greyed out if no clips are selected.



When icon is blue the page is automatically refreshed every few seconds. When the icon is white page does not change once it is opened. Clicking the **<Auto Refresh>** icon toggles between the two modes.



Grid and List view, similar to other MIS settings. Grid displays a large thumbnail and limited descriptive detail about the fault. In List view the thumbnail is smaller and the selection of descriptive detail is much greater.



Export list opens an Excel spreadsheet showing details of each clip. The spreadsheet may be opened or saved to your desktop. The **Delete all Fault clips** option allows you to quickly remove all fault clips.

8.1.3 Manual Fault Clip Creation

The System allows you to manually create a fault clip. This works much the same way as creating a Bookmark. Press the  Add Clip icon at the top of the page. This opens a new page with the channel list on the left. Select a channel, mark the clip, name the clip, optionally include descriptive text for more information

and use the **Fault Type** radio button to specify the type of fault. Press **<Apply>** at the bottom to create the clip.



Figure: Manual Fault Clip Creation

8.2 GPI Clips Tab

If any of the video channels include broadcast automation General Purpose Interface (GPI) metadata use this feature to display relevant bookmarks.

The search feature works much like other MIS sections allowing you to search by Keyword, time and channel.

8.2.1 GPI Search

The search feature works like other MIS searches. When the page first opens all search constraints are wild carded so the page will show all clips that include some GPI metadata. If there are a lot of GPI clips the search function allows you to narrow down the list.

8.2.2 GPI Clip Display Options

The ribbon at the top of the GPI Clips pane allows you to manage and modify captured clips.



Select/deselect all GPI Clips. If there are no clips this option is greyed out.



Merge multiple DPI Clips. Unlike **Bookmark** merge there are no restrictions on merging clips from different sources. Otherwise, GPI merge works just like **Bookmark** merge. If there are no clips this option is greyed out.



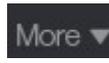
Delete selected GPI clips. This option is greyed out if no clips are selected.



When icon is blue the page is automatically refreshed every few seconds. When the icon is white page does not change once it is opened. Clicking the **<Auto Refresh>** icon toggles between the two modes.



Grid and List view, similar to other MIS settings. Grid displays a large thumbnail and limited descriptive detail about the clip. In List view the thumbnail is smaller and the selection of descriptive detail is much greater.



Opens an Excel spreadsheet listing details of each clip or delete all GPI clips.

8.3 DPI Clips Tab

Digital Program Insertion (DPI) metadata allows cable headends and broadcast affiliates to insert locally-generated commercials and short programs into remotely distributed regional programs before they are delivered to customers. If this feature is enabled in the encoder MIS automatically creates a clip each time it detects DPI metadata.

If any of the video channels include DPI metadata and the feature is enabled in the associated encoder, use this feature to display relevant bookmarks.

8.3.1 DPI Search

The search feature works like other MIS searches. When the page first opens all search constraints are wild carded so the page will show all clips that include some DPI metadata. If there are a lot of DPI clips the search function allows you to narrow down the list.

8.3.2 DPI Clip Display Options

The ribbon at the top of the DPI Clips pane allows you to manage and modify captured clips.



Select/deselect all DPI Clips. If there are no clips this option is greyed out.



Merge multiple DPI Clips. If there are no clips this option is greyed out.



Delete one or more DPI Clips. If there are no clips this option is greyed out.



When icon is blue the page is automatically refreshed every few seconds. When the icon is white page does not change once it is opened. Clicking the **<Auto Refresh>** icon toggles between the two modes.



Grid and List view, similar to other MIS settings. Grid displays a large thumbnail and limited descriptive detail about the clip. In List view the thumbnail is smaller and the selection of descriptive detail is much greater.



Opens an Excel spreadsheet listing details of each clip or delete all DPI clips.

8.4 Multiview Tab

Multiview allows you to set up customized screens displaying multiple video channels along with other relevant information.

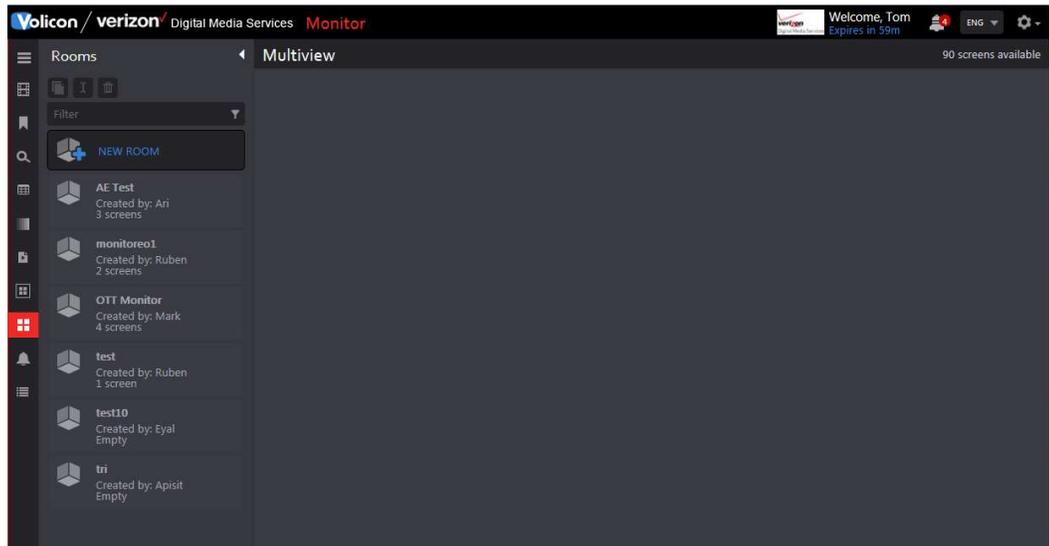


Figure: Multiview Home

Once a room or screen has been configured MIS allows you to create a duplicate copy. For example, let's say you need to monitor two channels. You could locate all the information in a single screen or, once you have set up a screen displaying the relevant information, use the duplicate command to clone the screen and change the relevant cells within the new screen.

8.4.1 Using Multiview

From the **Monitor** page click on the **<Multiview>** icon on the left side of the screen. Scroll down to the desired room in the **Rooms** management pane. If there are a large number of rooms use the search feature to find the desired room.

Click the desired room to display the screens associated with that room. As an example in this manual we are going to click **UserGuide Example**. Note the area around the word **UserGuide Example** turns blue as a reminder that is the room being displayed. Under each room name the number of configured screens is displayed. **UserGuide Example** has two screens: **8-1UserGuide** and **Screen2**. For the moment ignore **Add Screen** that will be discussed later.

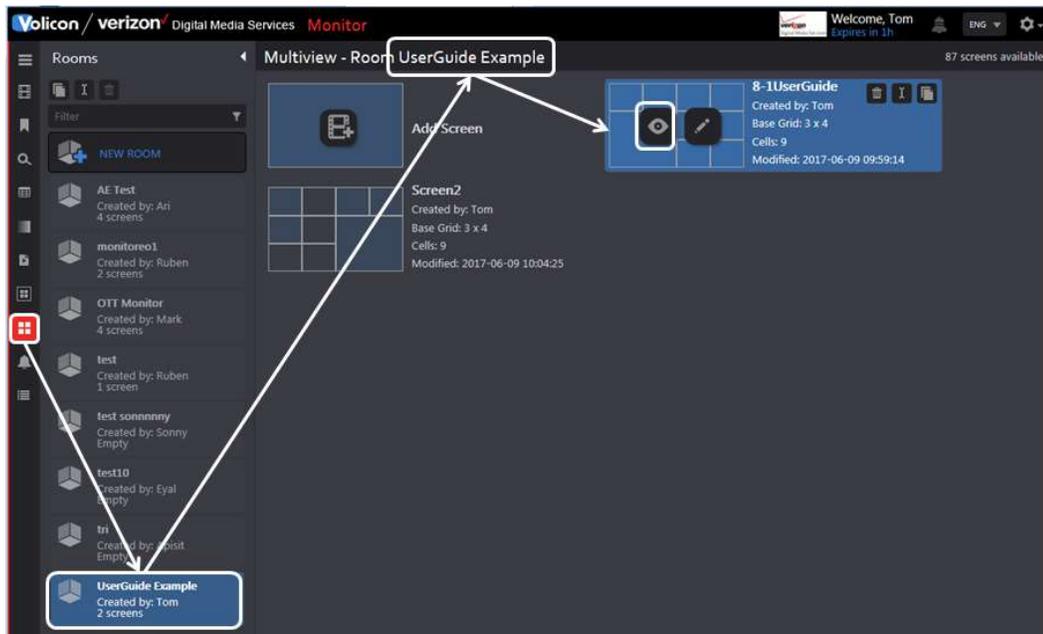


Figure: Select Multiview Room

8.4.1.1 Displaying a Screen

Hover over the desired screen -in this case we are selecting the one called **8-1UserGuide** - and left click on the <eyeball> icon. This opens the screen in a new tab on your browser.

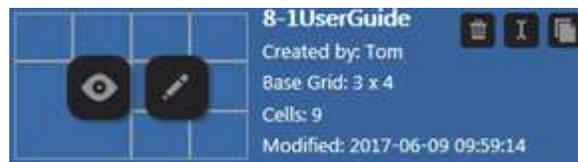


Figure: Activate Multiview Screen

The screen is configured to display three video thumbnail streams and several widgets.

8.4.1.2 Multiview Thumbnails

The room can be configured to display multiple channel thumbnails. This is a low resolution image along with any fault status.

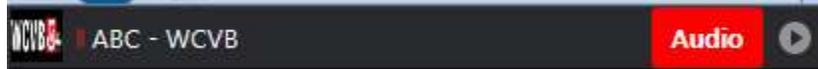


Figure: Thumbnail Title Bar

At the left is the channel logo (if configured) and channel name. If there are any faults they are identified in red.

Click  **<Inspect>** at the top of the video thumbnail to open the Quarantine Player. The Quarantine player supports most of the same features as the regular viewer. The player is always in live mode.

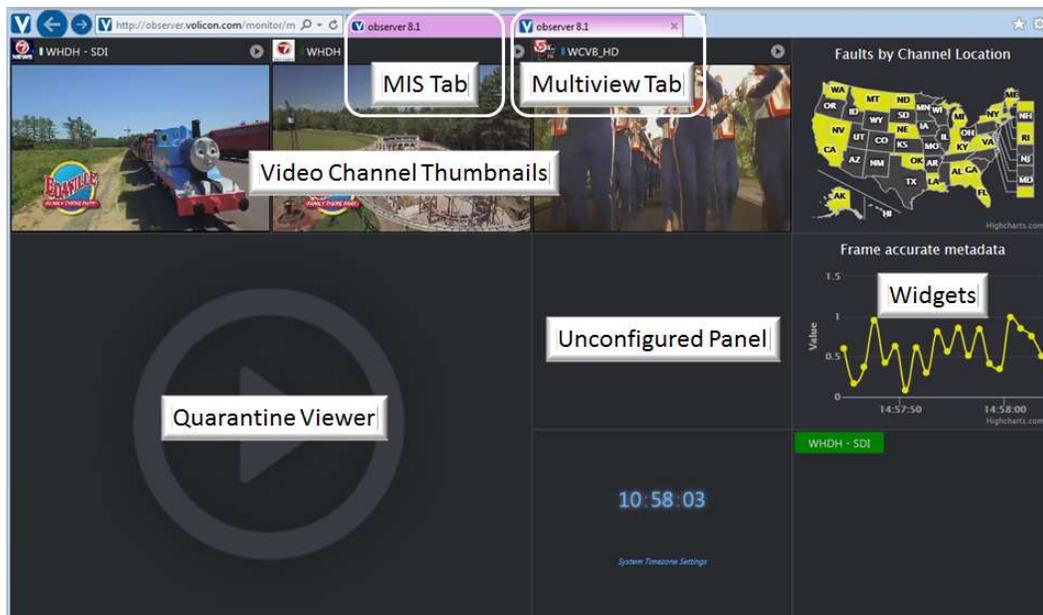


Figure: Multiview Screen

8.4.1.3 Using the Quarantine Player to Create a Bookmark

To create a bookmark in one of the Room Screens the screen must be configured with the Quarantine Player.

Click **<Inspect>** on the desired video thumbnail to open the player. Creating bookmarks with the Quarantine Player is similar to using the player in other MIS sections. Mark the start and end time to create a new bookmark. This automatically creates a new bookmark in the Bookmark section. The status bar at the top of the screen lets you know if the bookmark was created successfully.

The bookmark is automatically titled: Quarantine_ [Channel Name] [Date] [Time].

Once a bookmark is created you are able to view it under the **Bookmark** icon in any MIS screen. From there you can edit the bookmark and if desired change the name.

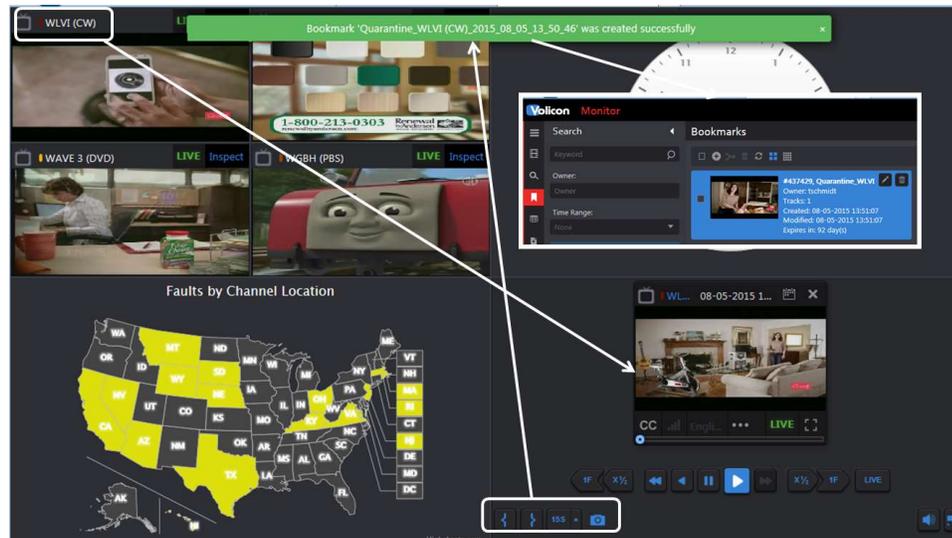


Figure: Quarantine Player Bookmark

To manage bookmarks created by the Quarantine Player use the bookmark tab.

8.4.2 Configure Multiview Rooms

To create a new room you have two choices: create one from scratch or copy an existing room and rename it.

8.4.2.1 Copy an Existing Room

Let's start by copying an existing room. In the Rooms pane above the search filter are three icons. From left to right they are: **Duplicate**, **Rename** and **Delete**. As an example we left clicked the **<News5>** room to select it. Then click the **<Duplicate>** icon. A dialog box opens with the name of the room prefixed by duplicate. If you click **<OK>** now that will be the name of the new room. At any time you can rename a room by selecting it and using the **<Rename>** icon. To

create a new room with the desired name simply enter the name in the Duplicate text box and hit **<OK>**.

The new Room is automatically added to the Rooms list.

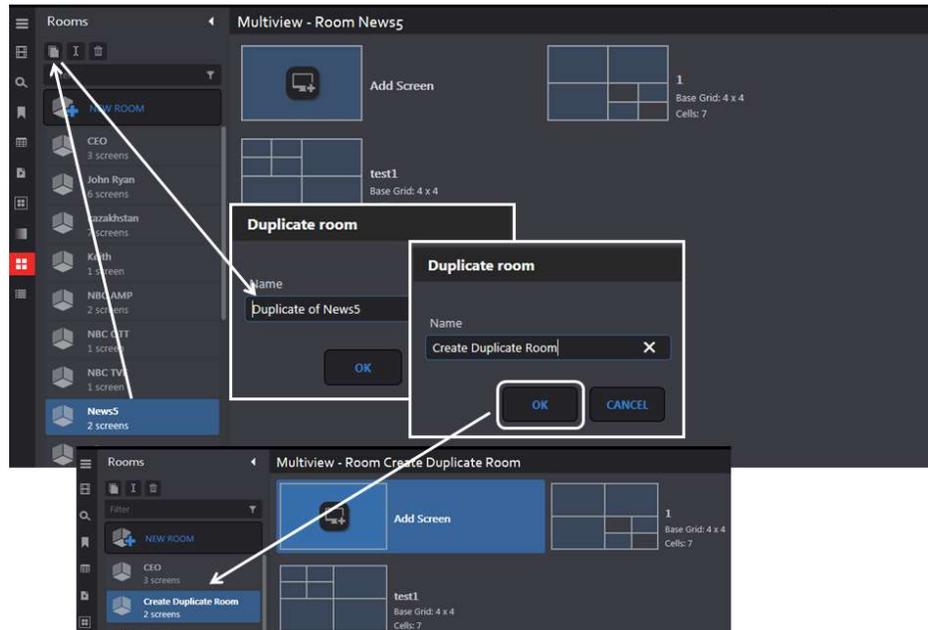


Figure: Duplicating a Multiview Room

8.4.2.2 Creating a New Room from Scratch

To create a new room from scratch click the **<New Room>** button towards the top of the Rooms pane. This opens a dialog box; type in the desired name and press **<OK>**. The new room is automatically populated in the Rooms pane. Note the new room is flagged as empty.

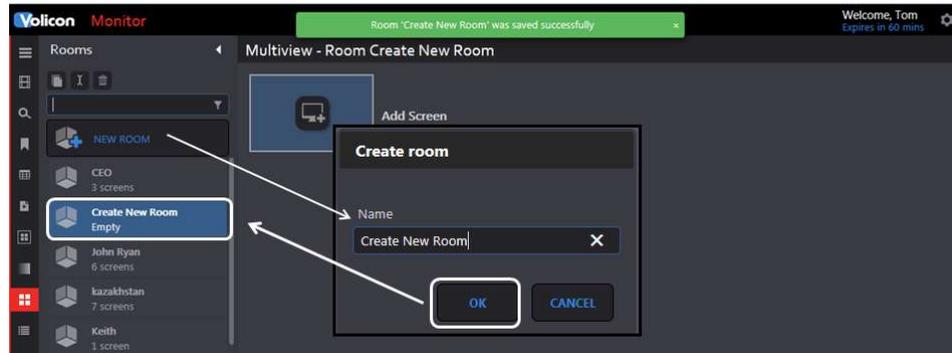


Figure: Create New Multiview Room

8.4.3 Create Multiview Screen

A room consists of one or more screens. Screens may be created from scratch or cloned and then edited to customize each one.

To create new screens use the **<Add Screen>** icon at the top of the page. This opens a dialog box, enter the name of the screen and press **<OK>**. At the top of the new page select the number of the cells you want. These may be either 4:3 or widescreen 16:9 with different cell matrix sizes. Select the matrix type and size and click **<Save Changes>**. The new screen will be added to the room.

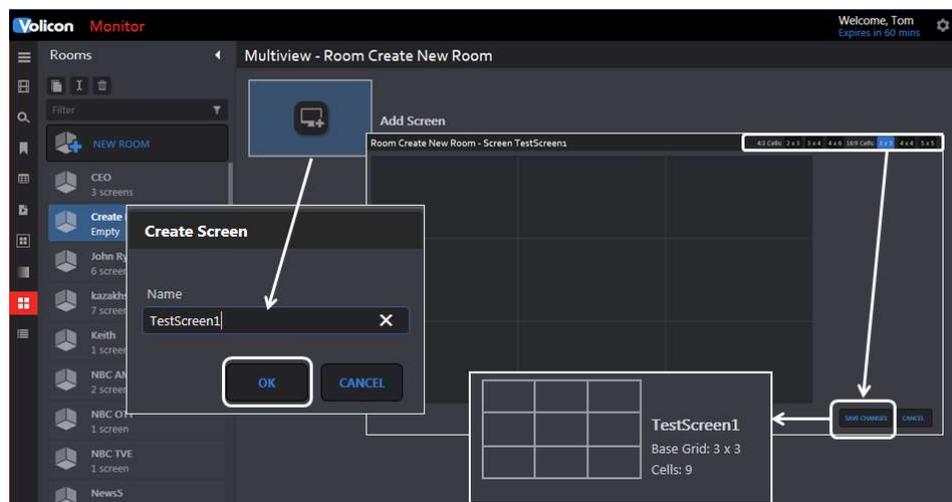


Figure: Create Multiview Screen

INFO TIP

Note: Cells may be merged to create a larger cell but not subdivided. When creating a new Screen be sure to create one with enough cells.

8.4.4 Configure Multiview Screen

Once the new screen matrix is created it needs to be configured. Hover over the desired screen and click the **<edit layout>** icon. Position the cursor over the desired cell and left click to open the **<widget list>**. Notice the cell turns blue. Depending on which cell you selected you may see some inward or outward facing arrows. Clicking an outward facing arrow expands the cell. Clicking an inward facing arrow reduces its size. The corner arrows expand or reduce the cell by factor of 4 maintaining the same aspect ratio. Arrows are only populated if the expand/reduce operation is permissible. For example in the figure below there are no inward facing arrows showing in the smaller widget cell. That indicates the cell cannot be shrunk. Likewise the larger cell does not have any out facing arrows at the bottom, because it is at the bottom of the screen and cannot be expanded in that direction.

Once you create a widget you are not able to reposition it. If you need to move a widget, use **<Delete>** (right click on the widget) and recreate a new widget.

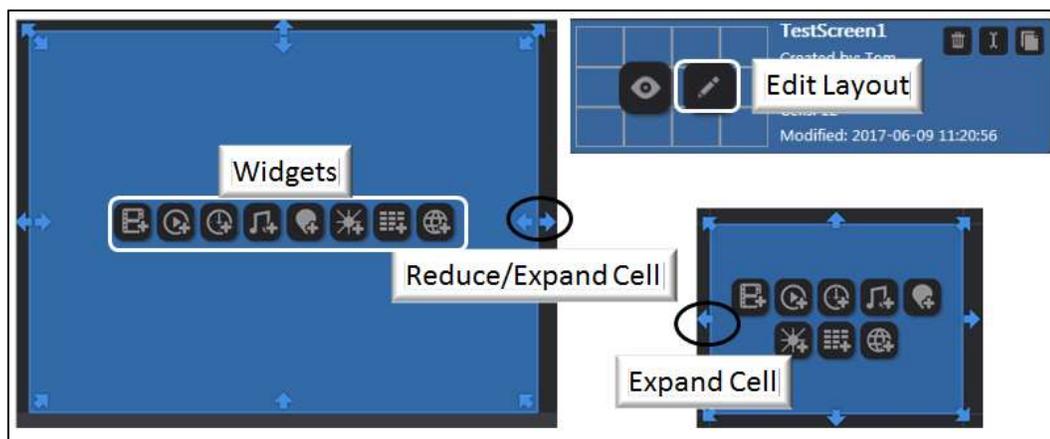


Figure: Widget Cell Sizing

Screen Widgets



There are eight widget icons.

Player displays low resolution thumbnail of the channel. Use the right hand pane to select the desired channel. At the bottom are **<Advanced>** options to display audio bar graph, faults and closed captioning. In Multiview the player is always live.

Quarantine viewer widget is a modified streaming viewer similar to the viewer in other MIS windows. Unlike the other widgets only one instance is supported.

Clock widget defaults to your computer's system time but can be changed to use any time zone by selecting by using the right hand panel.

Loudness widget displays the loudness graph.

Map widget allows you to display faults by region. Select the region from the selection at the right side of the page.

Path widget displays the channel name but not an active thumbnail. Click on the bullseye to open the quarantine player.

Faults widget displays the fault status of one or more channels. Select the channels to monitor from the right hand panel.

URL widget displays any desired web page or image from a web site. Enter the URL in the right hand panel. If desired Observer can be set to automatically update content.

8.4.5 Copy Multiview Screen

Another way to create a new screen is by cloning an existing one. If you hover over a screen the **<Duplicate>** icon appears in the upper right corner. Use that to create a copy of one of your screens. A dialog box opens allowing you to change the name. Once the new screen is created use the edit feature to modify the various cells.

8.4.6 Rename Multiview Screen

To change the name of a particular screen hover over the screen and click the **<Rename>** icon.

8.4.7 Delete Multiview Rooms or Screens

To delete an entire room click on the room and press the **<trashcan>** icon at the top of the **Rooms** pane. This will remove the room and any screens. To remove a single screen within a room hover over the desired screen and click on the **<trashcan>** icon at upper right.

8.5 QoE Alerts Tab

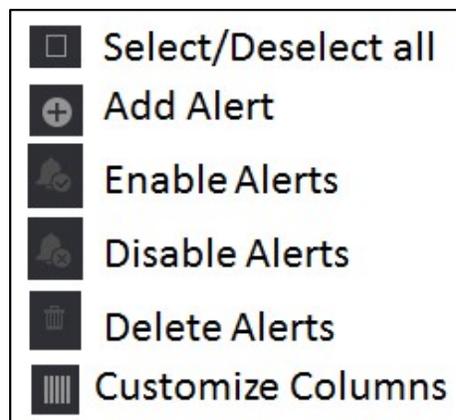
This section lists fault notifications and allows you to create notification lists for various faults. Alerts may be triggered on:

- Black screen
- Static screen
- No Video
- Audio Level
- Closed Captioning

8.5.1 Search

The search field works much the same as in other MIS applications. You are able to search by keyword, Alert type, time, email recipients and channel.

8.5.2 Alert Controls



The ribbon at the top of the page gives you control over the alert feature. Pressing **<Add>** opens another page giving you complete control over how MIS treats a fault condition and who is notified. The **<Enable>** and **<Disable>** buttons allows you to selectively enable or disable each alert. Lastly the **<Customize>** button controls which alert fields are displayed. Use the pulldown to select which alert columns you want MIS to display.

8.5.2.1 Create a QoE Alert

Pressing the **<Add>** button opens a new page composed of three sections.

The left hand pane allows you to set which email addresses MIS uses to send out the alert and to define the alert name and email subject line. Below that are options to limit how often and when to send the alert.

The middle pane consists of check boxes to select the fault conditions that generate the alert. The checkboxes are organized so you are able to select a generic fault, say **Video**, or a specific fault within video, say: **Black Screen**.

Lastly the right hand pane allows you to select the channel or channels you want to monitor. Typing all or part of the channel name into the **Filter** text box at the top of the display list restricts the display to matching channels.

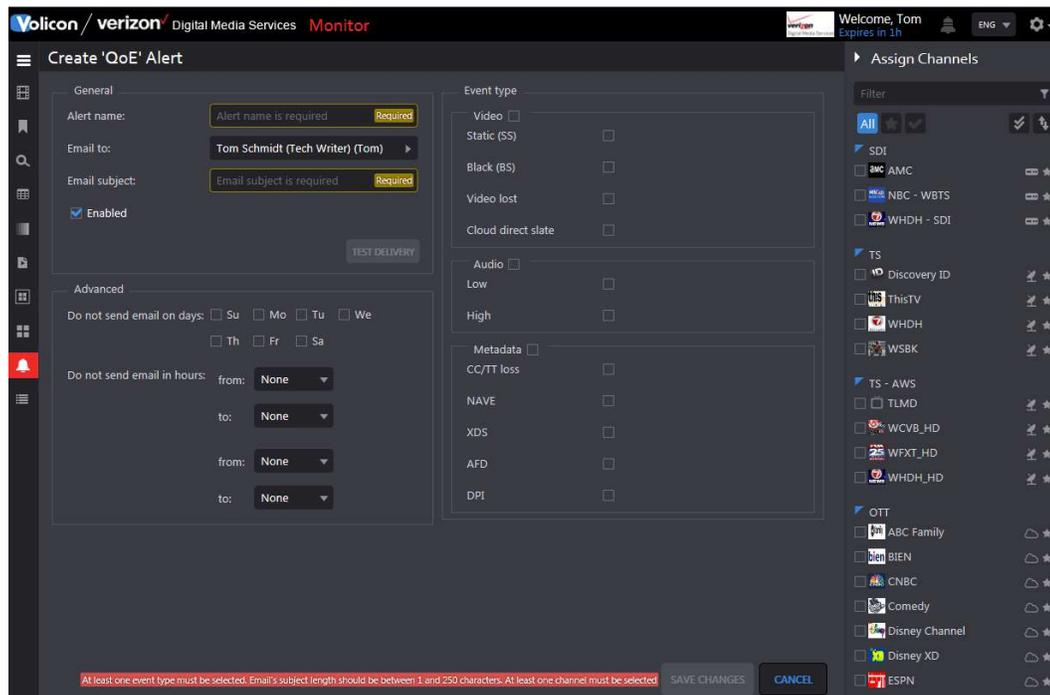


Figure: Create a New Alert

Once you have created the alert press the **<Save Changes>** button at the bottom of the page. Press the **<Test Delivery>** icon to send a test email to insure the alert was configured properly.

8.5.2.2 Editing an Alert

To edit an Alert hover over the alert. MIS will display the edit  icon on the right hand side of the alert. Pressing the icon opens the same page you used to create the alert, except now it is filled in. Press **<Save Changes>** when you are finished editing the alert.

9 MIS TOOLS

Pressing the gear icon, located at the upper right corner of each page opens the tools menu. Access to these features is controlled by your account permissions.

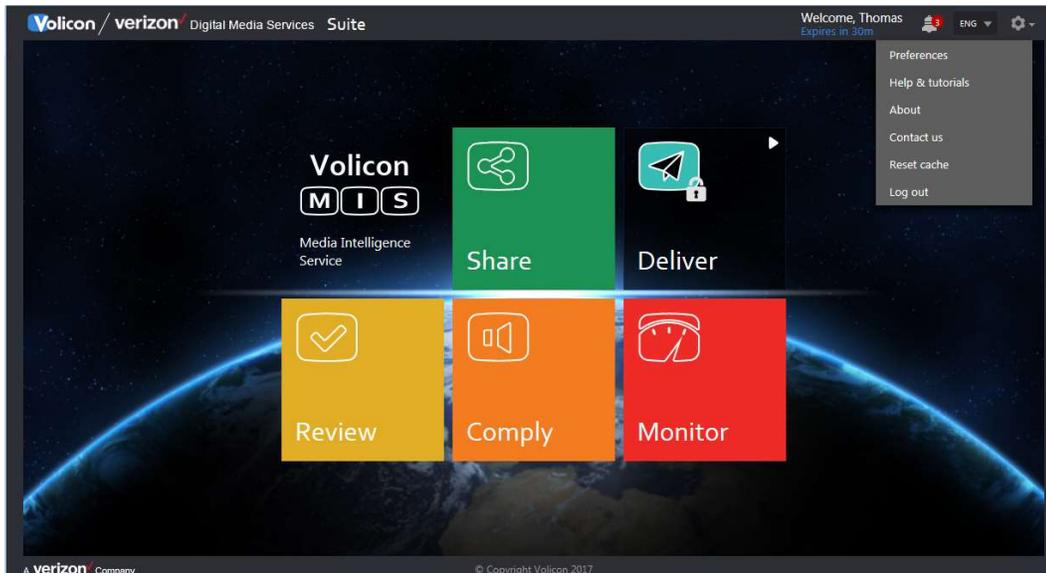


Figure: MIS Tools

Preferences – user account specific setting and time zone

Help & Tutorials – online video tutorials

About – MIS and Volicon player versions

Contact us – link to Volicon web site

Reset Cache – clears all applications cache, such as selected channels

Log Out – terminate MIS session

9.1 Preferences

This section allows you to customize the way MIS displays your information and change your password.

If you make changes press the **SAVE CHANGES** icon at the bottom of the page. If MIS is able to successfully save your changes it displays a banner at the top of the page. To exit without making any changes press **CANCEL**.

Preferences are saved. You need to re-login for the changes to take effect

Figure: Preferences Successfully Updated

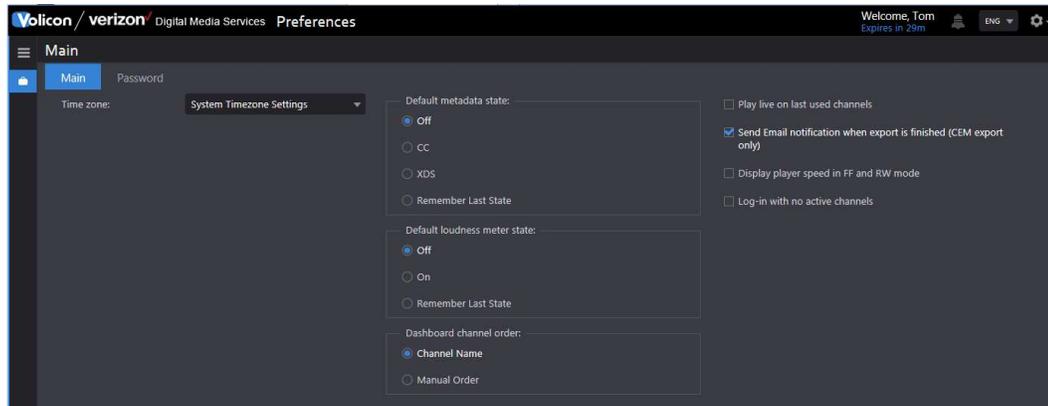


Figure: User Preferences

9.1.1.1 Time Zone

MIS defaults to the same time zone as your computer. If you want to override that setting and select a different time zone use the Time Zone pulldown.

9.1.1.2 States

The **Default Metadata State** and **Default Loudness Meter State** sets default viewer behavior. For example: if CC (Closed Captioning) is selected and the channel is Closed Captioned, it will be displayed whenever the channel is opened in the viewer. You are still able to change the viewer behavior directly however the next time the viewer is opened it reverts to its default behavior.

Dashboard Channel Order allows you to customize how channels are displayed (not yet implemented).

9.1.1.3 Far Right hand column

Play Live On Last Used Channels – automatically opens the channel in real time.

Send Email notification when export is finished (CEM export only) – sends an email to the address associated with your login.

Display player speed in FF and RW mode – adds graphic overlay to video showing speed.

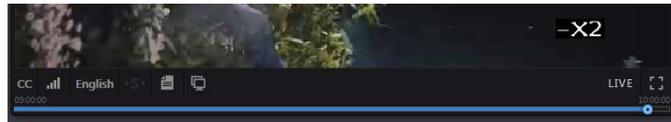


Figure: Player Speed Overlay

Log-in with no active channels – resets any selected channels at each log in.

9.1.2 Password

Use this feature to change your password. The system requires the new password to be entered twice. If they do not match MIS displays an error message and your old password continues to be in force.

9.2 Help & Tutorials

Pressing <Help & tutorials> displays an overlay with multiple help videos. You can watch a video then <Close> the window without affecting the page you are currently on. There is link at the bottom of the page to log into Volicon Customer Support.

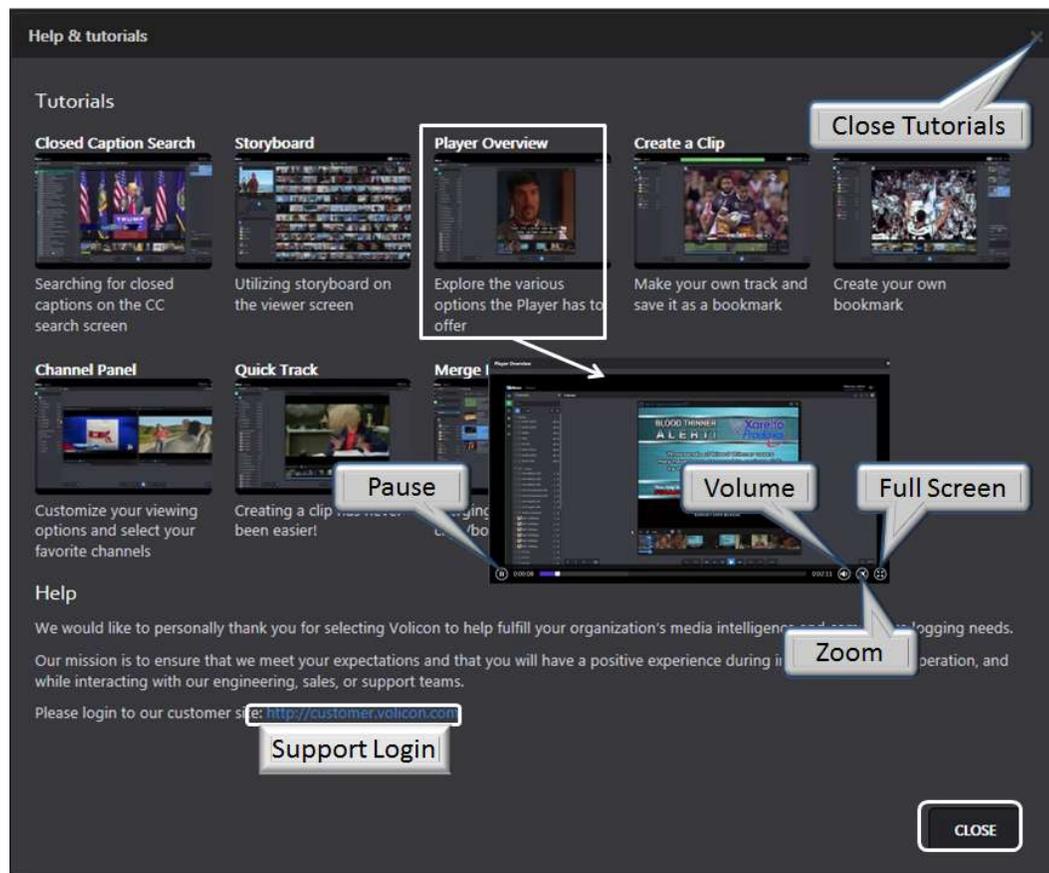


Figure: Tutorial Page

9.3 About

Press **About** to view the MIS software version and the ActiveX controls used with Internet Explorer.

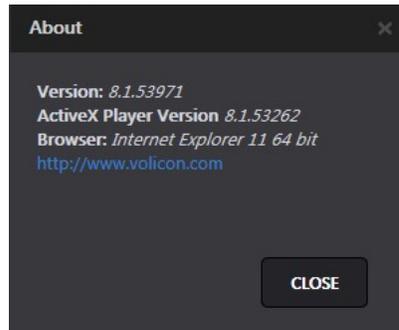


Figure: MIS Software Version

9.4 Contact Us

Contact us option opens a link to the Volicon web site to submit a question. Contact your local Observer administrator before contacting Volicon directly with questions.

9.5 Reset Cache

Clears all applications cached, such as the selected channels.

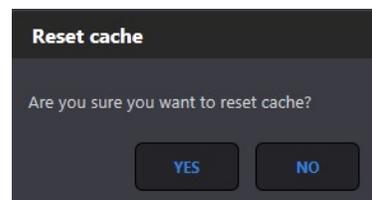


Figure: Reset Cache

9.6 Log Out

When you attempt to log out will be prompted to confirm the request as shown in the Log in section.

10 APPENDIX

10.1 Revision history

10.1.1 MIS releases

Version	Build number	Date	Description
7.0 QB1	7.0.35351	02/11/13	New features: PLR, Mobile, Bug fixes
7.0 QB2	7.0.36068	04/01/13	City Time Zone
7.0 QB3	7.0.36871	05/02/13	FE Architecture, new PHP version, bug fixes, enhancements, IE10 in compatibility view (see the release notes for more details)
7.1	7.1.39589		Ability to search for content by program
7.2	7.2.39589		Wall of Monitors mode

10.1.2 Revision change history

Date	Description
5/14/13	7.0 QB3 Initial release, revision history
6/14/13	Updated enhancements
06/25/13	Remove internal references... related section; add lineup display sync issues
12/16/13	Update User Guide to Release 7.1. Revamp User Guide to target end users.
2/3/2014	Update User Guide to Release 7.2.

About Volicon

Volicon Verizon digital media services is the leading provider of enterprise Media Intelligence Solutions for broadcasters, networks, cable and IPTV operators, and governments worldwide.

The Media Intelligence Service records all types of broadcast content across multiple interfaces (SDI, TS, Analog & OTT), and stores content for up to 7 years in either high-resolution or low resolution proxies. With this solution you're able to view your content with a variety of players and formats, search and find content quickly with closed captioning, and export and share content easily with collaborators.

The platform is an enterprise-grade, highly reliable solution that is scalable to hundreds of channels and thousands of users.

Providing a window on content delivered via satellite, cable, or over-the-air signal, as well as Internet-based over-the-top (OTT) services, the Enterprise Media Intelligence Service offers portals tailored to the many different departments at broadcasting facilities. Volicon's Enterprise Media Intelligence Service provides functionality appropriate not only for engineering and operations, but also for production and promotions, new media, news, sales and traffic, media relations, and executive and legal departments.

The Enterprise Media Intelligence Service supports applications including compliance logging, content archiving, content repurposing for new media outlets, competitive analysis, producer and talent evaluation, ad verification and media sales, and executive review of content. Streams may be viewed singly or side by side on desktop and laptop computers, tablets and smartphones and television monitors (via multicast).

Volicon's patented Virtual Media Network (VMN), which supports both MIS systems and the Enterprise Media Intelligence Platform, comprises a multichannel video streaming engine, interactive search, content analytics, and service monitoring and alarm capabilities.