Live Schedule Pro
Version 1.0

User Guide

Obtaining Support | Information | Assistance

Contact Telestream for support, information or assistance, as indicated.

Telestream Contact Information

Resource	Contact Information
Lightspeed Live Support	Web site: www.telestream.net/telestream-support/lightspeed-live/support.htm
	Support Email. support@telestream.net
	US Phone: 877-257-6245
	International Phone: +1 530-470-2036
	Terms and times of support services vary, per the terms of your current service contract with Telestream.
Licensing Assistance	Web site: www.telestream.net/telestream-support/lightspeed-live/support.htm
	License Email: license@telestream.net
Lightspeed Live Information	Assistance	FAQ	Forums	Upgrades	Web site: www.telestream.net/telestream-support/lightspeed-live/support.htm
	Support Email: support@telestream.net
Telestream, generally	Web site: www.telestream.net
	Sales and Marketing Email: info@telestream.net
	Telestream 848 Gold Flat Road Nevada City, CA USA 95959
Telestream Reseller Support	If you purchased your product from a reseller, please contact your reseller for support.
International Reseller Support	Web site: www.telestream.net
	See the Telestream website for your regional authorized Telestream reseller.
Telestream Technical Writers	Email: techwriter@telestream.net
	If you have comments or suggestions about improving this document or other Telestream documents—or if you've discovered an error or omission, please email us.

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Contents

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Introduction

Telestream's Live Schedule Pro is an enterprise-class service designed for scheduling automated live capture events in news and MCR 24/7/365 operations. Live Schedule Pro is hosted on a Lightspeed Live Server platform, including a calendar-style web app you can use to create, monitor and manage live media capture events executed by Vantage Capture workflows.

Telestream recommends that you read this chapter first, to become familiar with Live Schedule Pro and its features.

Next, we suggest that you launch the Live Schedule Pro web app and review the topics in *Managing Your Events* as you explore, experiment, and become familiar with the application and creating events.

Topics in *Managing Live Schedule Pro* help you with managerial tasks—integrating optional RouteMaster SDI router control, configuring Live Schedule Pro for your environment, licensing, and other topics.

Topics

- Live Schedule Pro Overview
- Live Schedule Pro Web App Overview
- Live Schedule Pro Prerequisites
- Quick Start
- Using the Live Schedule Pro API
- Licensing Live Schedule Pro and RouteMaster

Live Schedule Pro Overview

You use Live Schedule Pro to create and manage media capture events—automated recording events—for execution in Vantage's capture workflows, on a channel-by-channel basis. Live Schedule Pro automatically submits events to Live Capture in real time; it initiates a job for the associated Capture workflow in Vantage where the media is captured in real time, and written to file.

Note: You should not use Live Schedule Pro to automate capture events using Vantage Tape workflows. The Tape action ingests media using RS-422 timecode and is not practical for use with Live Schedule Pro.

Live Schedule Pro implements optional SDI router control via Telestream RouteMaster, an optional, licensed feature. For details, see *Licensing Live Schedule Pro and RouteMaster*.

Live Schedule Pro utilizes these Windows services:

- Telestream Live Schedule Pro Service—supports the Live Schedule Pro web application and controls Live Capture jobs by events you create.
- Vantage Live Service—connects Live Schedule Pro with the Vantage database to access Capture workflow's job data, which may be hosted on multiple Capture servers in an array. Live Schedule Pro automatically polls the list of servers and connects to the first Vantage Live Service it communicates with.

These services may be hosted on different Lightspeed Live servers when operating in a Live Capture array and the Vantage capture workflows may be executed on the same or on a different Lightspeed Live Server.

Note: You can use Live Schedule Pro on a single Live Capture server or in an array (a multi-server Live Capture system). From Live Schedule Pro's perspective, multiple Live Capture servers are seen as a unified system. All Live Capture servers should be operating on the same time zone.

These are the key operational tasks you can perform using Live Schedule Pro:

- Create a media recording schedule event by event, for each active Live Capture workflow in your Vantage domain via a convenient, calendar-style interface.
- Add metadata values to each event via variables and labels, which are passed to the workflow when recording starts and stored with the asset if required.
- View and manage manual, API, and recurring segment events.
- Monitor the status of active Live Capture workflows, summary statistics and details.

Live Schedule Pro Web App Overview

You use the Live Schedule Pro web app to create events for SDI and IP sources in Live Capture that you want captured, and automatically start and stop capturing video on an event-by-event basis, with optional SDI router control.
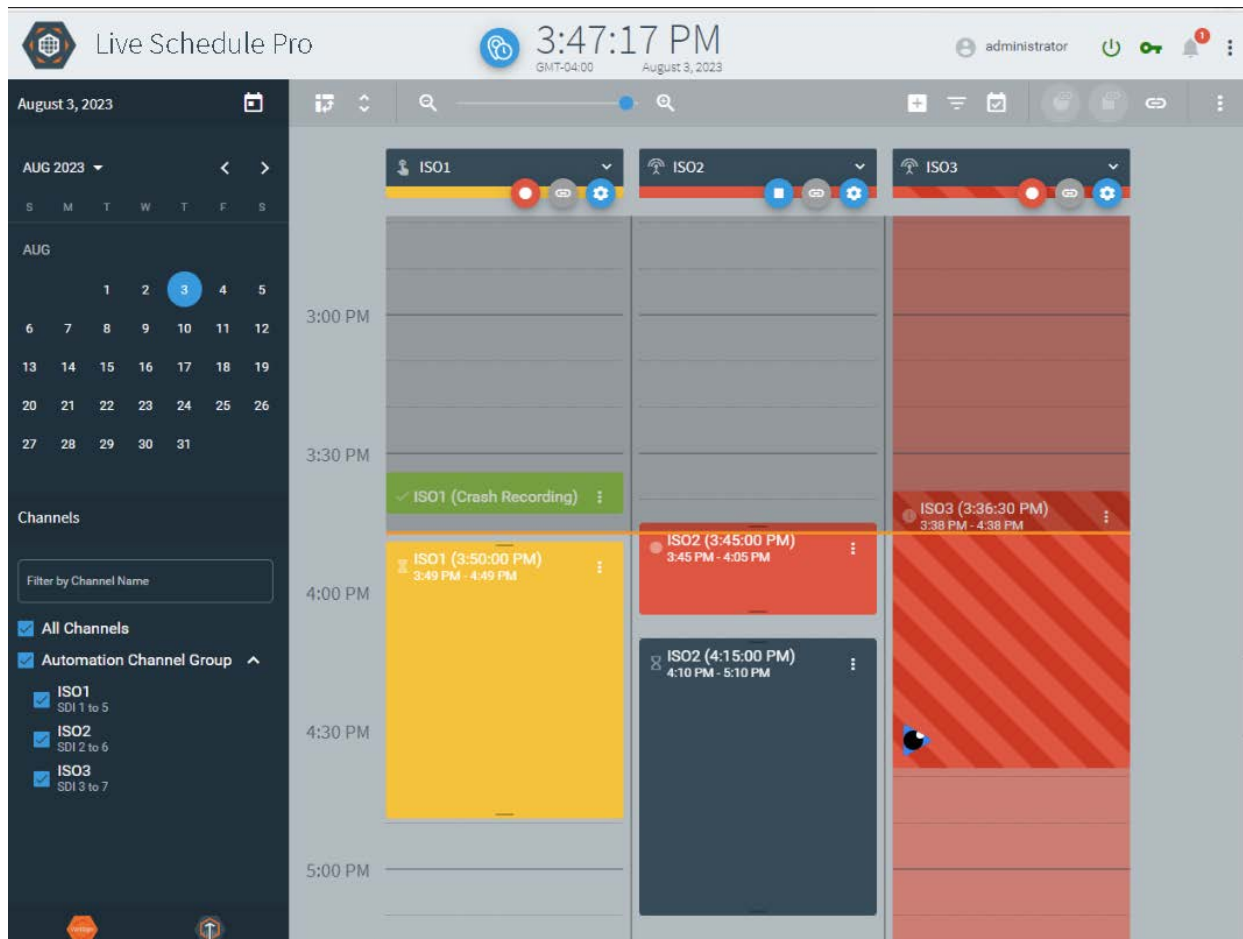
In this example, you select the date from the calendar panel in the upper left; select channels from the channels panel in bottom left. The filtered events are displayed in the main event window on the right, ordered by time.

Live Schedule Pro Prerequisites

Before you use Live Schedule Pro and start scheduling events, make sure that:

- Live Schedule Pro uses the Telestream Live Schedule Pro Service's host to provide time-of-day computer clock to place events on the schedule and determine the start and end times during recording. The timecode source used in the channel configuration must match this time-of-day timecode.

  In the Source Manager web app, for SDI, specify Timecode Source as either Source | Computer Clock | LTC (except for ST 2110), which must be synced to time of day. If recording must start and end at a precise, frame-accurate timecode, LTC or Source is preferred. For IP sources, Timecode Source must be set to Computer Clock if the ingested stream does not have embedded timecode that matches time of day.

- For a Live Capture array—each server must be addressable by its server name. Name resolution should be provided through DNS or by entries in each server's hosts file.

- Each Live Capture workflow that you plan to use must have its Capture action configured either with Manual or Web Service triggers. If not, it won't display in Live Schedule Pro for assignment to a channel. (In your workflow in Workflow Designer, see the Capture action man page for details.)

- Variables and labels (both of which are optional) are defined in Vantage and implemented in a workflow's Capture action, with values set as appropriate in Live Schedule Pro.

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Quick Start

Here are the steps you can take to quickly create capture events in Live Schedule Pro and start capturing video:

1. Create and Configure Video Sources—in Source Manager, configure your SDI sources for live ingest, to meet your specifications. Create and configure any IP-based video sources you are going to capture.

   See Managing Video Sources, in the Live Capture User Guide.

2. Create Capture workflows— In Vantage Workflow Designer, create and configure a new Capture workflow for each SDI and IP source in Source Manager. Each workflow is connected to one source, and provides a channel for the Live Capture web apps to use or monitor.

   See Creating Live Capture Workflows in the Live Capture User Guide for details. See the Vantage Workflow Designer User Guide for general information regarding workflows.

3. Activate your Live Capture workflows—In Workflow Designer, activate each workflow you plan to create events for, so that you can create capture events for this workflow's channel.

4. Create Capture events—In Live Schedule Pro, check all channels that you want to work with. Select a date in the calendar panel, and then create capture events as appropriate.

Note: If your workflow is inactive or configured incorrectly for use in Live Capture, Live Schedule Pro won't display it for selection.

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Using the Live Schedule Pro API

Click Live Schedule Pro's main More ⋮ menu > REST API Help to display the Live Schedule Pro API help system.

You can use the Live Schedule Pro API to create and manage events from your own system or program. The Lightspeed Live Schedule Pro API enables scheduling, management, and query of capture events to be controlled manually via the HTTP web service. The API is implemented in the Lightspeed Live Schedule Pro service.

The Live Schedule Pro API is described at
`http://<Server>:6500/help/index.html`
where `<Server>` is the host name of the Lightspeed Live Server or keyword *localhost* when accessed locally.

Licensing Live Schedule Pro and RouteMaster

Live Schedule Pro is an optional, licensed Live Capture product. Unlike some other web apps, Live Schedule Pro is not licensed in Vantage. Activating your license is performed directly in the Live Schedule Pro web app and described in *Managing Your Live Schedule Pro License*.

Telestream RouteMaster is also an optional, licensed router control program. It is installed by the Live Schedule Pro installer. Contact Telestream Licensing to obtain a license with installation instructions, to enable RouteMaster in Live Capture.

To obtain licenses or obtain licensing information or assistance, see *Obtaining Support | Information | Assistance*.

Note: If you add a new Windows user for use in your Lightspeed Live server, the RouteMaster configuration file must be copied into the new user's AppData directory to work correctly:
C:\Users\<username>\AppData\Roaming\Rascular\RouteMaster\RouteMaster.ini.json.
Failure to copy this file to the new user's directory causes Vantage web apps to fail when logging in using the user ID.

As installed by Live Schedule Pro, the RouteMaster Service's web server is configured to communicate using *http://localhost:7777*. RouteMaster port bindings are configurable, and you can change or disable the web service in the RouteMaster Client Configuration dialog.

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Managing Your Events

Use this chapter for assistance using the Live Schedule Pro web app to schedule, monitor, and manage your Live Capture events.

Topics

- Launching the Live Schedule Pro Web App
- Live Schedule Pro's Web App
- Creating and Managing Events
- Showing/Hiding Vantage Jobs
- Avoiding Scheduling Conflicts
- Resolving Recording Failures
- Working with Channels
- Using Source Routing
- Selecting a Calendar Date
- Displaying Events by Channel
- Enabling Automatic Event Deletion
- Setting the Schedule Time Scale
- Monitoring Channel Status
- Monitoring the Status of Capture Jobs
- Using Variables in Events
- Using Metadata Labels in Events
- Managing User Preferences
- Previewing Media with Glim

Launching the Live Schedule Pro Web App

You launch the Live Schedule Pro web app from the Vantage web portal (sometimes referred to as the Vantage home page), using the same credentials as you use to launch Live Capture.

Note: Always use Chrome, and don't launch Live Schedule Pro directly via a URL—it causes credentials issues and other problems.

Displaying the Vantage Portal

Using the Vantage Portal to access web apps establishes and maintains Vantage login information that is essential to logging in to Vantage.

To display the Vantage portal, enter the Vantage Portal's URL:

http://localhost | `<Live Capture Server host name>` | `<IP Address>`/*Vantage*

Use the keyword *localhost* when you're using Chrome directly on the Live Capture server; use the Live Capture server's host name or IP address when you're launching Live Schedule Pro on a separate workstation via the network.

If your Vantage credentials are current, Vantage displays the Vantage Portal—proceed to *Launching the Live Schedule Pro Web App*. Otherwise, you'll have to refresh your Vantage credentials to log in.

Logging into Vantage

If your Vantage credentials aren't current in Chrome, you'll be prompted to log into your Vantage domain before the Vantage Portal displays.

Enter the server's host name or IP address (typically the Live Capture server) in the Select Vantage Domain panel's Name or IP field:

Lightspeed Live Capture server domain name

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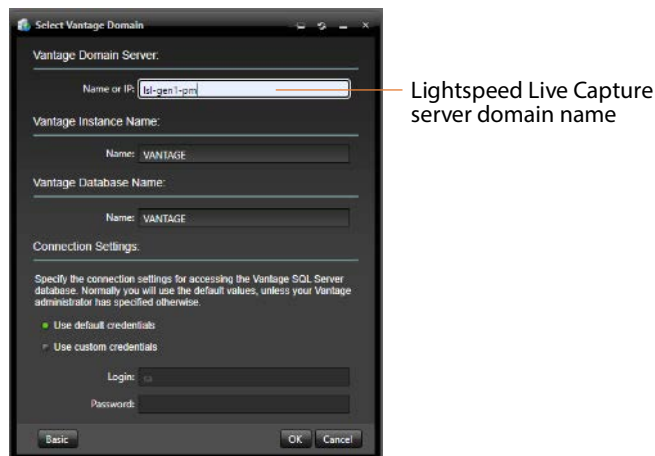
Click OK to display the Vantage login panel, where you enter credentials:

Your Vantage user name
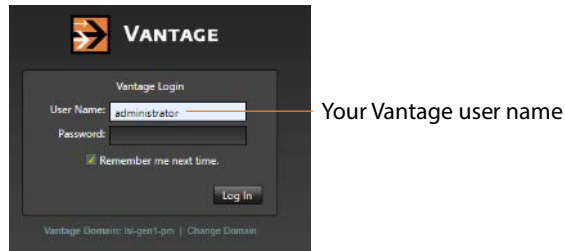
Enter your Vantage user name (and password if required), and click Log In. The default credentials are *administrator*, with no password. However, a Vantage administrator may have created a Vantage user ID for your use.

Launching the Live Schedule Pro Web App

Vantage displays the Vantage Portal, where you can launch Vantage and Live Capture web apps, and access user guides and other documents.

Click here to launch the Live Schedule Pro web app
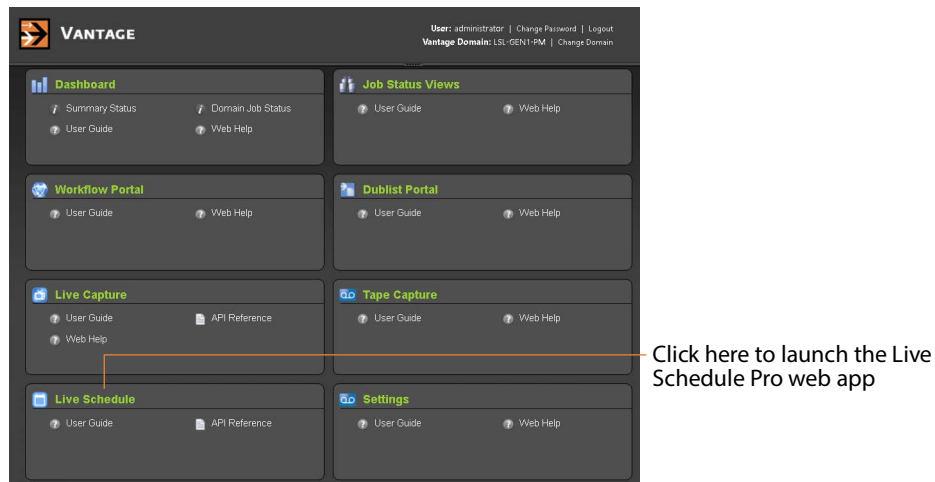
Click Live Schedule Pro to launch the web app.

Live Schedule Pro's Web App

Live Schedule Pro displays events you create directly in Live Schedule Pro. It also displays crash recording events and web service events.

Topics

- Main Window
- Using Live Schedule Pro's Title Bar
- Live Schedule Pro Panels
- Using the Events Panel

Main Window

Here is a typical view of the main window of the Live Schedule Pro web app:

Calendar panel · Events panel · Main title bar · Event toolbar · Channel panel · Event timeline · Channel event columns · Events (color coded) · Job Status Views button · Lightspeed Live Capture button
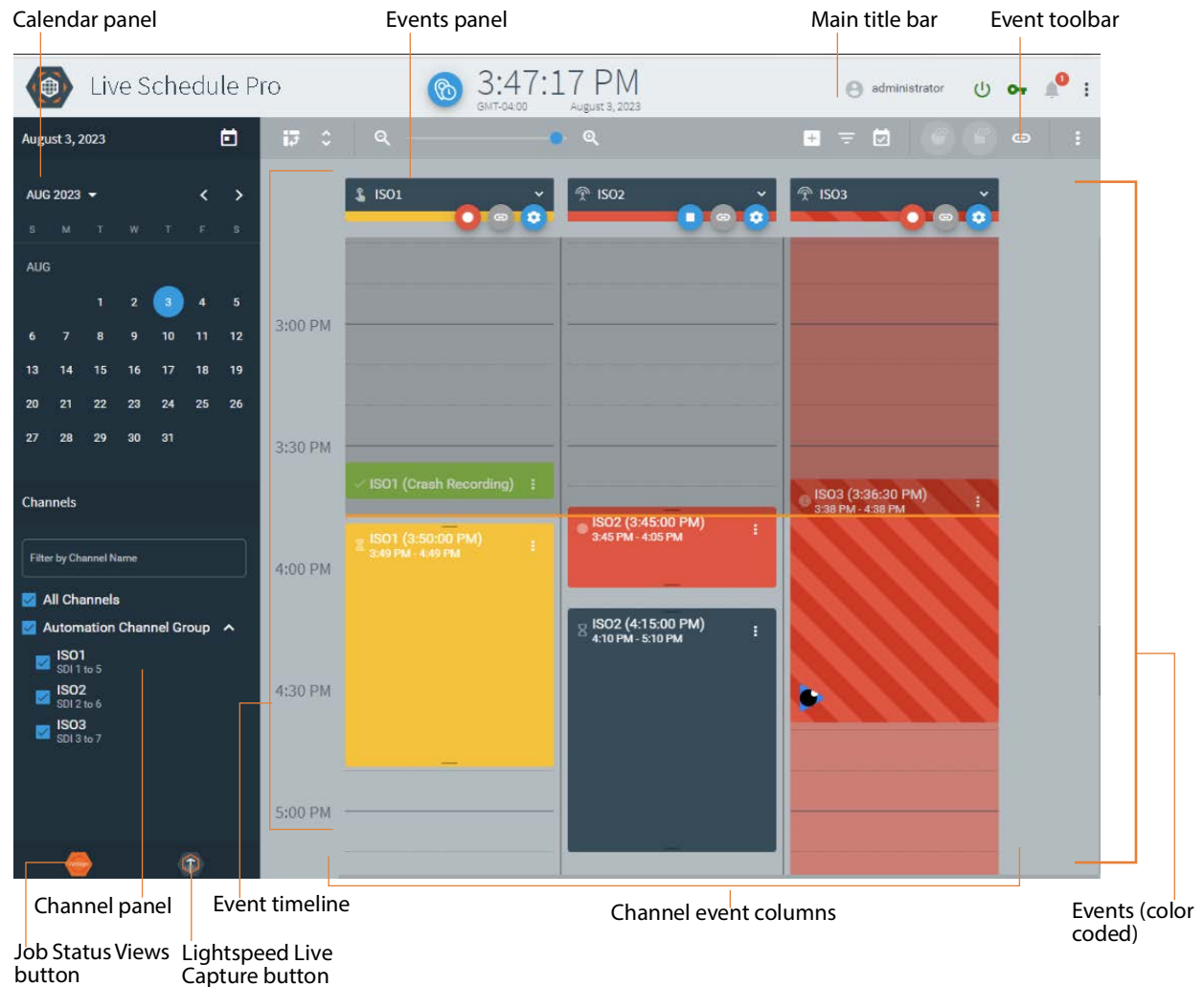
The main window is comprised of the title bar at the top with important information and buttons, and the main ⋮ menu to access administrative/configuration features. On the left, Live Schedule Pro displays the calendar and channels panels.

The large, central panel is the events panel, which displays all of the capture events you've created, in various colors and patterns to help you understand the state of all your events as Live Schedule Pro executes them in real time.

Using Live Schedule Pro's Title Bar

The title bar, at the top of the window, provides general information, including computer clock date and time, and connection and license status:

Vantage Web Portal—Click this button to display the Vantage web portal to access other Vantage web apps.

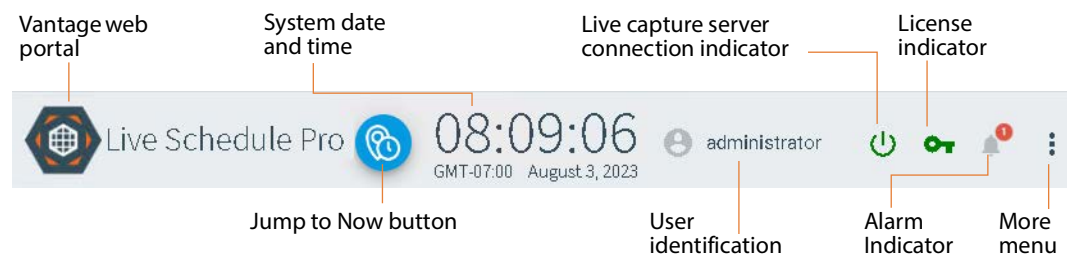**Jump to Now Button**—Click to center the events panel on today's date and time.

System Date and Time—Displays the Telestream Live Schedule Pro Service host computer's clock date and time, and the time zone the host is located in. This host should be in the same time zone (or set the computer clock) as the Live Capture server that Live Schedule Pro is controlling. Or, if the Live Capture servers are not in the same timezone as the Telestream Live Service (which connects to Vantage), you should add a channel time offset to account for the time difference. See *Managing User Preferences*.

User Identification—When connected, displays the identity of the Vantage user currently logged in to Live Schedule Pro. Click here to log out of Live Schedule Pro or to log in as a different user

Live Capture Server Connection Indicator—When this button displays green, you have a connection to the Lightspeed Live Capture server. When it displays red, the connection has failed and you can't control recording. Reconnect to the server before continuing work.

License Indicator—When the key ⚷ button displays green, your license is enabled. When it displays red, the license is expired or deactivated. Click the button to activate or deactivate your license—see *Managing Your Live Schedule Pro License*.

Alarm Indicator—The alarm   indicator button displays the error count—the number of alarms—recorded since you last checked and cleared them. Click the button to review alarm details and clear the messages:
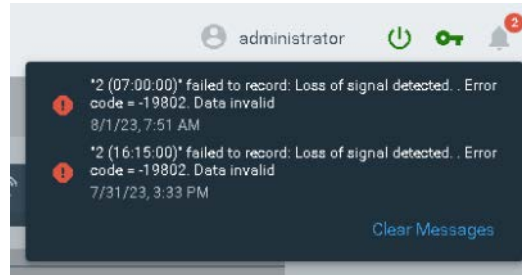
Main More Menu—Click the Main ⋮ menu button in the title bar to configure Live Schedule Pro, perform database operations and review version information or access the Live Schedule Pro REST API documentation.

Live Schedule Pro Panels

Live Schedule Pro's window is comprised of these panels: calendar, channels, and events.

Calendar Panel (upper left)—Displays a calendar, which you use to navigate by year and month, and select the date you want to focus on. When you click a date, the events panel displays the event schedule for that date, by channel. Controls on the calendar panel enable you to select the year and month to display. See *Selecting a Calendar Date*.

Events Panel—Displays events for the selected channels (see *Working with Channels*) on the schedule panel's event table, for the selected date (*Selecting a Calendar Date*; see *Using the Events Panel*).

Channel Status Panel—Displays the status of all channels in the selected group/nexus (see *Working with Channels*).

Using the Events Panel

This is a typical view of the events panel—it displays horizontally or vertically—enabling you to view events left to right or in columns, organized by source channels to suit your preference. Each row/column is divided into time blocks on a 24-hour period and displays events that have been added, by time.
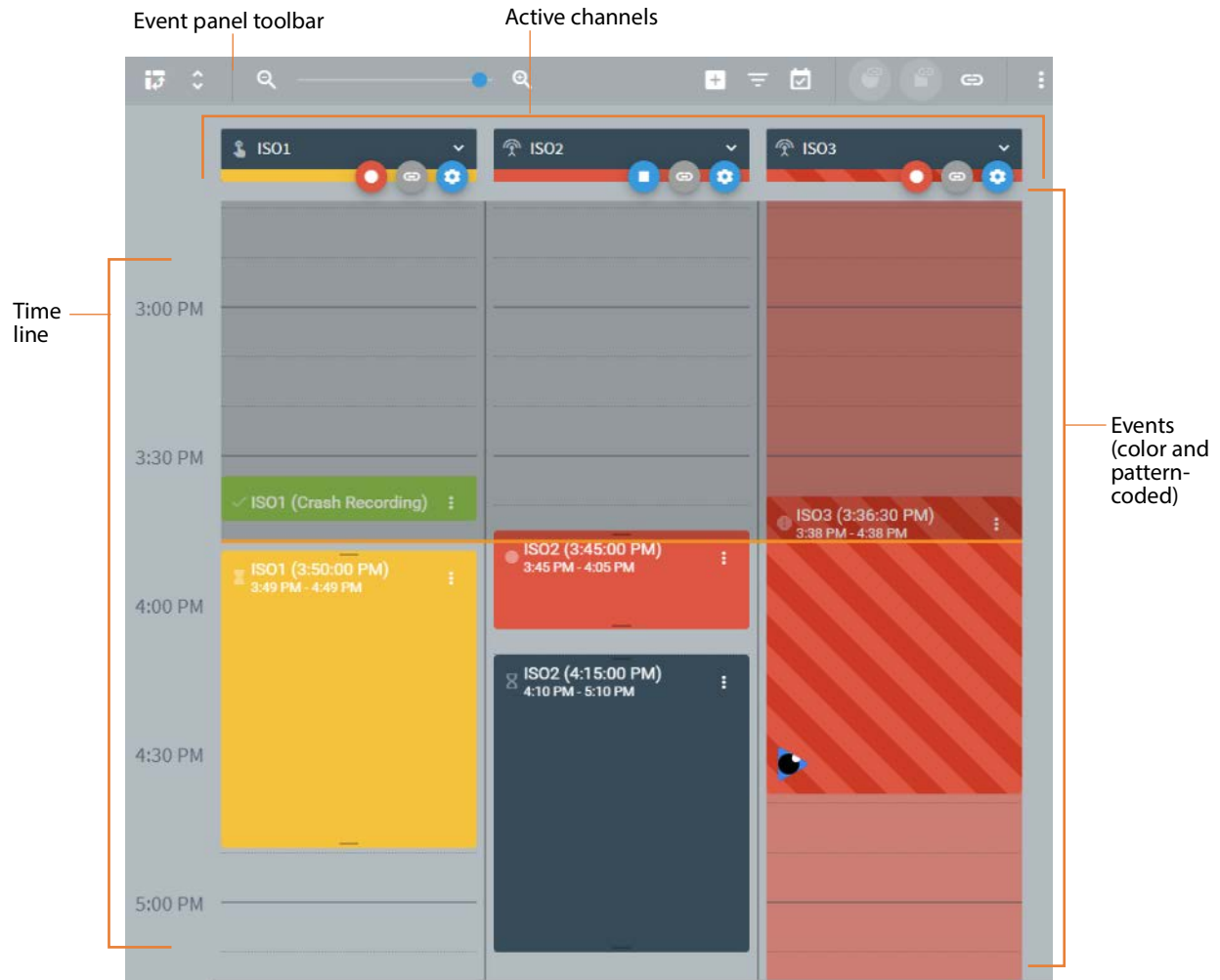
Events are displayed ordinally, and they are color- and pattern-coded to make it easy to determine their state.

Note: When you've zoomed out far enough in time that the events are too small to display details, hover over an event to temporarily display its event card in full size.

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The toolbar provides access to tools that you can use to work with events:

Channel/event pivot button
Event schedule zoom & scrubber
Event filter
Gang/ungang button

Thumbnail hide/display
New event
Show/hide Vantage jobs
Start/stop gang recording
More menu
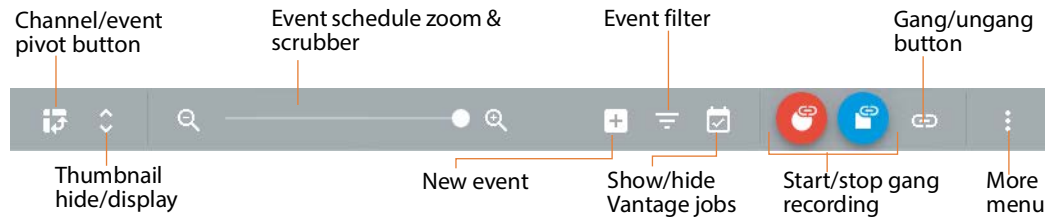
Channel/Event Pivot Button—Click the Channel/Event pivot button to rotate the event table: orienting the events horizontally by row by the selected source channels on the left and events proceeding left to right on the timeline, or orienting the events vertically by column, organized by their source channels across as column headers and events proceeding top to bottom on the timeline. In this view, events in the table display vertically (in time order), organized by channel across the top of the grid. You can just as easily present your channels and their events horizontally—with channels in a column down the left, and their events displayed from left to right, in row order.

Show/Hide Thumbnails—Click the Show/Hide Thumbnails button to display or hide the video thumbnail on the channel card. By default, thumbnails are not displayed. Click the thumbnail to display the channel's Preview dialog (see *Viewing a Channel's Source*).

Event Schedule Zoom Bar and Scrubber—Use the event schedule zoom bar and scrubber to zoom in and out on the schedule to view events as required (see *Setting the Schedule Time Scale*).

New Event Button—Click the button to display the Configure Event dialog and create and configure a new event (see *Creating and Configuring Events*).

Filter Event Button—Click the button to display the Filter Event dialog and limit the events displayed to those that meet the filter criteria—enter the string and press enter to filter the events that display.

When you've applied a filter, the button displays blue to indicate the filtered state; events that are excluded display translucent and are disabled. To enable all events, display the filter and clear the field by click the X button or simply delete the text string. To display all events, delete the string.

Show/Hide Vantage Jobs—Click the button to alternately show or hide capture events that you have created directly in Live Capture by starting a crash recording (see *Crash Recording a Single Channel*).

Start/Stop Ganged Event—Click the button to start a crash recording on all ganged channels. Click the button to stop the current crash recording.

Gang Channels—Click the button to gang or ungang all of the visible (selected) channels.

Schedule Menu—Click the menu to import or export events (see *Performing Database Operations*).

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Creating and Managing Events

You create events in Live Schedule Pro to control capture jobs in a Vantage workflow: the time and duration to record a given channel, and optional metadata including variables and labels.

You can add two types of events: A one-time event or a recurring event—one that repeats on a regular basis for a specified period of time.

At two minutes prior to an event, Live Schedule Pro queues the event—and displays the event in yellow to indicate the change—locking the channel's live source process. Locking the live source process requires that the signal must maintain its characteristics in terms of frame rate and size or the process will go to loss of signal mode.

Note: The time displayed in the schedule is based on the system time of the server hosting the Telestream Live Schedule Pro Service. If you are scheduling capture events for another time zone, you should set your server's clock to the time zone where recording occurs or be aware of the delta between the two, and set the channel's Source Time Offset accordingly (*Performing Other Channel-Related Operations* >Source Time Offset).

- Event State Color and Pattern Scheme
- Creating and Configuring Events

Event State Color and Pattern Scheme

Event cards in the schedule panel are color-coded to indicate their current state:

- Dark Blue—waiting to start a Capture job in Vantage and begin recording
- Yellow—queued in Vantage (two minutes prior), pending the start of recording. Once an event is queued, a job has been initiated in Vantage and you can monitor it in the Job Status Views web app (*Monitoring the Status of Capture Jobs*).
- Red—currently recording in Vantage capture workflow
- Green—recording complete; recording was a success
- Red striped—recording has failed; it has stopped or complete.

Creating and Configuring Events

To create a new capture event, click the ⊞ button on the events panel toolbar or double-click on a time block in the in the channel's row or column of the events panel to display the Create Event dialog.

When you add an event in this manner, the Event Name, Channel Group and Channel Name are pre-selected, and the start time is set to the beginning of the time block.

To edit an existing event, click the More menu on the event card and select Edit to display the same dialog, titled Create Event.

Event Editing Restrictions

You can edit certain parameters only during specific event states:

- Waiting state—All parameters except the channel and recurs values
- Queued state—End date/time
- Recording state—End date/time, label, and routing parameters.

Note: When editing a recurring segment, if you update a recurring event series from an event that is queued, the edits aren't applied to the queued event per editing rules.

Live Schedule Pro displays the Create | Edit event dialog (event tab shown):

Note: You can modify variables and labels when you're creating an event or while it is waiting for execution. During recording, you can only modify label values.

Note: Live Schedule Pro displays a Labels and Variables dialog when you attempt to crash record a channel, where the workflow requires a label or variable you haven't supplied (see *Using Variables in Events*). Provide the label/variable value and click Start Record to continue.

Note: Prior to an event being queued, you can change the start and end times by dragging the Start/End marker to adjust it, or by opening the event and changing the start and end times directly in the panel's controls. If an event is in the Queued or Recording state, you can only modify the end time—you can only modify the start time while the event is in the Waiting state. Once an event is added to the schedule, it remains until manually removed or the automated event cleanup runs, as configured in System Settings (see *Enabling Automatic Event Deletion*).

When configuration is complete, click Add to add this event to the Live Schedule Pro database and display it on the event schedule.

This dialog is organized by tab:

- Editing General Event Values
- Editing Variables
- Editing Labels
- Configuring Routing

Editing General Event Values

Name (required)—Specifies the display string that identifies this event. Event Name is also passed to the Base name system variable to be used if the Base name is part of a File Name Pattern to control output file name formation.

When you create an event by double-clicking on a channel row, the Event Name is automatically applied and set to [Channel Name]-[Start Time]. You can change this name if desired.

Description—Text to describe this event. Displays on the event, when added to the schedule.

Start Date (required)—Specifies the date the event starts, selected from date picker or edited directly. Default: current date.

Start Time (required)—Specifies the time in HH:MM:SS format that the event starts. Default: current time.

End Date (required)—Specifies the date the event ends, selected from date picker or edited directly. Default: current date.

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End Time (required)—Specifies the time in HH:MM:SS format that the event ends. Default: Duration value plus start time. You can schedule events for any date/time in the future, not to exceed 9 hours past the start time.

Note: Workflows that write files into an Avid system have a maximum 6 hour limit.

Events display in Channel Status until they complete, fail, or are removed by deletion or automatic cleanup (see *Enabling Automatic Event Deletion*).

You can enter the end time to auto-calculate the duration or manually enter the duration and auto-calculate the end time.

When you create an event by double-clicking on a channel's row, the start time is set to the half hour closest to the location on the timeline where you clicked.

Duration (required). Default: 60 minutes; maximum 9 hour time limit.

Note: Workflows that write files into an Avid system have a maximum 6 hour limit.

Specifies the event duration, in HH:MM:SS format. You can enter the end time to auto-calculate the duration or manually enter the duration to auto-calculate the end time.

Recurs—Default: Never. Select period of time for recurring event that repeats at regular intervals and configure the recurring settings in the Configure Daily Recurring Event dialog (marked, below in order of display). Select Never to create and configure a single-capture event.

Start (required)—Default: current date. Manually enter the values or use the Calendar date picker.

Occurs Every (required)—Specifies the number of recurring periods for the type or recurrence specified. For example: Occurs every 3 days for a Daily recurring event.

End After (required)—Select Date | Count to control how to specify the End Until value.

Recur Until (required)—For End After: Date, specifies the date that the recurrence should terminate. Manually enter the values or use the Calendar date picker. For End After: Count, specifies the number of occurrences for this event.

Editing Variables

You can edit variable values when events are in Waiting |Queued | Recording states (both single and recurring). If input variables are used in the workflow, supply the value directly or click the Variables button to display the Variables panel, where you specify values for each input variable required. You can set variable values at two levels—channel and event—see *Using Variables in Events* for details.

Editing Labels

You can edit label values in Waiting |Queued | Recording states for single and recurring events. If labels are used in the workflow, supply the values directly or click the Labels button to modify them. Live Schedule Pro displays the Labels panel, where you update values for each field in the selected label.

You can edit label fields at two levels—channel level and event—see *Using Metadata Labels in Events* for details.

Configuring Routing

When you have routing control enabled for Live Capture, you can use the Routing tab to dynamically re-configure sources on a channel by channel basis.

You can edit routing settings in the Waiting state for single and recurring events. You can also change the route while recording is in progress. You are warned if changing routing for an event in progress that it may disrupt the recording.

Live Schedule Pro displays the Configure | Edit event dialog:

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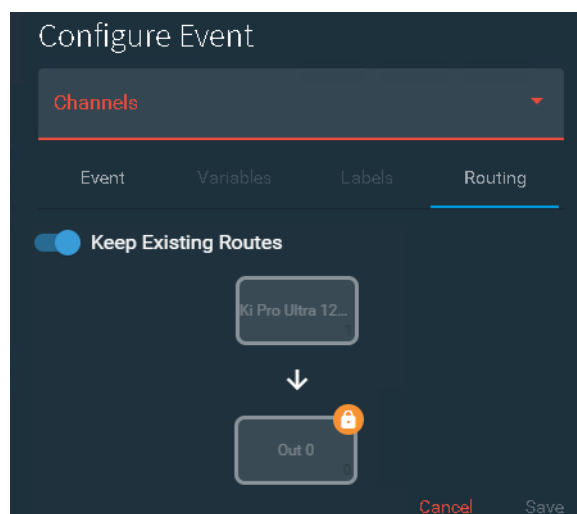
Keep Existing Routes—To maintain the current source for this channel as configured, enable this control. By default, an event maintains the existing route, so that you don't have to define routing for each event. By default, Keep Existing Routes is disabled, preventing route changes.

When Keep Existing Routes is disabled, you can change the route for this event, as shown here:
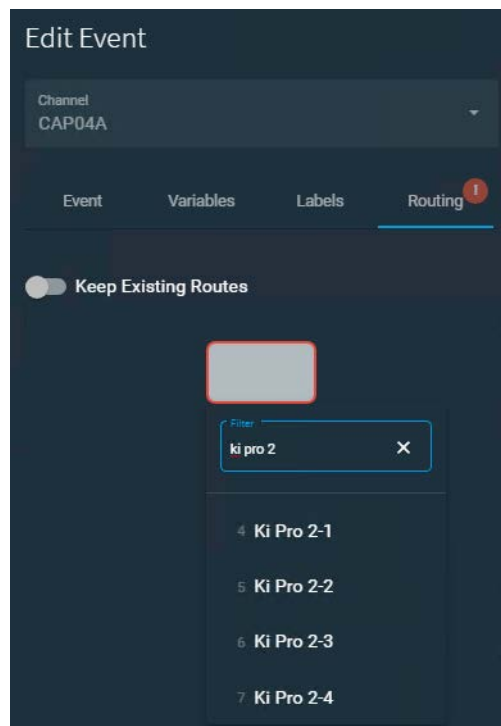

Note: You can also change the route while recording is in progress. You are warned if changing routing for an event in progress that it may disrupt the recording.

Source Routing. The Source and Destination controls (following) only display when source routing is enabled (see *Using Source Routing*). Abutting events (two adjacent events, separated in time by the queue time (two minutes) or less on a given channel cannot have a routing change: the routing change for a queued event disrupts the ongoing event.

Source. Specifies the input source from your router. Manually enter the source name or select it from the menu. As you begin typing, only those sources that contain the string display, enabling you to quickly identify and select the source that you want to use. If you have specified a limited list of sources (*Specifying Visible Router Sources*), only the selected sources are available. Otherwise, all router outputs are available.

Destination. Specifies the label identifying the target of the router. (See *SDI Router Configuration*).

Click Save to update the configuration and close the dialog.

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When an event configuration has a change in routing, the event card displays the routing source at the bottom part of the event card.

Note: In the schedule panel's horizontal layout, disclose the channel lane to show the bottom half of the card.

Showing/Hiding Vantage Jobs

Live Schedule Pro enables you to create event cards for events started directly in Live Capture or via the API. Telestream recommends that when you enable Live Capture events or API-based events, you enable event card creation to have a complete view of all events occurring in the system.

WARNING: *Live Schedule Pro permits you to start a concurrent crash recording when there is an externally-started recording in progress on the channel, even though this practice is not recommended.*

To display jobs created from Live Capture or API submissions, click the Show/Hide Vantage Jobs button in the title bar:

Show/Hide Vantage jobs

When you've configured Live Schedule Pro to display Vantage jobs, each time a job is started, Live Schedule Pro automatically creates a event card with a Vantage logo embedded:

Vantage icon
GLIM link
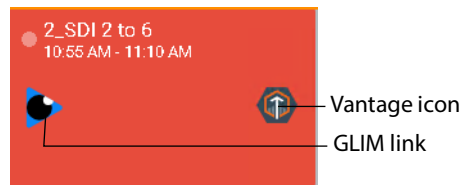
The event card optionally displays a GLIM link (*Enabling Glim links*) to preview the video. When you click it, if recording is in progress, GLIM attempts to open the file as an Open recording. If the workflow is not configured as an open workflow, GLIM can't open the file until its closed.

In horizontal layout, expand the channel to show the preview, so that these buttons are visible.

You can't edit or delete externally-generated event cards directly in Live Schedule Pro. They indicate that recording is in progress, and display until the Vantage job expires or the job is deleted in Workflow Designer.

Avoiding Scheduling Conflicts

Live Schedule Pro prevents you from creating overlapping events on the same channel in two ways: Scheduling and crash recording.

Topics

■ Avoiding Conflicting Event Schedules

■ Avoiding Conflicting Crash Recordings

Avoiding Conflicting Event Schedules

Best practice is to avoid executing multiple, concurrent recording workflows using the same source to avoid over-provisioning a channel or unbalancing the CPU load.

Live Schedule Pro does not allow you to schedule overlapping events. If you attempt to assign a new event to a channel that already has an event scheduled during that time, you are prevented from adding the event:
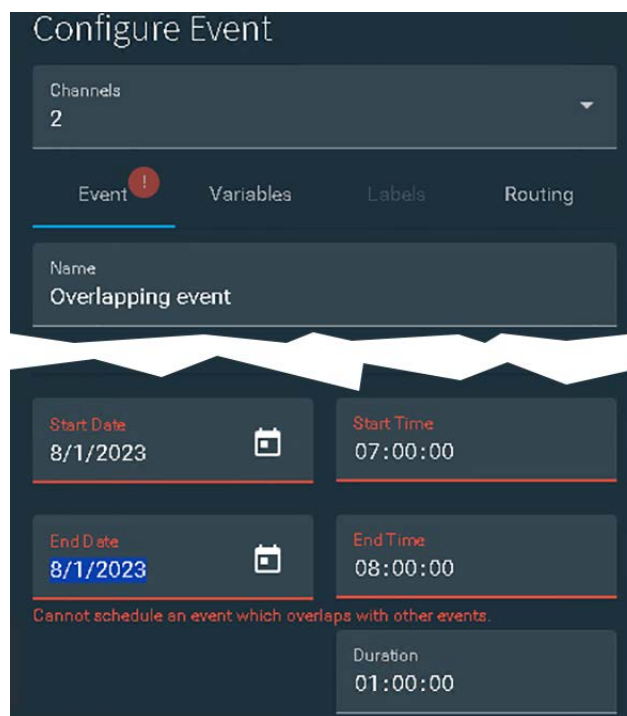
In this graphic, note the error below the date/time fields. Adjust the date and time to avoid overlap and save the event.

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Avoiding Conflicting Crash Recordings

If you attempt to start a crash recording that continues past the start of a previously-scheduled event on the same channel, you are prompted to configure the crash recording to either end when the scheduled event starts or to delay the start time of the crash record to start when the scheduled event ends:
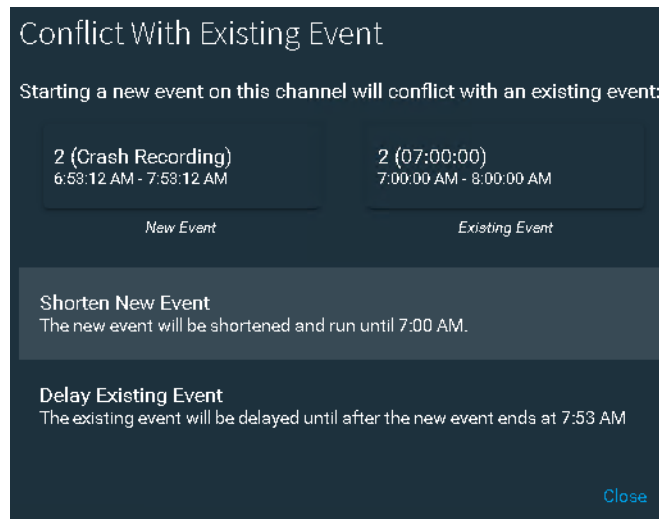
Note that if you want an existing event to start immediately, you can also drag the boundary for the beginning event to the present so it starts immediately.

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Resolving Recording Failures

When an event fails to record, Live Schedule Pro indicates the failed event by displaying the event's event card with diagonal red stripes. Information about failures is indicated in the toolbar, with a badge over the alarm icon:
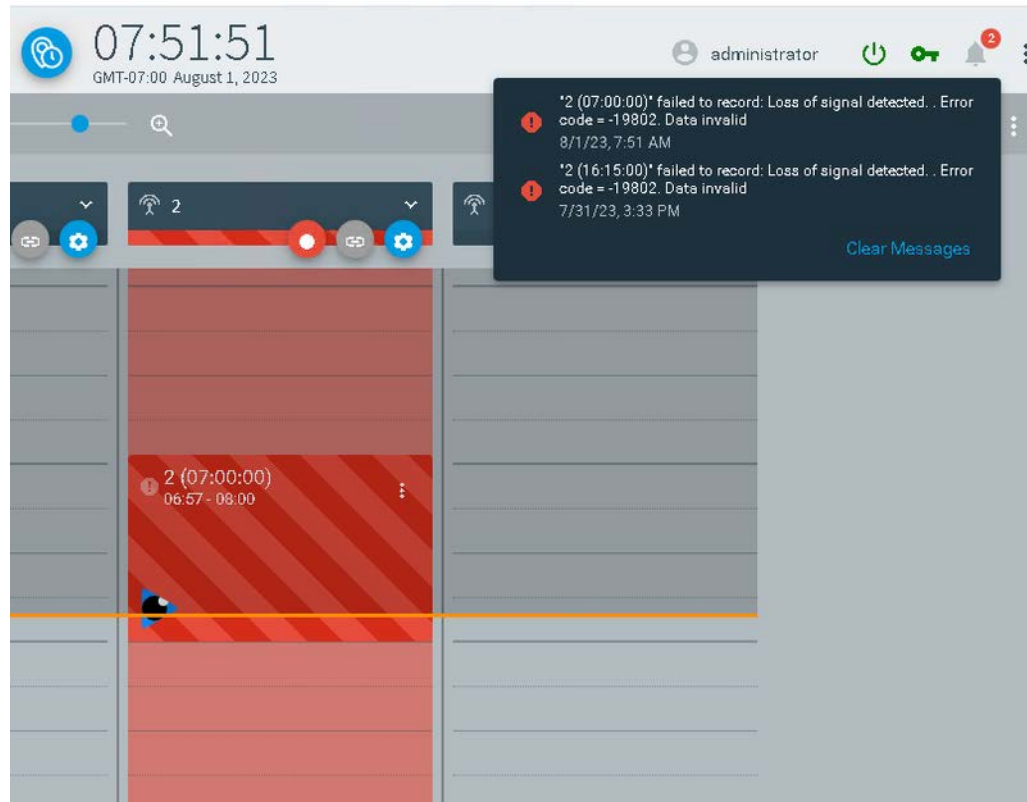

Also, the channel menu for the failed channel also displays diagonal stripes in its status, and for the length of time the failed event was scheduled, a light red overlay displays over the lane.

Restarting a Recording After a Failed Event

The event card for a failed event isn't trimmed to the point the failure. If the recording should be restarted immediately by crash recording, Live Schedule Pro displays this dialog:
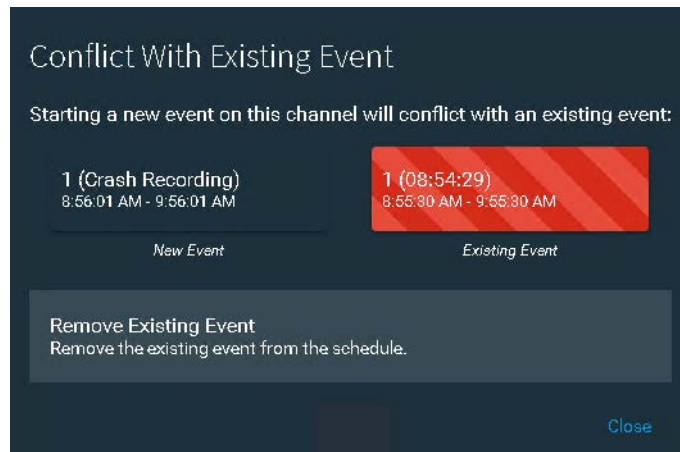
Select Remove Existing Event to delete the event card for the failed event and click Close so that you can start crash recording.

Alternatively, select Remove Event from the event card menu:
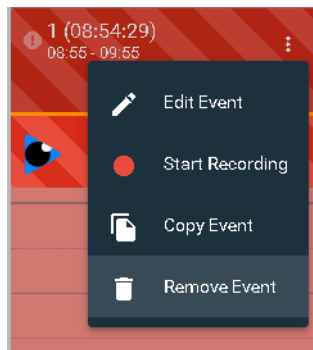
Now the channel is available. Start a new scheduled event or crash recording using the normal procedures.

Working with Channels

For each channel you've selected in the channels panel (*Working with Channels*), Live Schedule Pro displays a channel card. Here is a typical channel card shown expanded, with the components displayed:

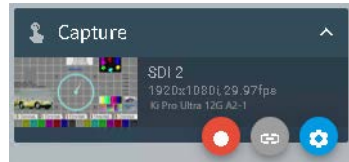The channel card identifies its events by row or column, as displayed by you in the events panel. The channel card includes a disclosure button, so that you can expand it to display its components and work with the channel, or hide it to save window space.

Note: If you have implemented router control, the channel card displays a third row of text to the right of the thumbnail, immediately under the frame size and rate—the mnemonic, or name of the destination.

The channel card also indicates channel status by a colored state bar (see *Event State Color and Pattern Scheme*)at the bottom, based on the next event's status in real time. If you've set a source time offset, the offset displays in red at the top of the card, just to the left of the disclosure button (see Source Time Offset, immediately following).

For example, here's an event with a 2 hour source time offset has just been queued, so the bar displays yellow—the same as the upcoming event:

You can also gang and ungang channels and crash record the channel, and perform other tasks via the channel menu.

Topics
- Collapsed and Expanded Views
- Performing Other Channel-Related Operations
- Crash Recording a Single Channel
- Performing Gang Recording
- Viewing a Channel's Source
- Performing Event-Specific Operations

Collapsed and Expanded Views

Channel cards have two views: collapsed and expanded, which is controlled by clicking anywhere in the title bar.

In collapsed view, only the Capture workflow name and the optional source time offset is displayed at the top, along with the crash record, gang/ungang and channel menu buttons:

—Channel menu

—Gang/ungang button

—Crash record button
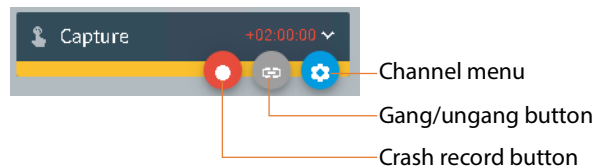
In expanded view, the video thumbnail displays with stream metrics and router details, if enabled:

—Name of channel & workflow

—Thumbnail—video preview
—Frame size, rate and
  optional router control
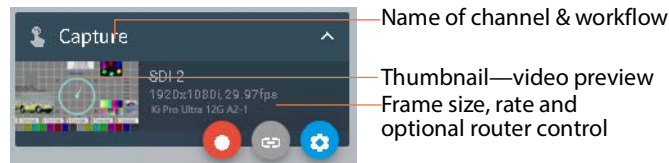
In the event of loss of signal, Live Schedule Pro alerts you to the problem by displaying a failed camera feed icon instead of the video thumbnail:

—Failed camera feed
  indicator
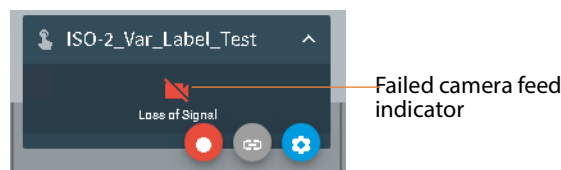
Resolve the loss of signal to restore the video stream.

Performing Other Channel-Related Operations

Operations you can perform via the channel menu include:

- **Labels**—Select to modify values in labels attached to this channel's workflow (see *Setting Channel-level Labels*). If the tab is disabled, it indicates that there are no labels in the workflow.

- **Variables**—Select to modify values in variables used in this channel's workflow (see *Setting Channel-level Variables*). If the tab is disabled, there are no variables in the workflow.

- **View Source**—Select to display the channel's source dialog which displays a proxy in real time along with details and an audio meter (see *Viewing a Channel's Source*). Or, double-click the thumbnail on the channel card.

- **Source Time Offset**—Select to display the channel's Source Time Offset dialog and set a timecode offset using timecode.
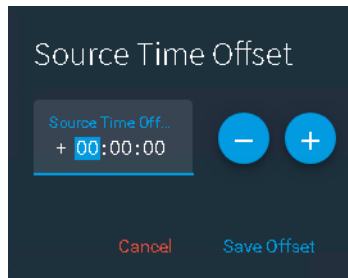
This allows you to control a channel on a server that is not located in the same time zone as other nodes on the domain.

The Source time offset setting enables Live Capture use the source timecode and offset it against the Live Schedule host's clock time. For example if the Live Schedule server time is 13:00 and an event is scheduled to start at 13:05, with a source time offset set at -02:00:00:00 then the schedule use 11:05 on the source timecode to trigger the recording.

Click the **+/-** button as required. Enter the HH:MM:SS value, using the - and + buttons to adjust 30 minutes as required, and click Save Offset.

- **Channel Status**—click to display the Channel Status dialog, listing all scheduled events and recording jobs on this channel (see *Monitoring Channel Status*).

Crash Recording a Single Channel

You can crash record (start recording immediately) a single channel in Live Schedule Pro in different ways.

Note: Live Schedule Pro may display a Labels and Variables dialog when you attempt to crash record a channel, where the workflow requires label or variable values you haven't supplied. Provide the required values and click Start Record to continue.

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Starting Crash Recording from the Event Card

To crash record a single channel from an event on the target channel, select Start Recording from event's ⋮ menu:

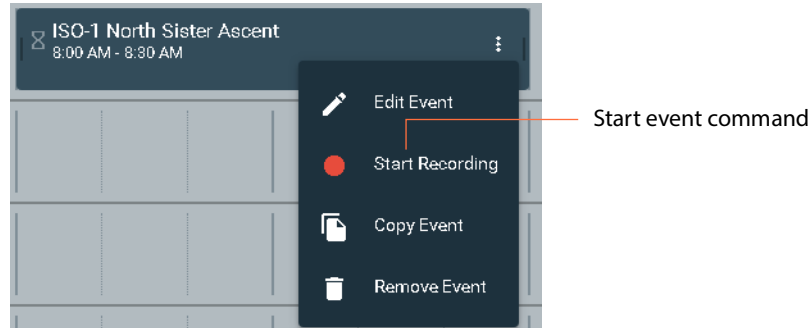Live Schedule Pro modifies the event's start time and immediately queues it for recording; the stop time is controlled by the event. The event display red, and the Start Recording command changes to Stop Recording.

Starting Crash Recording Directly from the Channel

To crash record a channel—where you don't have an event scheduled—click on the Record Now button directly on the channel:

Live Schedule Pro automatically creates an event (named *<Channel Name> (Crash Recording)*), with the event's start time set to the current time for the default duration (see *Managing User Preferences*), and immediately queues it for recording. The event displays red and the Start Recording button changes to Stop Recording.

Resolving Crash Recording Conflicts with other Events

When you start a crash recording, if there is a conflicting event that prevents Live Capture from starting immediately, Live Schedule Pro displays this message:
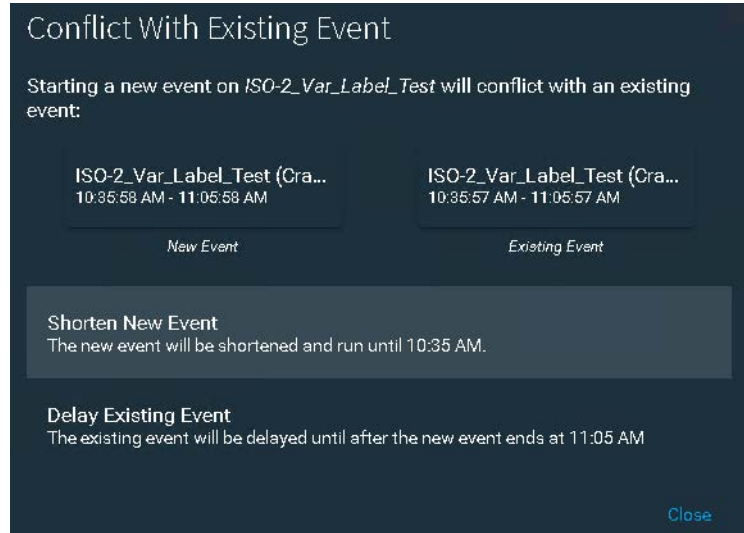
This dialog identifies the two conflicting events—the new event on the left, and the existing event on the right.

Choose which option to take in order to resolve the conflict:

Shorten New Event—Click this option to start crash recording immediately, but stop recording immediately prior to the scheduled event's start time.

Delay Existing Event—Click this option to start crash recording immediately, and alter the scheduled event's start time to start immediately after the default event's duration: one half hour.

Click Close to proceed with crash recording as selected.

Stopping Recording

To stop recording a channel, click on the Stop Recording button on the channel:

Stop recording button
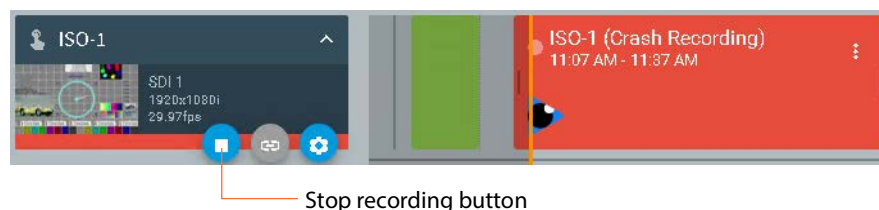
Live Schedule Pro stops recording, and adjusts the event's stop time set to the current time. The event displays green and the Stop Recording button changes to Start Recording.

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Performing Gang Recording

Ganging allows you to crash record selected channels simultaneously. You can gang channels in Live Schedule Pro in different ways and crash record them with a single click.

Note: Live Schedule Pro displays a Labels and Variables dialog when you attempt to crash record a channel, where the workflow requires a label or variable you haven't supplied. Provide the label/variable value and click Start Record to continue.

Ganging Visible Channels

To gang all of the selected channels in the events panel, use the Gang menu in the toolbar:
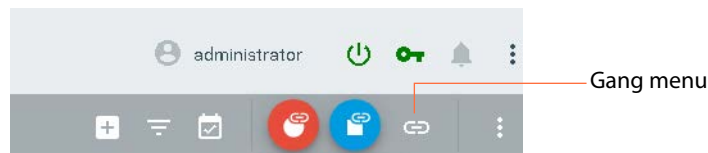
Gang menu

Select *Gang All* in the Gang menu to gang all displayed channels. The Gang button on each channel displays orange, indicating they are ganged. You can also click any channel's gang button to remove it from the gang before crash recording.

Ganging Selected Channels

To gang selected channels in the events panel, click the Gang button on each individual channel; it displays orange to indicate ganged:

Click the gang button to group arbitrary channels together for crash recording.
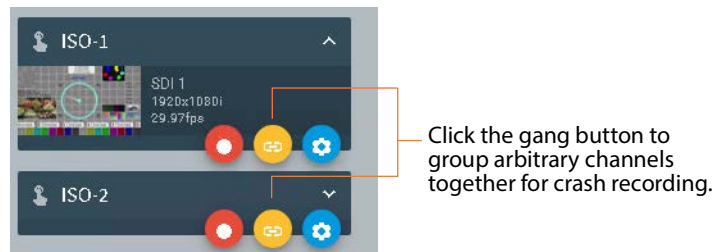
You can add or remove any channel from the gang by clicking it's gang button to set the group as needed before crash recording.

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Crash Recording Ganged Channels

To crash record your ganged channels—click on the Record Now button in the toolbar:
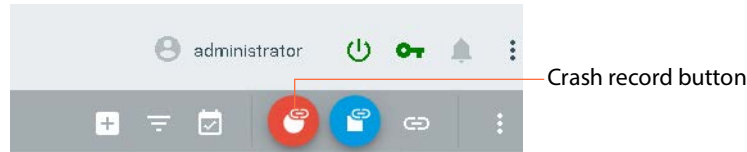

Crash record button

Live Schedule Pro creates an event for each ganged channel, sets the event's start time to the current time, and immediately queues it for recording. The event display red, and enables the Stop Recording button.

Stopping Gang Recording

To stop a gang recording event, click the Stop Crash Recording button in the toolbar:

Stop crash recording button

Live Schedule Pro terminates all of the events underway and sets the end time.

Viewing a Channel's Source

To view a channel's streaming media, double-click on the channel's thumbnail.

Note: Click the disclosure ⌃⌄ button to display or hide the video thumbnail on the channel card. By default, thumbnails are not displayed.

Click the thumbnail to display the media preview dialog.

Live Schedule Pro displays the channel's Video/Audio preview panel:

With router control implemented, the current router channel displays below the video frame.

Video panel—displays the video stream.

Details—Displays media metrics and running timecode. With router control implemented, the current router channel also displays, directly below the video frame.
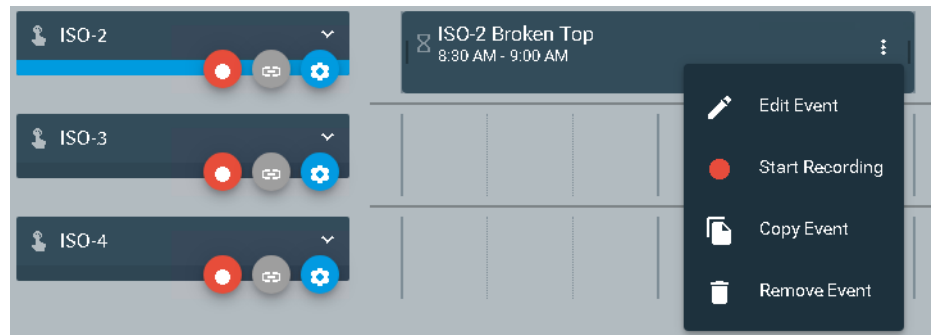
Audio meter—displays audio meter for each audio channel. Turn audio on and off per channel pair using the controls at the bottom.

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Performing Event-Specific Operations

To perform various operations an existing event, click the ⋮ menu to select the operation, as shown here:

Click an operation to perform:

Editing an Event

To edit an event, select Edit Event from the event's ⋮ menu. If the event is being recorded, only those controls are editable are enabled. Live Schedule Pro displays the Edit Event dialog, where you can make changes and save them (*Creating and Managing Events*). To edit all controls, stop recording this event before editing it.

Starting | Stopping an Event

To crash record (or start an event immediately), select Start Recording See (*Crash Recording a Single Channel*). To stop recording, select Stop Recording.

Duplicating an Event

Often, when you need a new event, its so similar to an existing one that its easier to duplicate it and make minor changes than it is to create a new one from scratch and configure it. Events that are copied to other channels retain these original parameter values: Start | End | Description | Variable | Label (if present). The Name parameter uses the original value, appending it with `(Copy)`.

Event duplication is limited to channels where the associated labels and variables are identical to the labels and variables in the copied-from channel. Channels that are eligible for event creation are enabled for checking; others are disabled.

Note: You can duplicate an event during any state including Recording, provided that you don't copy it to an active channel (including the originating channel—in this case, change the event time).

To duplicate an event, follow these steps:

1. Identify the event you want to duplicate.

2. Select Copy Event from the event's ⋮ menu.

   Live Schedule Pro displays the Copy Event dialog, with the event's settings.

3. In the Channels control at the top, check the channel(s) where you want to replicate this event.

   Live Schedule Pro enables the event controls. Edit the parameters as required. If recording overlap is detected, the time fields display red—change it so that there is no recording overlap.

4. Click Save to create new events as specified, using the new values.

Editing an Event

There are several ways to edit an event when it is in a Wait state:

- Click on the Edit ✎ button in its toolbar
- Double-click the event
- Click either end of the event and drag it laterally in either direction to select one or more adjacent time blocks (which display in purple).

You can change the start and end time of a scheduled event in the same way as CalDAV calendar events. Prior to an event being queued, you can change the start and end values by dragging the left and right sides (or top/bottom, in horizontal mode) of the event to modify the date/time stamp. Once an event has been queued in Live Capture or it is already recording, you can only edit the end date/time stamp.

Live Schedule Pro displays the Edit Event dialog, which is identical to the Create Event dialog (*Creating and Configuring Events*). Review and make changes if required, and click Edit to save it again.

Note: If you change the event start time by dragging the start of the event, the name of the event is not changed. Thus, the time may be incorrect and requires editing manually if you want the name to reflect the new start time.

Deleting an Event

To remove an event, select Remove Event from the event's ⋮ menu. Live Schedule Pro displays a Remove Event dialog. Click Yes to confirm deletion. You can delete an event in any state. However, if you delete an event during recording, the recording up that point is saved. The event stops recording and Vantage Workflow Designer reports the job as complete.

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Using Source Routing

You can utilize SDI source routing when Telestream RouteMaster software is licensed and integrated in Live Capture (see *Implementing RouteMaster SDI Router Control*).

Note: Abutting events on a given channel cannot have a routing change: the routing change for a queued event disrupts the event and stops capture.

Enabling | Disabling Source Routing

To enable (or disable) source routing, click Live Schedule Pro's ⋮ menu:

More menu

Select System Settings to display the Settings panel:

Enabling/disabling source routing.
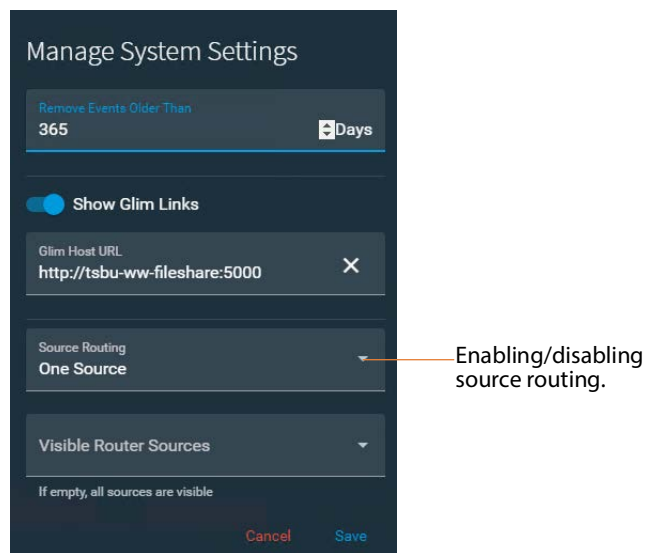
Disabling Source Routing

When RouteMaster is not implemented for use with Live Capture, to disable source routing, select Source Routing > Disabled and click Save.

Enabling Source Routing

To enable RouteMaster source routing....

Select Source Routing > One Source for single SDI or ST 2110 sources to specify that the SDI | ST 2110 source is specified as SingleLink in Source Manager
OR

Source Routing > Four Sources for QuadLink SDI sources to specify that the SDI source is specified as QuadLink in Source Manager.

Note: You can only use QuadLink for SDI router feeds, not ST 2110 sources.

When source routing is enabled, Source Routing controls display at the bottom of the Create event dialog, where you can apply routing specifications.

Next, specify which sources you want displayed for potential selection when you're configuring a routing change in an event. See next topic.

Specifying Visible Router Sources

To specify the router sources from which to choose, click the ⋮ menu:

More menu

Select Settings to display the Settings panel:

Specifying a limited set of router sources
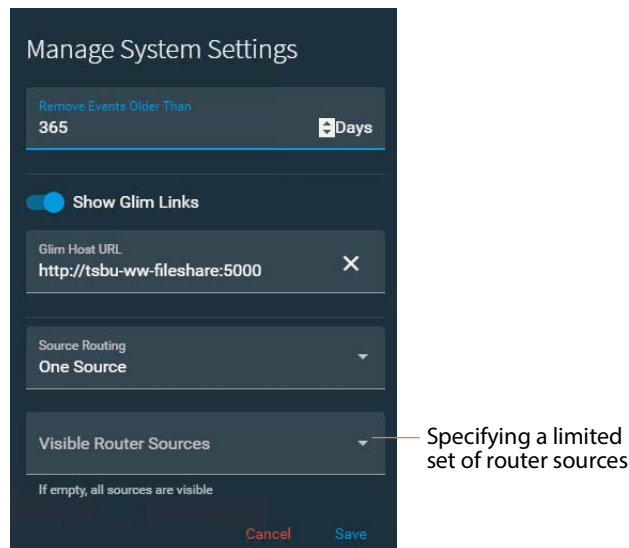
To specify a limited set of the router's sources to display in events, click the Visible Router Sources menu and check each source you want to utilize and click Save.

If none are selected, then the entire set of sources is available for selection when you are creating an event.

Note: You can also configure visible router sources in the *SDI Router Configuration* dialog.

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Selecting a Calendar Date

You use the calendar panel in the upper left corner of the Live Schedule Pro window to navigate by year and month, and select a date to view its events:
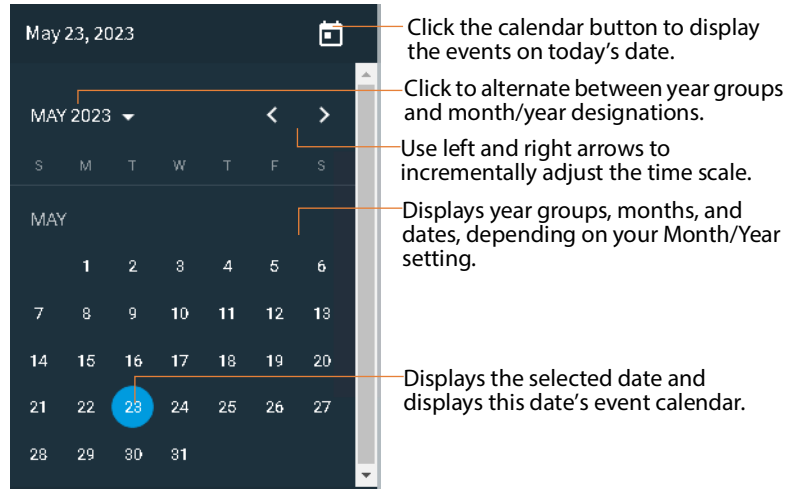

Click the calendar button to display the events on today's date.

Click to alternate between year groups and month/year designations.

Use left and right arrows to incrementally adjust the time scale.

Displays year groups, months, and dates, depending on your Month/Year setting.

Displays the selected date and displays this date's event calendar.
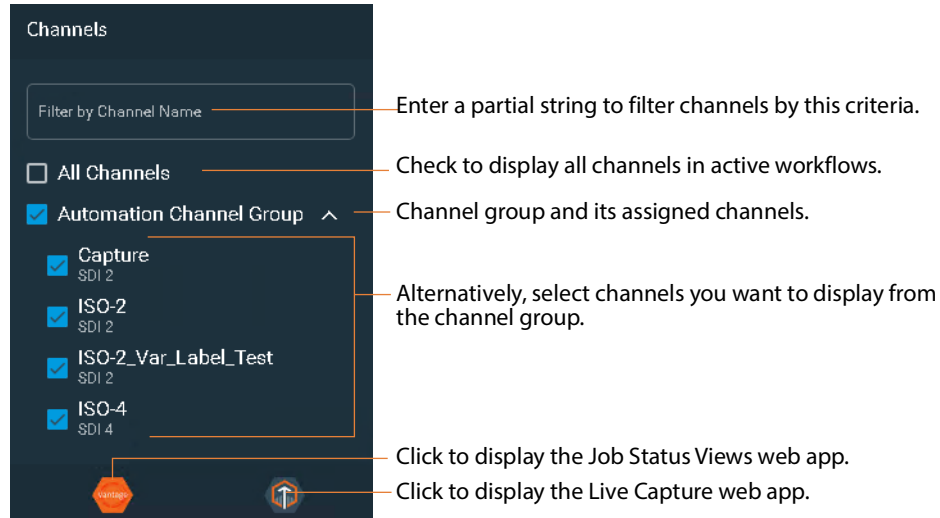
To select a specific year, follow these steps:

1. First, pick a year group—click on the Month/Year picker to display either year groups, or a month and year. For example: 2016-2039, or Dec 2023. Year groups span periods of approximately 20 years.

2. Browse year groups—click the left and right arrows to incrementally move through the groups to locate the group your target year is in.

3. In the year table below the toolbar, click on the year you want to view.

4. With the proper year selected, click on the month, and then the date you want to view.

To select a specific month when the year is already correct, follow these steps:

1. Browse months—click the left and right arrows to incrementally move through the months to locate the month you want to view.

2. With the proper month selected, click on the date you want to view.

Displaying Events by Channel

Use the channels panel in the bottom left corner of the Live Schedule Pro window to select or more channels and display their events:

Enter a partial string to filter channels by this criteria.

Check to display all channels in active workflows.

Channel group and its assigned channels.

Alternatively, select channels you want to display from the channel group.

Click to display the Job Status Views web app.
Click to display the Live Capture web app.

To select channels whose events you want to view, use one of these options:

- Select all channels—check the All channels control.
- Select all channels in a channel group—check the target channel group control.
- Select one or more channels—first select the channel group and click the hide/display button to display assigned channels. Now, check those channels whose events you want to display.

At the bottom of the channels panel, there are two shortcuts: The left button launches the Job Status Views web app; the right button launches the Live Capture web app.

Enabling Automatic Event Deletion

To adjust how long events remain in the calendar before they are automatically deleted, click the main ⋮ menu:

More menu

Select Settings to display the Settings panel:

Event cleanup period
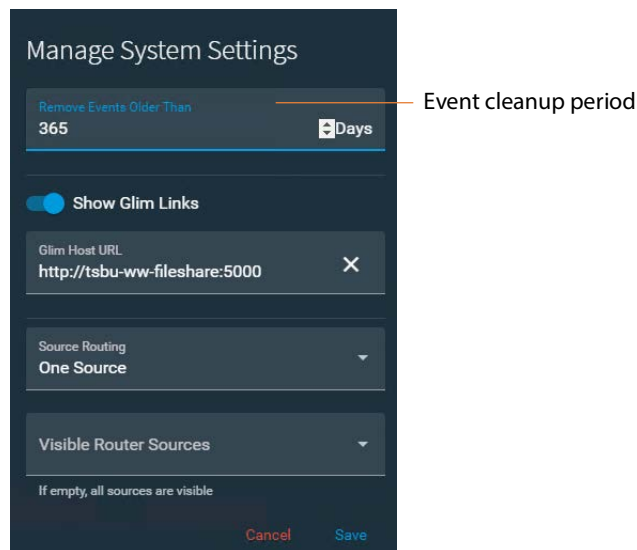
The default event cleanup value is 365 days. This setting specifies how long to retain events in days, before automatically deleting them. Maximum: 36500 days.

To change it, enter a new value in the Event Cleanup field, and save it. All events older than the new cleanup period are automatically deleted.

File deletion is run in 24 hour cycles, based on the Telestream Live Schedule Pro Service start time. For example, if the service is restarted at 2:00 PM, each day at 2:00 PM the events that have expired in the past 24 hours are deleted.

Setting the Schedule Time Scale

To view a longer or shorter time frame in the events panel, use the time scale slider in the event toolbar—drag the button left or right. Or, click on the minus and plus buttons to decrease or increase magnification in 15 minute increments.

 Use the slider to adjust the time scale.

As you decrease magnification, the time scale compresses, allowing you to view more time; as you increase, it expands, reducing the period of time thats visible. The major time period displays in the button.
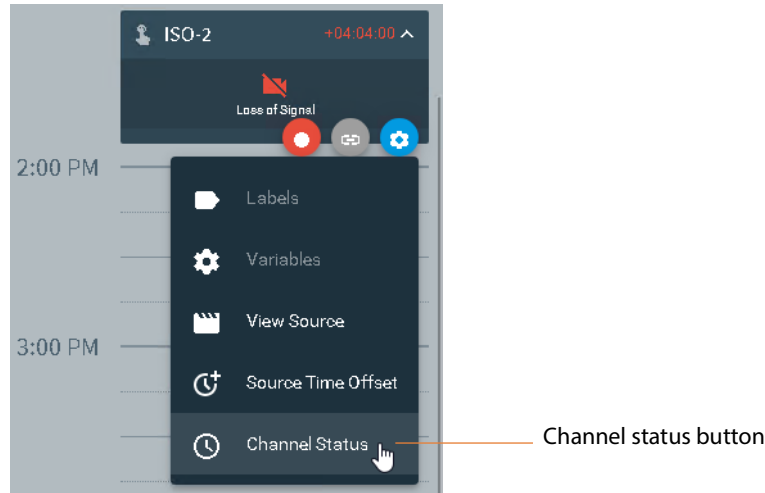
When you decrease the scale and events become so small that the name is clipped, you can hover over the event to temporarily display hover text that displays the entire text in the event's name field.

You can also set the hour format to 12-hour or 24-hour, which also displays in the hour column headers at the top of the schedule. For example, with a 12 hour format, Live Schedule Pro display 1 o'clock as 1:00 PM; in 24-hour format it displays as 13:00.

Note: 24-hour time is always used for an event's start and end times and Live Capture expects source timecode to be 24-hour as well.

Monitoring Channel Status

To monitor a channel's status, click the channel's gear ⚙ button and select Channel Status:

Channel status button

Live Schedule Pro displays the Channel Status panel:

Scheduled Events Table

The Channel Status panel displays events that are awaiting execution in the upper, Scheduled Events table. Each row represents one event and includes the event name, description, duration, start and end times.

When an event is in the Waiting state, its event record is stored in the Live Schedule database. When an event starts—initiating a job in Live Capture, the Vantage job

record is stored in the Vantage database and is only removed when the job expires or is manually removed.

You can perform the following operations on events in this table:

- Delete—Click the delete ☐ button to delete the event. You can only delete an event when its in the Waiting state.

- Edit—Click the edit ✎ button to display the Edit Event dialog and update its parameters (*Creating and Managing Events*) if the job was started by Live Schedule Pro. You can edit the event when it is in the Waiting | Queued | Recording state.

Recording Jobs Table

The Recording Jobs table—located directly below the Scheduled Events table—displays Vantage recording jobs that are underway or completed.

Recording jobs displays a history of all jobs that have been recorded on the channel—not just those scheduled in Live Schedule. This table includes recordings submitted from all interfaces—Live Schedule, API submission, SCTE-104, and crash recordings.

Details include icons for capture and job states, job name, duration and time code, primary and secondary output locations.

Icons indicate the real-time state of the capture process (represented by the Capture action itself) for this channel's recording job:

Icon	Recording State
✓	The current recording is complete.
⧗	In an idled state, either queued for or stopping recording.
⬤	Recording is in progress.
❗	Recording has failed.

You can perform the following operations on jobs in this table:

- Copy—Click the copy ▯ button to copy the fully-qualified path (if it exists) to the primary or secondary output file to the clipboard.

- Edit—Click the edit ✎ button to display the Edit Event dialog and update its parameters (*Creating and Managing Events*) if the job was started by Live Schedule Pro. You can edit the event when it is in the Waiting | Queued | Recording state.

Jobs are purged based on expiration rules in Vantage. For details, see the Vantage User's Guide. Page through the tables using the paging toolbar, at the bottom right of each table.

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Monitoring the Status of Capture Jobs

Once an event is queued, a job is initiated in Vantage and you can monitor it in the Vantage Job Status Views web app, which is accessible from the Channels panel:

Job Status Views button
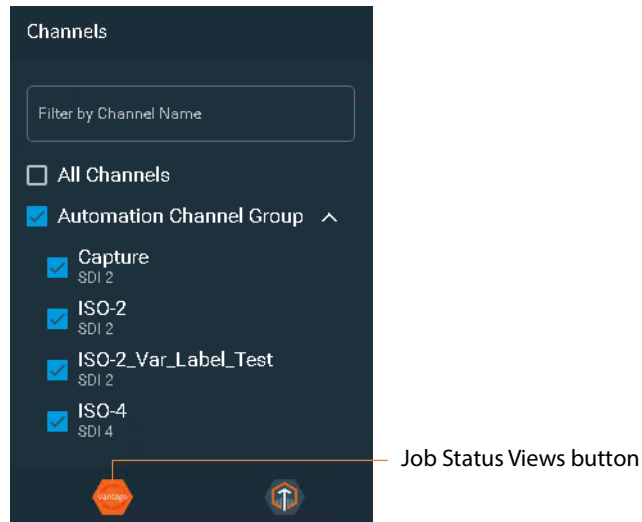
Click the Job Status button to launch the Vantage Job Status Views web app:
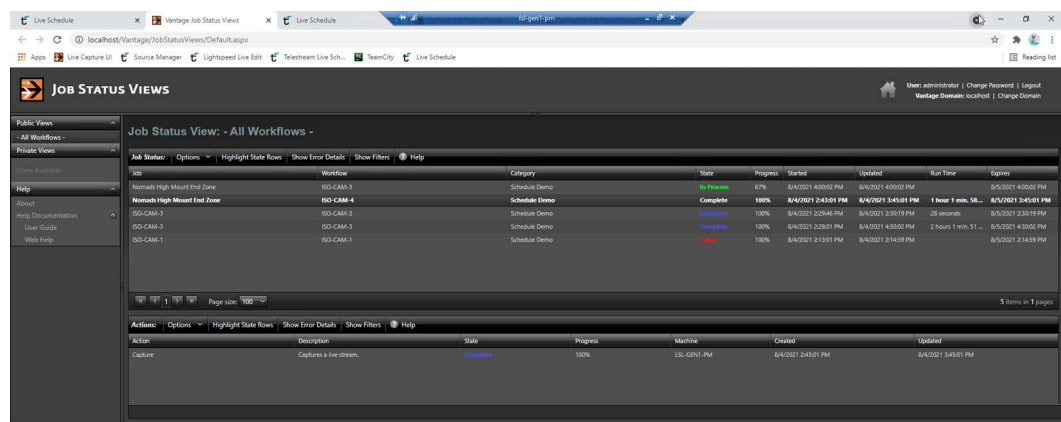
Note: You can also monitor the job status directly in Vantage Workflow Designer. See the Vantage User Guide for information on monitoring jobs.

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Using Variables in Events

Variables enable you to assign metadata values dynamically when you create an event, for use in the Capture action of your Live Capture workflows on a job-by-job basis, as required. Input variables are those that are bound to a control in the Capture action's Inspector. Output variables are those that you add to the Capture action by clicking on it and selecting Add Variable. Output variables are not used in the Capture action; they are simply published for use by downstream actions in the workflow, if any.

Note: Live Schedule Pro sets the variables and labels from the templates available when you create an event. Existing (those already on the calendar) events' variables and labels are not modified when variables and labels are later changed at the schedule or channel level.

Before you can assign values to variables in Live Schedule Pro, you must create a Capture workflow, add the variables to actions in the workflow as appropriate to your workflow requirements, and activate the workflow.

Note: Variables that are bound to a control or added to the Capture action are automatically displayed in Live Schedule Pro so that you can set their value when you add or edit an event.

You can update variables at two levels:

- Channel level—events that are created for this channel inherit the value assigned unless you override it at the event level (see *Setting Channel-level Variables*).
- Event level—The value assigned to variables directly on an event apply only to the individual event, overriding any schedule- or channel-level variable values. (See *Setting Event-Level Variables*).

If you don't assign values using at least one of these methods in Live Schedule Pro, the default value (if any) of the variable in Live Capture is used. You should always set a default value for a variable—otherwise, you can't assign a value in Live Schedule Pro either, and it may lead to workflow error, resulting in a capture failure.

Updating Vantage and External Systems

You can attach one or more variables to an event, and then, on a job-by-job basis, provide unique values for the variable. In the Vantage workflow, you can also save the variables as part of a label, along with the other workflow output in a catalog, for use in other workflows or for use externally, in other systems.

Or, you can create a workflow to update metadata in external systems using variables. For example, you can modify your Capture workflow to enable the Update Workflow control, and provide a target workflow to trigger after each job. Now, create the target workflow with a Receive action (so it can be triggered) and then use Populate and Notify actions for example, to transfer new values to an external system.

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Setting Channel-level Variables

When one or more variables are specified in your workflow's Capture action—for which you want the same value for every event on a specific channel—you can set it once at this level, instead of setting it on each individual event.

Note: When you use this variable in an event for this channel, it inherits the channel-level value automatically when you create the event. However, you can override a channel-level variable's value by editing it directly in the event.

To update variables at the channel level, display the Variables dialog using the target channel's gear ⚙ button and choose Variables:

Variables button
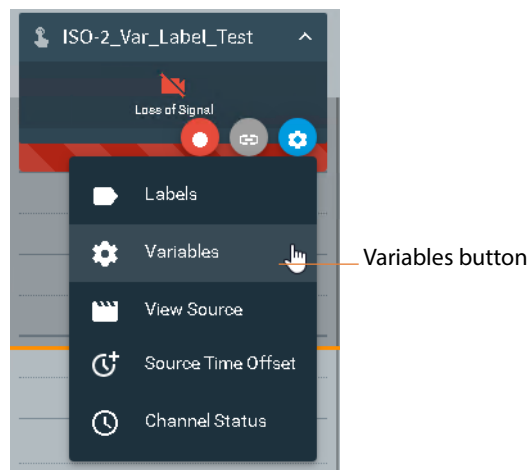
Here's an example of the Capture action inspector:
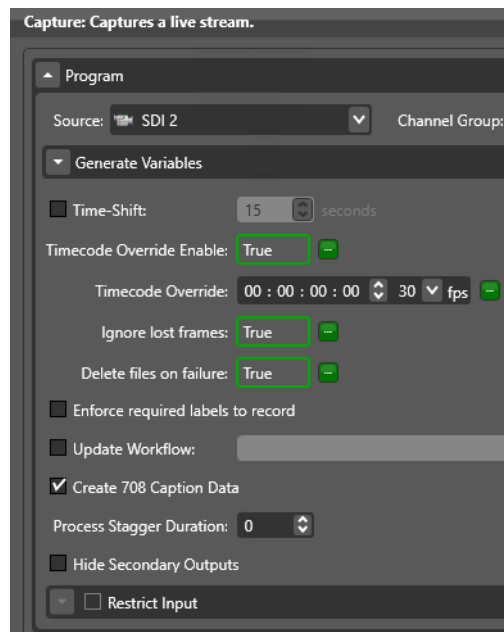
Live Schedule Pro displays the channel's Variables dialog:
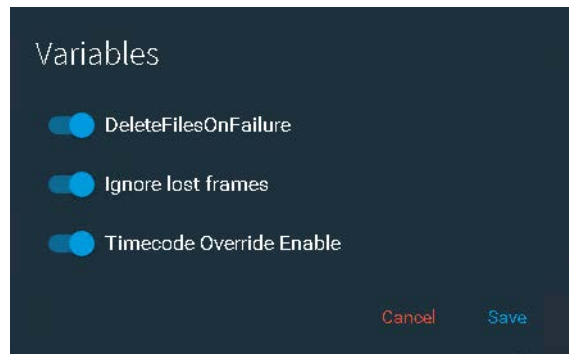
In this example, the three variables are True/False variables bound to controls in the Capture action. Thus, you enable them to specify True; disable them to specify False.

For each variable you want to update, enter/update the value and click Save.

These values are inherited by each event you create for this channel, but may be overridden at the individual event level.

Note: When Live Schedule Pro displays the Variables panel as shown here—with no variables—it means that the workflow you are using for this event has no variables assigned. Return to Workflow Designer—add variables to the workflow and activate it.
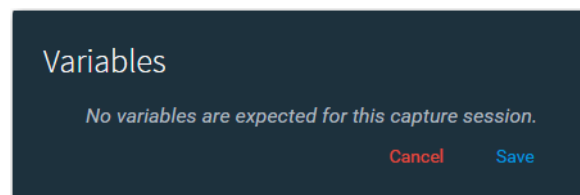
Setting Event-Level Variables

Event-level variables override—the Capture action's default settings as well as channel-level variable settings.

To update variables on a specific event which you've already created, double-click the event or click the edit ✎ button in the menu:

Live Schedule Pro displays the Edit Event dialog—click Variables (bottom left corner):

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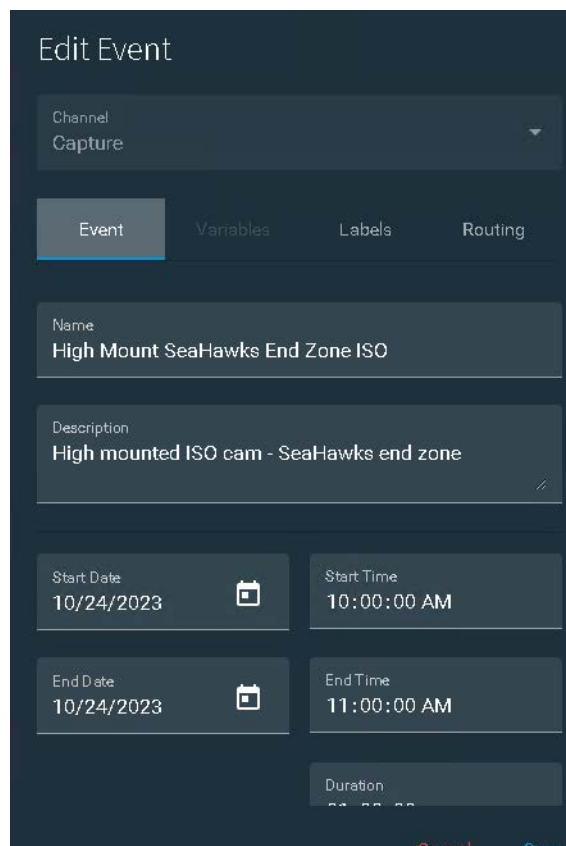
Live Schedule Pro displays the Variables panel:
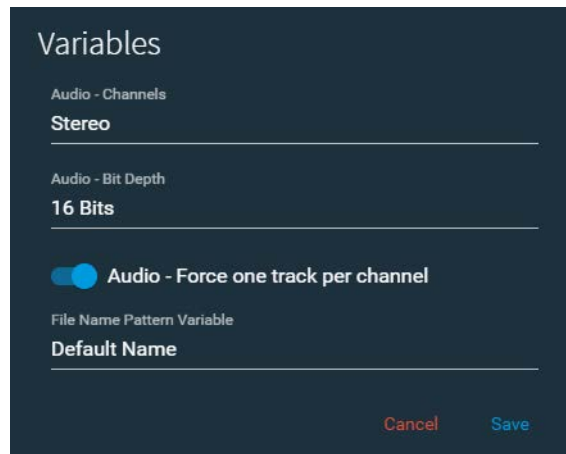
Select each variable you want to update in turn, and enter/update the value in the field, then click Save. This value overrides values entered at the schedule and channel level.

When you're done updating variables, click Save to update the event.

Using Metadata Labels in Events

Labels enable you to collect and organize metadata associated with an event (typically by updating the label in the Capture action or via variables during Capture workflow execution), and then storing the labels permanently with its media for utilization after the job ends.

Before you can modify label fields in Live Schedule Pro, you must create a Live Capture workflow, create the label or select an existing one in your domain, add the labels as appropriate to your workflow actions, and activate the workflow.

You can edit metadata labels at two levels:

- Channel-level—all events on the channel inherit the assigned value, and it may be overridden by a specific event (*Setting Channel-level Labels*).
- Event level—Only this event uses the values in the assigned label (*Setting Event-level Labels*).

Note: A practical example of updating a label here in Live Schedule Pro, and submitting it to the Capture workflow for use during the job is illustrated in the Live Capture User Guide > Prototype Capture Workflow—Labels & Variables topic.

Note: You can update labels and variables prior to adding an event to the schedule or while the event you added is in the waiting state.

If you don't update fields in a label using at least one of these methods in Live Schedule Pro, the default value (if any) in the label specification in the Capture action is used. If no value is assigned, it may lead to an error in your workflow. For information on creating and managing labels for use in your workflows, see Creating Labels and Variables for Use in Workflows in the Vantage User Guide.

Updating Vantage and External Systems

You can attach one or more labels to an event, and then, on a job-by-job basis, provide unique values for the fields in the label. In the Vantage workflow, you can also save the label along with the other workflow output in a catalog, for use in other workflows or for use externally, in other systems.

Or, you can create a workflow to update metadata in external systems using variables. For example, you can modify your Capture workflow to enable the Update Workflow control, and provide a target workflow to trigger after each job. Now, create the target workflow with a Receive action (so it can be triggered) and then use Populate and Notify actions for example, to transfer new values to an external system.

**Note:** If you plan to transform labels to variables, you require at least one metadata license per Vantage domain. See *Live Capture Single Server Licensing*.

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Setting Channel-level Labels

Channel-level labels override the label's default settings in the Vantage workflow. To update labels at the channel level, click the channel's Settings button and select Labels:
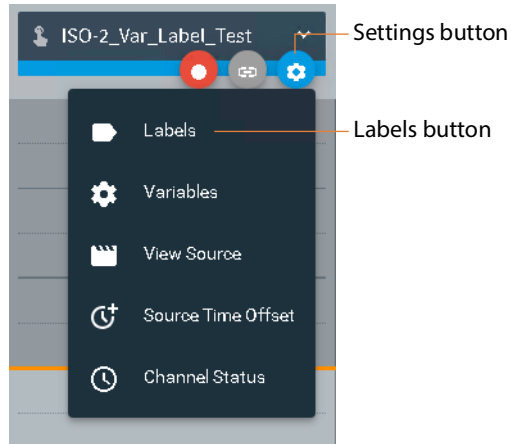
Live Schedule Pro displays the Labels dialog, and lists each label attached to the workflow for this channel:
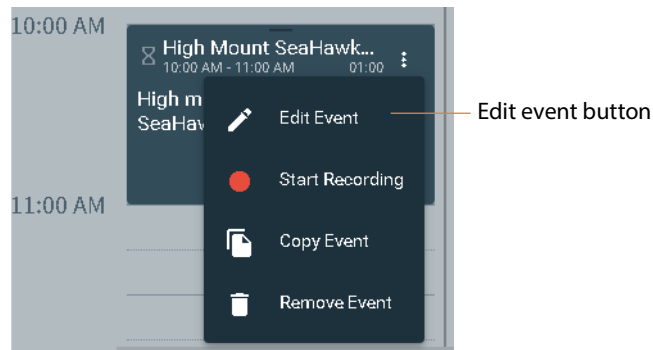

Note: If Live Schedule Pro displays the Labels panel as shown here—with no labels—it means that the capture workflow you are using for this event has not been configured to expect any labels. Return to Workflow Designer and add the required labels to your workflow and activate it.
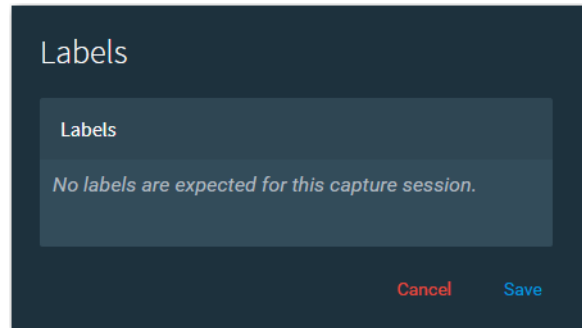
Live Schedule Pro displays the Labels panel with the labels in the Capture action of the workflow being utilized:
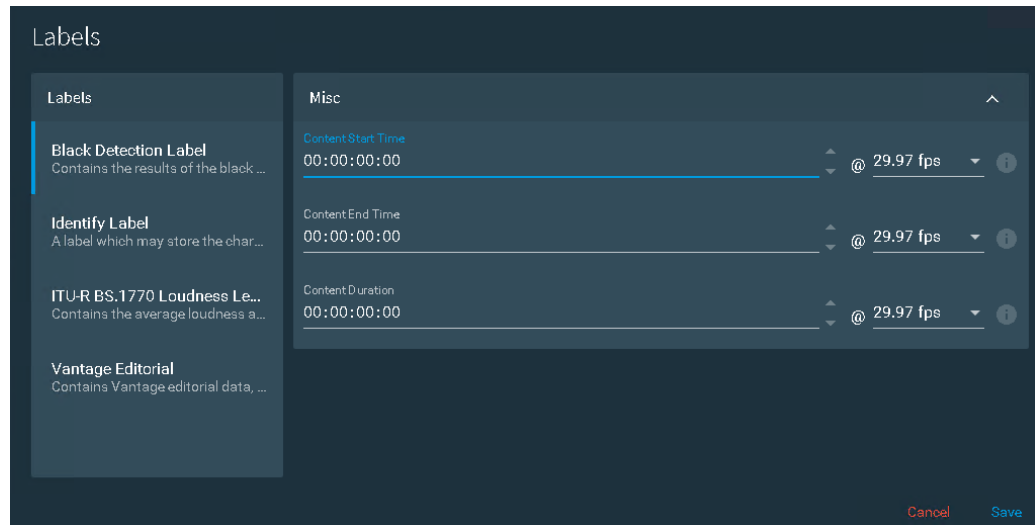
Select each label that you want to update, enter/update each field's value, and then click Save. These values are inherited by all future events you create for this channel, but may be overridden at the individual event level (*Setting Event-level Labels*).

Setting Event-level Labels

To update labels for a specific event, click the More ⋮ button in the event card's toolbar and select Edit Event:
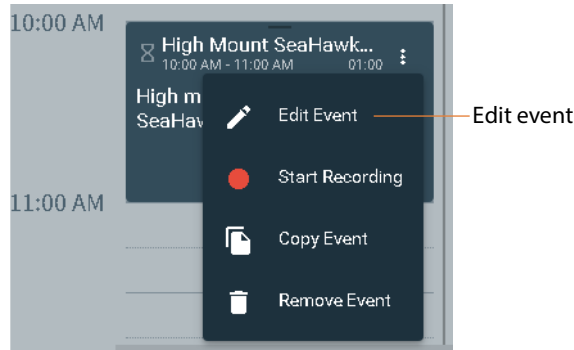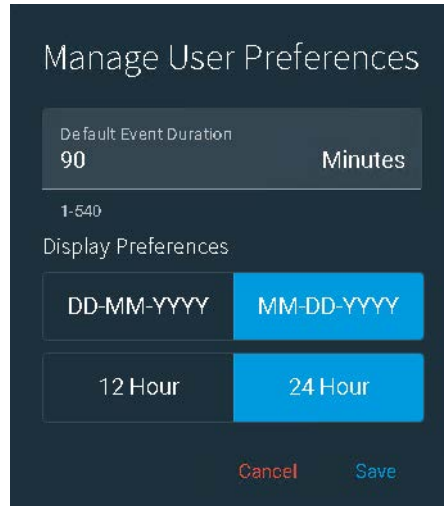
Edit event

Live Schedule Pro displays the Edit event dialog—click the Labels tab:

Labels tab

Labels menu
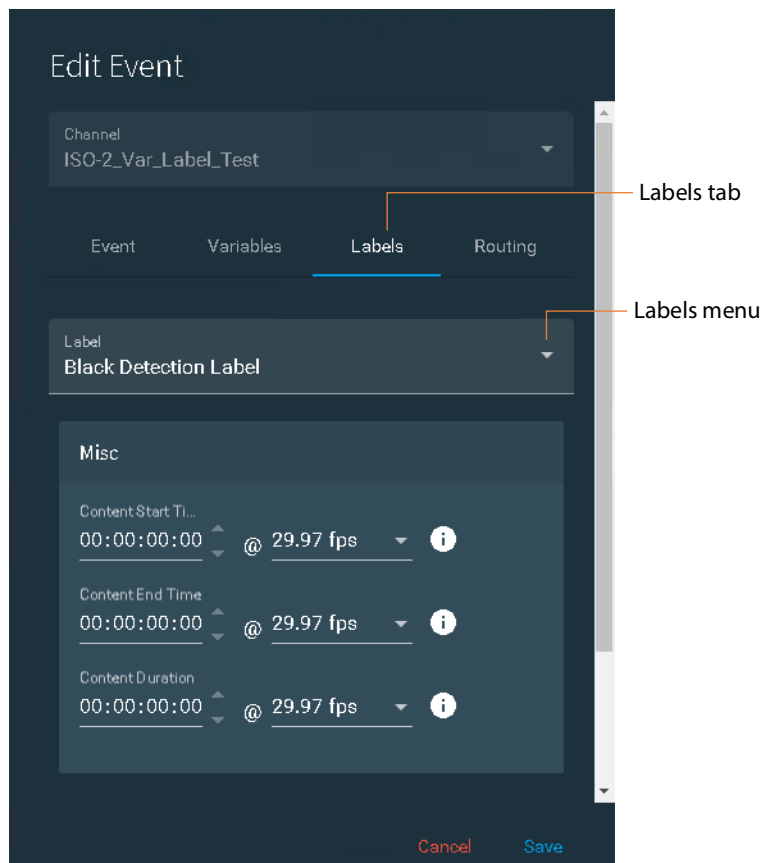
Select each label (if you have multiple) from the Label menu to update, enter/update the field values, then click Save.

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Managing User Preferences

Click the ⋮ menu > User Preferences to display the Manage User Preferences dialog and make adjustments:

Default Event Duration. Specifies the duration of an event in minutes, when you create it. Default: 90. Limits: 1-540.

Display Preferences. Specifies the format you want to use to display dates and times in events and elsewhere:

> **Date**: Select DD-MM-YYYY or MM-DD-YYYY.

> **Time**: Select 12 Hour | 24 Hour clock. The time is displayed in your specified format at the top of the schedule, along with the time zone and date.

Click Save to update your preferences.

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Previewing Media with Glim

Telestream's Glim app enables you to remotely view and inspect media files without a proxy. Glim can view growing files during capture in open workflows.

Enabling Glim links

To display Glim links on your event cards, click Live Schedule Pro's ⋮ menu > System Settings to display the Manage System Settings dialog:
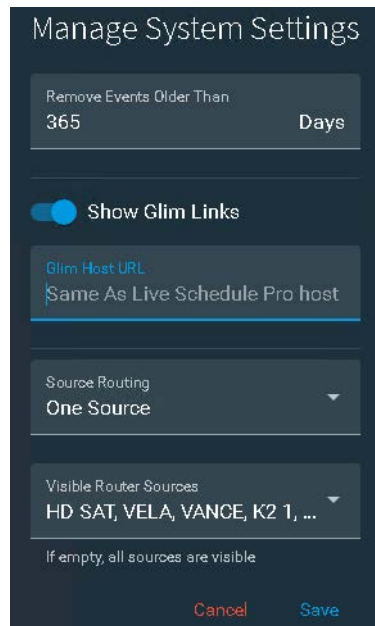
Update these two controls and click Save:

Show Glim Links. Enable Show Glim Links when you have Glim installed, and you want to display Glim links on each event when the file is available. If you enable Glim links but don't install Glim, the link can't be resolved.

Glim Host URL. When Show Glim Links is enabled, specifies the URL of the Glim program's host (*localhost* | Windows Domain Name | IP Address) at port 5000. For example: `http://localhost:5000/`. If left empty, the URL is formed for launching Glim from the Telestream Live Schedule Pro Service host.

If Glim is running on a remote server, the paths to the media must be accessible to GLIM for playback. Generally, Capture workflows should be configured to write to UNC paths, and you'll need to enable Allow UNC Locations in Glim.

Previewing Media

When Glim is enabled, jobs created from Live Schedule Pro events and externally-created events display the Glim button, which you can click to play the output file in GLIM.

If your Capture workflow also contains Copy actions, the Glim menu also lists the copied files so that you can preview them as well.

When a Live Capture workflow is configured to record in open mode, the files are ready to opened about ten seconds after recording starts. Glim links display as soon as a path for the output file is recorded in the Vantage database. However, only open workflows allow you to open the file before capture is complete.

If your Capture workflow also contains Copy actions, the Glim menu also displays the copied files.
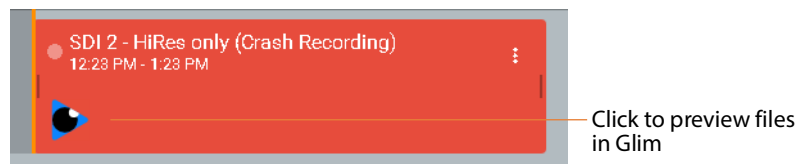
If the workflow generates multiple output files (for example, hi-res and proxy,) click on the GLIM link and select from the files in the Glim menu:
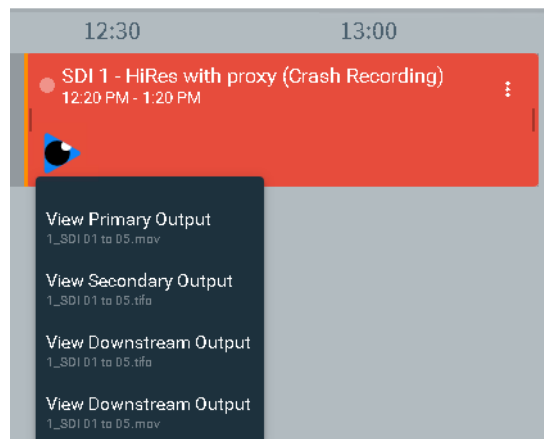
If the events panel is in horizontal mode where channels are to the left in a column, expand the channel to display the thumbnail and the Glim link.

Managing Live Schedule Pro

This chapter describes optional integration of SDI router control and configuration, licensing, and other managerial tasks, plus troubleshooting tips.

Topics

- Implementing RouteMaster SDI Router Control
- SDI Router Configuration
- Managing Your Live Schedule Pro License
- Accessing Documents and Contacting Telestream
- Performing Database Operations
- Troubleshooting
- Managing System Logs

Implementing RouteMaster SDI Router Control

You can optionally integrate Live Schedule Pro with Telestream RouteMaster for unified SDI and ST 2110 (via SDVN) router control, in a configuration that allows it to run as a Windows service.

Note: RouteMaster is an optional, licensed program. Use of RouteMaster requires a license from Telestream. Contact license@telestream.net to obtain a license.

Key features:

- When source routing (*Implementing RouteMaster SDI Router Control*) is enabled, you can configure events to change router sources using the Source and Destination names as defined by the router (crosspoint names/mnemonics) during event configuration (see *Creating and Configuring Events*).

- You can define a list of RouteMaster sources (see *SDI Router Configuration*) in Live Schedule Pro Settings to constrain the sources available to an event.

- You can filter the list of source routing fields when setting routes (see *Creating and Configuring Events*).

- When Keep Existing Routes is disabled, the operator can make routing switches. when adding a new event.

- You must add router destination information in the SDI source configuration (see *Configuring Source Manager for RouteMaster SDI Input*), enabling Live Schedule Pro to associate a channel with a specific destination.

Note: To avoid having events associated with a channel change the routing settings during events in progress, you should only have a single active workflow using a given source. Only one event should have router control for a given channel at a time, including queue time.

Supported Router Protocols

RouteMaster can control routers using these protocols:

- Blackmagic Videohub
- Evertz/Quartz Type 1
- GVG Jupiter ASCII
- GVG Native
- Harris LRC
- Harris/Leitch Passthru
- Kramer 2000 and 3000
- Nevion Sublime MRP

- NVision Compact Router
- Nevion Compact NCB
- NVision NV9000
- PESA P1N
- Pro-Bel SW-P-02 General Switcher
- Pro-Bel SW-P-08 General Remote
- Sierra Aspen
- Utah Scientific RCP3

Integration Tasks

Before you can use RouteMaster with Live Schedule Pro, perform these tasks:

1. Obtain a RouteMaster license and install it (*Licensing RouteMaster*).
2. Configure Telestream RouteMaster (*Configuring RouteMaster*).
3. In Live Schedule Pro, enable source routing (*Configuring Live Schedule Pro*).
4. In Live Source, configure an SDI channel to be associated with RouteMaster destinations (*Configuring Source Manager for RouteMaster SDI Input*).
5. In Live Schedule Pro, run a test—crash record the SDI channel and verify that the source you've routed is correct (*Crash Recording a Single Channel*).

Use these topics to perform these one-time setup tasks.

Licensing RouteMaster

Follow these steps to obtain and install the license:

1. Obtain a RouteMaster license from Telestream—contact license@telestream.net.
2. On the Live Capture server, copy the license file to *C:\Program Files (x86)\Telestream\RouteMaster*.
3. In the Windows Services control panel, restart the Telestream RouteMaster Service or restart the server before configuring RouteMaster.

Configuring RouteMaster

Follow these steps to enable and configure RouteMaster:

1. Open the Telestream RouteMaster program from the desktop shortcut (don't run the RouteMaster executable)
2. Select Settings > Configure Router to display the Manage Routers dialog.
3. In the Routers panel, check Start Running Automatically to allow the RouteMaster Service to start automatically whenever the server reboots.
4. In the Routers panel, add a physical router and use the tabs to configure it as appropriate for your environment.
5. In the Connection tab, specify the router's IP address and port, and protocol.
6. Click OK to save the router settings and close the dialog.

Configuring Live Schedule Pro

In Live Schedule Pro's main More menu, select System Settings (*Obtaining Support | Information | Assistance*). Select One Source in the Source Routing menu, to display Source Routing options in events that you create.

Optionally, select Visible Router Sources to constrain the sources that display in the channels list as you create new events.

Configuring Source Manager for RouteMaster SDI Input

Follow these steps to configure Source Manager (see the Live Capture User Guide > Configuring SDI Sources) to use RouteMaster to control SDI input:

1. Open Workflow Designer and deactivate all Capture workflows.

2. Launch Source Manager in Chrome—*http://localhost:8090/sources*, for example.

3. Select an SDI input that you want to associate with a router destination and click the edit ✎ button to display the Configure Source dialog (partial shown):

Configure Source

Name
SDI Input 1

Description
destination:152

4. In the Description field, you can define the route that is used by RouteMaster by using the keyword *destination*. You associate the Lightspeed Live SDI input with the router connection—enter the key word *destination* followed by a colon (:) and the number of the output from the router that is connected to the Lightspeed Live SDI input.

   For example: Router output 152 is specified as `destination:152`.

   When configuring for QuadLink channels, use commas to separate the values. For example: `destination:0,1,2,3`.

Note: Most routers use 0 as the output index offset, so consider the offset when entering the value. In this case, router output 1 should be entered as `destination:0`.

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5. Click Save to update the source specifications and dismiss the dialog.

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SDI Router Configuration

Use the Router Configuration dialog to associate video router outputs with Lightspeed Live Capture Server SDI ports, which is required for event-driven route switching.

Based on this configuration, you can select the available sources as you add and configure events (see *Creating and Configuring Events*).

Note: Before setting up your source configurations, make sure that Source Routing is enabled in System Settings—specify One Source only (see *Using Source Routing*). Make sure that each Lightspeed Live Server you're configuring has an active workflow so it is recognized by Live Schedule Pro and displays in the Router Configuration dialog.

For information about using RouteMaster, see the user guide at rascular.com.

Click Live Schedule Pro's More ⋮ menu > Router Configuration to display the Router Configuration dialog:
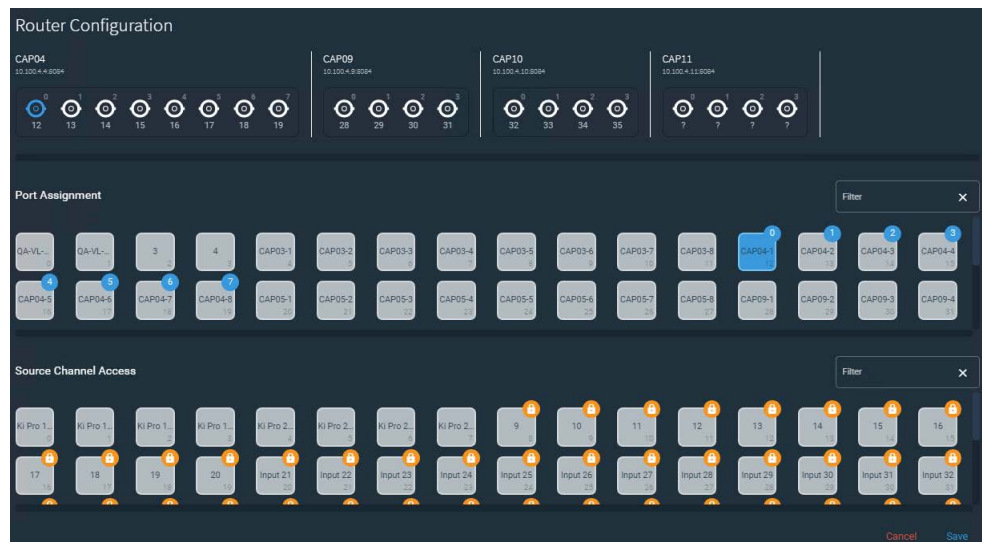
The Router Configuration dialog enables you to assign SDI router labels/mnemonics to SDI ports on each Live Capture Server in your array.

The dialog displays components in three rows, which you use to view and control video source utilization in each event you add:

Lightspeed Live Server—This top row depicts each Lightspeed Live Server (with its IP address below the name) in your array, based on at least one capture workflow referencing a source on that server (even if it is not an SDI source). For each server displayed, its SDI inputs are shown and selectable to the outputs of the router.

Note: If you don't have an active workflow running in Vantage that references the server, it won't display here.

The number above the SDI port is its port number; the number below the SDI port is the connected router's port number.

Select an SDI port on a server to display it in blue. Notice that as you select an SDI input, the associated output of the router in the Port Assignment row also displays in blue.

Port Assignment—This second row depicts the router you are connected to. In this example, the server is connected to a 32-port router.

The labels in the RouteMaster program's Output column (each label also has a zero-based index value) represent the router's SDI output port. These are labels, not video streams; the stream may be changed in RouteMaster or in a video router; it would be transparent to Live Capture. When you select an SDI input port in any Capture server in the top row, the output associated with an SDI port on that server displays in blue; its zero-based index in a blue circle on the output indicates it is in use.

Each port displays its mnemonic in the box; hover over it to display the full mnemonic. Use the Filter control to enter strings to show only those ports that satisfy the string. Delete the string or click X to display the complete list.

Source Channel Access—This third row (router sources)—displays an indexed list of router inputs defined in the routers and collected by RouteMaster. Use this row to limit the ports that are available for selection; they are locked by default: if all remain locked, all of them display for the operator to choose from. If one or more are unlocked, only the unlocked sources display for selection in the Create Event dialog's Routing tab, when Keep Existing Routes is disabled, so that you can select from these ports.

Each port displays its mnemonic in the box; hover over it to display the full mnemonic. Use the Filter control to enter strings to show only those ports that satisfy the string. Delete the string or click X to display the complete list.

Associating a Router Output with an SDI Port

SDI ports in the Capture Server display two numbers. The top number is the zero-based index of the port, and does not change. The bottom number (or question mark if unassigned) displays the zero-based index of the label you've assigned it.

To assign an output defined in RouteMaster to a specific SDI port, follow these steps:

1. Click on the Capture Server's SDI port you want to assign. It displays blue.

2. Now, click on the output port label in the Port Assignment row that you want to assign to the selected port. The bottom number or ? character changes to the index of the selected port.

3. Continue selecting SDI ports and assigning output ports as required.

4. When you're done, click Save to update the settings and close the dialog.

Disconnecting Router Output from an SDI Port

To dis-associate a route from a given SDI port:

1. Click the SDI port on the target Capture Server to select it. Its associated label from the router in the Port Assignment row displays highlighted.

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2. Click the router label to deselect it.

3. Save the configuration and dismiss the dialog.

Limiting Router Sources to Select

The router sources identified in RouteMaster are locked by default in the Router Configuration dialog.

When all of them are locked, all of them are selectable by the operator when they are specifying the video source in the Routing tab of the Configure Event dialog while they are adding an event (*Creating and Managing Events*).

To limit an operator's choice of source channels (referred to as *visible* router sources), click the sources you want to unlock, so that they can select them as a source.

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Managing Your Live Schedule Pro License

Live Schedule Pro is an optional, licensed feature implemented as a Windows service with an embedded web app. It requires a separate license, obtained from Telestream.

Note: License management is only permitted by users who log into Vantage using the *Administrator* user ID.
You can activate/deactivate the license on a server with or without Internet access. For online activation, port 443 must be open.

Live Schedule Pro is controlled by per-node licensing. The number of Capture servers that can be controlled by each Live Schedule system is determined by the license. Per-node licensing requires that the servers belong to a single Vantage array.

For a multi-node system, the Telestream Live Schedule Pro Service detects a server when the first Capture workflow on that server is activated, and enables servers up to the licensed capacity in alphabetical order by the Windows name.

When a server beyond licensed capacity is detected (as a result of a Capture workflow on that server being activated), an error displays to indicate the server is not enabled. Events added with channels that use that server fail to record, and an error displays at the time the recording starts.

To manage your license, open the Live Schedule Pro web app and display the Telestream Scheduler License panel: Click the License Indicator button—the license button—in the tool bar (top-right corner of window).

Topics

- Activating a License on a Server with Internet Access
- Activating a License on a Server without Internet Access
- Deactivating a License Online
- Deactivating a License Offline

Activating a License on a Server with Internet Access

You perform all license activation and management directly in the Live Schedule Pro web app. Follow these steps to activate a Live Schedule Pro license when the server hosting the Telestream Live Schedule Pro Service has Internet access:

Note: If the license button is green , your license is already activated.

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1. Obtain a license key from Telestream—see *Obtaining Support | Information | Assistance*.
2. Open the Live Schedule Pro web app from the Vantage Portal in Chrome—*http://localhost/Vantage | http://*`<LiveCaptureServer>`*/Vantage*). For details, see *Launching the Live Schedule Pro Web App*.

3. Verify that you are logged in using the Vantage user ID *Administrator*. The user ID displays in the toolbar:

User Identification

License indicator button

4. If you aren't logged in as the *Administrator* user, right-click and log out. Vantage displays the login dialog—log in again, as *Administrator*—and re-open Live Schedule Pro.

5. Click the red license button in the toolbar to display the Telestream Live Schedule Pro License panel. (If the key is green, your license is already activated.)

6. Open the file and copy the Entity key-pair value, and paste it in the license key you obtained from Telestream.

7. Read the license terms by clicking the License Agreement link. Check the I accept the terms... checkbox if you agree to the terms, and click Activate.

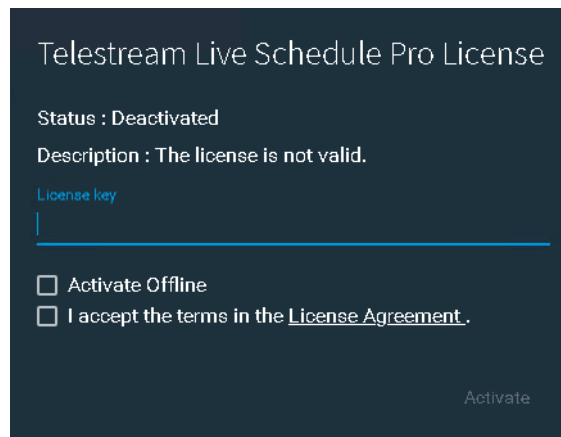When your license has been successfully activated, the Live Schedule Pro license panel indicates the successful activation of the license by displaying the license status as Valid and displays the expiration date. The license button displays green.

8. Click away from the Live Schedule Pro license panel to close it.

9. Save a copy of the license number in case you need to re-apply it.

Activating a License on a Server without Internet Access

Follow these steps to activate a Live Schedule Pro license when the server where Telestream Live Schedule Pro Service is installed does not have Internet access. Activation (and license management) is performed directly in the Live Schedule Pro Web app.

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> **Note:** If the license 🔑 button displays green, your license is already activated.

Follow these steps:

1. Obtain a license key from Telestream. See *Obtaining Support | Information | Assistance*.

2. On the server hosting the Telestream Live Schedule Pro service, open the Chrome web browser and enter this URL:
   `http://localhost:6500/license/id?key=[YourLiveScheduleKey].`

   Live Schedule Pro returns a string of characters similar to this:
   `GXTCIIUWUCXSGHBWUOGJWLAWUIOKXKUWUISSOGJ7FOMBNHE3DENZNGVDEGNRNHF
   DEIMBNG42UGNBNGNCTNMBNGVCX`.

3. Copy and paste this string into a text file that you can save locally, or access on another computer. Or, send it to the email address used on the other computer.

4. On the computer that has Internet access, open *https://cws.telestream.net/offlineactivation.aspx*.

5. Enter the string returned by Live Schedule Pro in Step 2 and click Submit.

   Telestream creates the off-line activation code and downloads it in a file.

6. Move the downloaded file to a folder of your choice on the Live Schedule Pro server.

7. In the browse, enter this URL: `http://localhost:6500/license/activate-offline?key=[YourLiveScheduleKey]&license=[Path/To/File]`

8. Open/refresh the Live Schedule Pro web app.

   When your license has been successfully activated, the The license 🔑 button displays green. Click the license button to display the Live Schedule Pro license panel, where it should indicate the successful activation of the license by displaying the status as Valid.

Click away from the Live Schedule Pro license panel to close it.

Deactivating a License Online

To deactivate a license online, follow these steps:

1. In the Live Schedule Pro web app, click the license 🔑 button to display the Schedule License panel:

2. Click Deactivate.

3. In the Deactivate panel, confirm by clicking Yes.

   Live Schedule Pro deactivates the license; the license 🔑 button should now display red. Live Schedule Pro displays the license panel again, showing the status as deactivated.

Deactivating a License Offline

Offline license deactivation and transfer must be arranged through Telestream. Contact Telestream Support (*Obtaining Support | Information | Assistance*) and advise that you want to deactivate your Live Schedule Pro license, which was activated offline.

When advised, follow these steps to complete deactivation of a license which was activated off-line:

1. Remove these JSON files from the server where the Telestream Live Schedule Pro Service is installed:

   • *C:\ProgramData\Telestream\Licenses*

   • *C:\Windows\System32\config\systemprofile\AppData\Local\Telestream\Licenses*

2. If you plan to activate the license on another server, contact Telestream Support to deactivate the license for you, prior to you re-activating it on another server.

Accessing Documents and Contacting Telestream

Click Live Schedule Pro's main More ⋮ menu > About to display the Live Schedule Pro information panel:
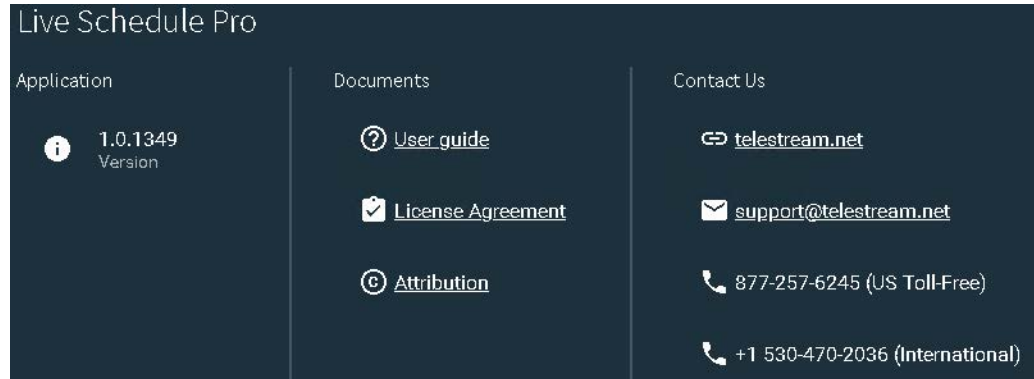
Use this dialog to determine your application's version, access this guide and other Live Schedule Pro-related documents, and find out how to contact Telestream for assistance.

Application

Version. Displays the version of Live Schedule Pro you are using.

Documents

User Guide. Displays the Live Capture User Guide (this document) in PDF format. This guide is also published on the Telestream web site and on the Lightspeed Live installation USB drive.

License Agreement. Displays the Telestream license agreement.

Attribution. Displays third party licenses.

Contact Us

Use these methods to communicate with Telestream. See also *Obtaining Support | Information | Assistance*.

Performing Database Operations

You can back up and restore your Live Schedule Pro database as required, for archival and disaster-recover purposes.

Backing Up the Database

In Live Schedule Pro, select the More ⋮ menu > Backup Database to create a SQLite database file in the browser's user download folder, with this naming convention:

SchedulerDb-YYYY-MM-DDTHHMMSS.

For example: `SchedulerDb-2023-08-24T085404.db`.

When the backup operation is complete, the browser briefly displays an alert, informing you of completion.

Information regarding SQLite is at https://www.sqlite.org/.

Note: Backup/Restore database operations are intended to support disaster recovery. It is not meant to create a portable record of events, so the database must be restored to the same Live Schedule Pro system, with the same active workflow and channel configuration that existed at the time the backup occurred.

Importing Live Schedule Pro Events

To import a database backup file previously created from the same Live Schedule Pro system, follow these steps:

1. In Live Schedule Pro, select More ⋮ menu > Restore Database. Live Schedule Pro displays this dialog:

2. Click in the Select... field—Live Schedule Pro displays an OS-level File Open dialog.

3. Navigate to the location of the SQLite database file you want to restore and click Open. By default, they are locate in the browser users download folder.

4. Back in the Restore Database dialog, it displays the file name and the list of channel groups with details. Review to verify, and select another file if required.
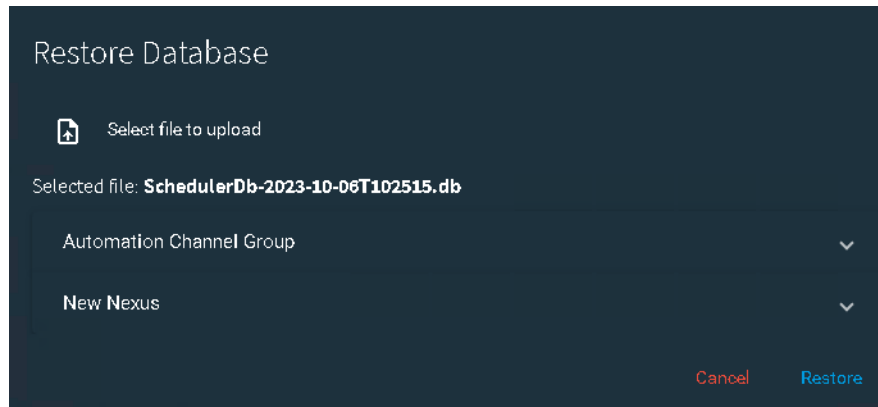
5. Click Restore to replace the existing database records with the records contained in the backup file.

6. Live Schedule Pro displays a confirmation dialog. Click Yes to continue or No to cancel.

Live Schedule Pro immediately replaces the database contents and you can continue your work.

Troubleshooting

Use the following topics to identify problems and fix them.

Connection Status—No client connection

The No Client Connection to Live Server warning may be displayed for several reasons:

You may have launched the web app directly, instead of using the Vantage web portal (see xref). Using the web portal creates a cookie for a persistent connection to the Vantage Live Service. Opening the Schedule web app directly via the URL bypasses this process, resulting in the error *"No client connection to Live server"*.

Correcting connection errors in web apps

When using Live Capture web applications on a workstation and connecting to a Capture server over the network, you may experience certain connec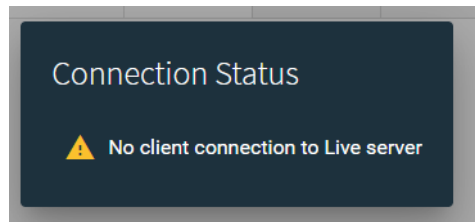tion problems when you are not using DNS. For example, you may see a No Event message instead of video thumbnails. Or, video previews don't display or the web app doesn't indicate connection to the required services.

The Live Schedule Pro web app must be able to resolve all the host names of the schedule and capture servers. For example, if you are running Live Schedule Pro on a browser outside of the Telestream Live Schedule Pro Service and Live Capture Service subnet and it can't resolve the host names of all the Live Capture servers, the hosts file of the client workstation should be configured to match IP addresses to host names for all required components of the Live Capture array.

To facilitate connections on servers | workstations that do not utilize external DNS for name resolution:

- Capture arrays require connections using host names, not IP addresses
- If external DNS is not available, host name resolution should be configured as described.

Update the *hosts* file on the computer you are using to run the web applications. This procedure describes how to correct this problem for Mac OS and Windows workstations.

Updating the hosts File on Mac OS

On a Mac OS computer, add the server IP address and host name to the *~/etc/hosts* file and save it. Perform the following steps:

1. Open the Terminal application—go to Application > Utilities and double-click Terminal.app.

2. Enter *sudo nano/etc/hosts* and press Return.

3. Enter the administrator password for the computer and press Return.

4. Position the cursor after all of the text in the window and type the IP address of your Lightspeed Live Capture server. For example: `102.54.94.97`

5. Press the tab key, then type the host name of the Lightspeed Live Capture server. For example: `CaptureServer1`

6. Press Ctrl-0 and Return.

7. Press Ctrl-x to exit.

8. Flush your DNS table by executing *sudo killall -HUP mDNSResponder* in Terminal.

9. Quit the Terminal application.

Updating the hosts File on Windows

On a Windows computer, add the IP address and host name to the *hosts* file and save it. Perform the following steps:

1. In File Explorer, navigate to: C:\Windows\System32\drivers\etc.

2. Open the *hosts* file in Notepad.

3. On a new line, enter the IP address of your Lightspeed Live Capture server.

   For example: `102.54.94.97`

4. Press the tab key and enter the host name of your Lightspeed Live Capture server.

   For example: `CaptureServer1`

5. Save the file and close Notepad.

Live Capture workflows are active but channels don't display

If your workflow is active, but its channel doesn't display, check the trigger type in the Capture action. Supported trigger types are: Manual, Web API and Recurring Segment Trigger types.

If the workflow is set to use CalDAV or DAI (SCTE-104) triggers, the associated channel won't be displayed in Live Schedule Pro.

Recurring segment events don't start | end on exact frame

Capture operations for recurring segment events is not always frame-accurate with regards to event start and end times.

Waiting events don't start on time

Live Schedule Pro requires all sources to use the same time of day reference, and the server computer clock running the Live Schedule Pro must match this time.

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For example, a Live Schedule Pro event that is set to start at 10 o'clock depends on the timecode of the source input to cross 10:00:00;00 to start recording. Arbitrary embedded source timecode cannot be used. Optimally, embedded timecode or LTC reference that matches time of day should be used. Live sources channels can also be set to use Computer Timecode that matches the Live Schedule Pro server time, but frame accuracy cannot be guaranteed for this use case, particularly when timecode resets at midnight.

Can't create an event at current time after stopping an event externally

This situation can occur when you stop a capture operation in Live Capture or stop the capture job directly in Vantage Workflow Designer, rather than in Live Schedule Pro.

Telestream recommends that you do not implement multiple, concurrent recording workflows on a given channel—it can lead to imbalanced CPU loads. If the recording event was stopped externally, the duration of the event isn't updated in Live Schedule Pro. In this situation, you must delete the completed event from Live Schedule Pro before you can start a new recording that runs at the same time on that channel.

Event card links to Glim aren't displayed

You have installed Glim and enabled it in Live Schedule Pro. However, your schedule is configured to display in horizontal mode and the Glim links are hidden.

To resolve the issue, expand the events to show the preview and view the full height of the event, including the Glim links.

Glim opens a file but won't play it

If the Live Capture action is configured to create an open file, Glim is able to open and play the recording in progress. However, if the Capture action is not operating in open mode or the format doesn't support open playback, Glim can't open the file until recording has completed and the file is closed.

The Glim link is no longer available after 24 hours

Live Capture workflows expire after 24 hours by default, and at expiration the output file is deleted. When is occurs, the Glim link is removed from the event because the file is no longer accessible from the original location.

If you want to retain files, modify the expiration period in the Capture action.

Opening the routing panel causes an error

When you open the routing panel, Live Schedule Pro displays an error:
"An unexpected error occurred invoking GetVisibleRouterSources on the server. Websocket exception: Unable to connect to the server".

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When Source Routing is enabled, the Telestream RouteMaster Service must be running. Also, verify the RouteMaster configuration—click the RouteMaster shortcut on the desktop and verify that Start Running Service Automatically is enabled so that the service starts when the server is rebooted.

Live Schedule doesn't display channels | won't connect to server

- Verify that the Telestream Live Schedule Pro Service is running

- Verify that the Vantage Live Service is running

- Log the browser client out of the Vantage domain and log back in

- Always start the Live Schedule Pro web app from the link in the Vantage portal. A web cookie is established by doing this, and is required for proper functionality.

- If the services have been interrupted or restarted while the Live Schedule Pro web app is open, refresh the browser to obtain connection status.

I can't work with an event I've created

I created an event, but I can't operate on it.

Resolution: If there is a string in the event filter (as indicated by a blue ▤ filter button) and it excludes the event you're trying to use, the event displays translucent—and you can't interact with it. Click on the Filter button and delete the string or click the X button to clear the filter and enable all events.

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Managing System Logs

Lightspeed Live Schedule Pro log files can provide valuable information about various Live Schedule Pro operations.

The log files are intended for use by Telestream Customer Service to troubleshoot problems. Consider obtaining the log files before contacting Customer Service so you can email them to Telestream as part of the support process.

Here's how to access the logs and control the level of information that is recorded.

Controlling Logging Settings

The information written to the log files can be changed by modifying the settings in the configuration file: *C:\Program Files\Telestream\Scheduler\appSettings.json*.

CAUTION: Before making changes to configuration files, make backups by copying the existing file and saving it in a safe location.

To change trace logging, change the minimum log level in the Serilog block:

"Serilog": {

   "MinimumLevel": {

     "Default": "Information"

Change the Default key-pair value to one of the keywords below and restart the Telestream Live Schedule Pro Service. You can also override specific components, as listed.

Keywords (from most restrictive to most verbose):

- *Fatal*: The most critical level; logs fatal events that demand immediate attention.
- *Error* (default): When functionality is unavailable or expectations broken.
- *Warning*: When service is degraded, endangered, or may be behaving outside of its expected parameters.
- *Information*: Information events describe things happening in the system that correspond to its responsibilities and functions. Generally these are the observable actions the system can perform.
- *Debug*: Debug is used for internal system events that are not necessarily observable from the outside, but useful when determining how something happened.
- *Verbose*: Verbose is the noisiest level, rarely (if ever) enabled in production.

Accessing Live Schedule Pro Log Files

Live Schedule Pro log files, by default, are written to *C:\ProgramData\Telestream\Scheduler*.

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