Lightspeed Live Capture Web API Reference

Vantage 7.2
Live Capture V3.0
Live Capture ComponentPac 7.2.0

January 2019

270616

Copyrights and Trademark Notices

Internet Explorer, SQL Server 2005|2008|2012, and Windows Media Technologies are trademarks of Microsoft Corporation.

SharpSSH2. SharpSSH2 Copyright (c) 2008, Ryan Faircloth. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of Diversified Sales and Service, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Telerik. RadControls for ASP.NET AJAX copyright Telerik All rights reserved.

VoiceAge. This product is manufactured by Telestream under license from VoiceAge Corporation.

x264 LLC. The product is manufactured by Telestream under license from x264 LLC.

Xceed. The Software is Copyright ©1994-2012 Xceed Software Inc., all rights reserved.

ZLIB. Copyright (C) 1995-2013 Jean-loup Gailly and Mark Adler.

Other brands, product names, and company names are trademarks of their respective holders, and are used for identification purpose only.

MPEG Disclaimers

MPEGLA MPEG2 Patent

ANY USE OF THIS PRODUCT IN ANY MANNER OTHER THAN PERSONAL USE THAT COMPLIES WITH THE MPEG-2 STANDARD FOR ENCODING VIDEO INFORMATION FOR PACKAGED MEDIA IS EXPRESSLY PROHIBITED WITHOUT A LICENSE UNDER APPLICABLE PATENTS IN THE MPEG-2 PATENT PORTFOLIO, WHICH LICENSE IS AVAILABLE FROM MPEG LA, LLC, 4600 S. Ulster Street, Suite 400, Denver, Colorado 80237 U.S.A.

MPEGLA MPEG4 VISUAL

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (i) ENCODING VIDEO IN COMPLIANCE WITH THE MPEG-4 VISUAL STANDARD ("MPEG-4 VIDEO") AND/OR (ii) DECODING MPEG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL, INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, LLC. SEE HTTP://WWW.MPEGLA.COM.

MPEGLA AVC

THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE HTTP://WWW.MPEGLA.COM.

MPEG4 SYSTEMS

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 SYSTEMS PATENT PORTFOLIO LICENSE FOR ENCODING IN COMPLIANCE WITH THE MPEG-4 SYSTEMS STANDARD, EXCEPT THAT AN ADDITIONAL LICENSE AND PAYMENT OF ROYALTIES ARE NECESSARY FOR ENCODING IN CONNECTION WITH (i) DATA STORED OR REPLICATED IN PHYSICAL MEDIA WHICH IS PAID FOR ON A TITLE BY TITLE BASIS AND/OR (ii) DATA WHICH IS PAID FOR ON A TITLE BY TITLE BASIS AND IS TRANSMITTED TO AN END USER FOR PERMANENT STORAGE AND/OR USE. SUCH ADDITIONAL LICENSE MAY BE OBTAINED FROM MPEG LA, LLC. SEE HTTP://WWW.MPEGLA.COM FOR ADDITIONAL DETAILS.

Limited Warranty and Disclaimers

Telestream, LLC (the Company) warrants to the original registered end user that the product will perform as stated below for a period of one (1) year from the date of shipment from factory:

Hardware and Media—The Product hardware components, if any, including equipment supplied but not manufactured by the Company but NOT including any third party equipment that has been substituted by the Distributor for such equipment (the "Hardware"), will be free from defects in materials and workmanship under normal operating conditions and use.

Warranty Remedies

Your sole remedies under this limited warranty are as follows:

Hardware and Media—The Company will either repair or replace (at its option) any defective Hardware component or part, or Software Media, with new or like new Hardware components or Software Media. Components may not be necessarily the same, but will be of equivalent operation and quality.

Software Updates

Except as may be provided in a separate agreement between Telestream and You, if any, Telestream is under no obligation to maintain or support the Software and Telestream has no obligation to furnish you with any further assistance, technical support, documentation, software, update, upgrades, or information of any nature or kind.

Restrictions and Conditions of Limited Warranty

This Limited Warranty will be void and of no force and effect if (i) Product Hardware or Software Media, or any part thereof, is damaged due to abuse, misuse, alteration, neglect, or shipping, or as a result of service or modification by a party other than the Company, or (ii) Software is modified without the written consent of the Company.

Limitations of Warranties

THE EXPRESS WARRANTIES SET FORTH IN THIS AGREEMENT ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No oral or written information or advice given by the Company, its distributors, dealers or agents, shall increase the scope of this Limited Warranty or create any new warranties.

Geographical Limitation of Warranty—This limited warranty is valid only within the country in which the Product is purchased/licensed.

Limitations on Remedies—YOUR EXCLUSIVE REMEDIES, AND THE ENTIRE LIABILITY OF TELESTREAM, LLC WITH RESPECT TO THE PRODUCT, SHALL BE AS STATED IN THIS LIMITED WARRANTY. Your sole and exclusive remedy for any and all breaches of any

Limited Warranty by the Company shall be the recovery of reasonable damages which, in the aggregate, shall not exceed the total amount of the combined license fee and purchase price paid by you for the Product.

Damages

TELESTREAM, LLC SHALL NOT BE LIABLE TO YOU FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OR INABILITY TO USE THE PRODUCT, OR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF THOSE DAMAGES, OR ANY REMEDY PROVIDED FAILS OF ITS ESSENTIAL PURPOSE.

Further information regarding this limited warranty may be obtained by writing:
Telestream, LLC
848 Gold Flat Road
Nevada City, CA 95959 USA

You can call Telestream via telephone at (530) 470-1300.

Part number: 270616

Date: January 2019

Contents

Overview

The Lightspeed Live web APIs—Capture, Stream, and Source —enable you to monitor and control your Lightspeed Live system within a broader, web services-based system or create your own custom application.

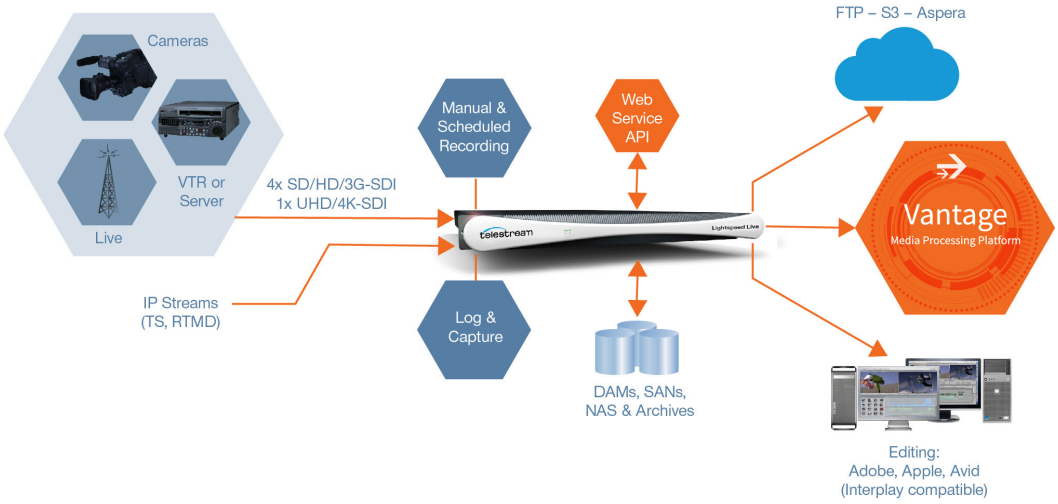
You can also create a web services-based system to control streaming and capture beyond the functionality or capability of the general-purpose Lightspeed Live Capture and Stream web applications, to meet your organization's requirements.

- Lightspeed Live Capture Web API
- Lightspeed Live Stream Web API
- Lightspeed Live Sources Web API
- Operation & Response Formats
- Reserved Characters in Value Strings

Note: This reference assumes that the programming environment being used by the developer includes a library that abstracts the process of operation submission and responses through the HTTP protocol.
If your environment does not include a library to perform this abstraction then you will have to directly format your operations to adhere to the HTTP protocol.
See Hypertext Transfer Protocol for details.

Lightspeed Live Capture Web API

Lightspeed Live Capture enables recording of live streaming media in a Lightspeed Live Capture workflow to be controlled manually via the Lightspeed Live Capture web application or through the HTTP web service *Capture Operations* described in this reference. The Capture web API is implemented in the Lightspeed Live Capture web service.



Lightspeed Live Capture workflows can be configured to publish a web service that enables media clips to be recorded using this web services operation set.

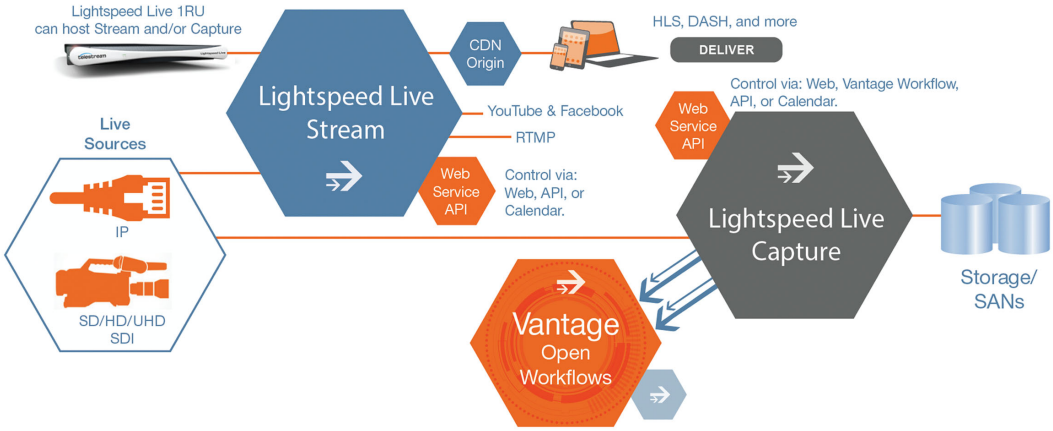
In order to respond to Capture API operations, the Capture action in the workflow must be configured with a Web Service trigger (see the Lightspeed Live Capture User Guide), and the specified port (default: 17000) must be utilized as the target port in each operation. When the workflow is activated in Lightspeed Live Capture, the web service listens for requests on the specified port. (The user will be warned if the port is in use by another Capture workflow or other service on the host computer.)

Your client program can control any Live input source on the Lightspeed server by communicating with the target Capture workflow—which in turn is configured for a specific input and web service port. Your application may be designed to target a specific input source by communicating on a specific port (thus, a specific workflow and SDI/IP input) on the domain or it may be more broadly-designed (using the Live APIs in conjunction with the Vantage SDK) to obtain a list of currently-running workflows, and present those to the user for selection dynamically.

Note: Depending on the requirements of your Capture application, you may also integrate the Vantage SDK in your Capture program along with the Lightspeed Live Capture web service. Integrating the Vantage SDK enables you to programmatically control the target workflow as well as the capture operation; starting and stopping the workflow, testing its status, querying job results, and submitting jobs, for example.

Lightspeed Live Stream Web API

Lightspeed Live Stream supports adaptive bit rate encoding for SD, HD and UHD sources into AVC and HEVC. Input support is available for SDI as well as IP sources, offering future-proof operation as delivery mechanisms change. Output can be delivered via RTMP or as HTTP Live Streaming (HLS) and MPEG DASH packages.



Lightspeed Live Stream enables you to encode source files in real-time, streaming them via the Lightspeed Live Stream web application or through the HTTP web service. Click here to access the Lightspeed Live Web API Reference on the Telestream website.

The Live Stream web API is implemented in the Lightspeed Live Stream web service.

Lightspeed Live Sources Web API

The Lightspeed Live Sources Web API supports the insertion of SCTE-35 and ID3 tags. Use of the Sources API to insert tags can be performed during capture or stream sessions. The Sources API is implemented in the Source service.

The Lightspeed Sources web API is described in *Source Operations*.

Operation & Response Formats

The Lightspeed Live APIs are a RESTful implementation. Most Lightspeed Live web service operations are invoked using an HTTP GET request in the following form:

```
http://<host>:<port>/<API Category>/<operation>
[?<parameter>=<value>[&<parameter>=<value>]]
```

Operations that alter operational data in the Live Stream server are POST operations; such as *AddCalendarEvent*, for example. Live Stream POST operations use a JSON-formatted request body for transferring parameters to the Live Stream web service.

Lightspeed Live systems respond to operations with an HTTP status line (for example: *200 OK* or *404 Not Found*), HTTP headers, and either XML or JSON-formatted responses in the body. Responses vary, based on the operation and parameters.

Stream API and Source API responses are primarily in JSON format (although a few operations return XML, ZIP files, thumbnails, etc.)

The Capture API includes POST commands as well, although responses are in XML format.

Topics

Operation Keyword Terms

Keyword terms in each operation are shown in this reference surrounded by less than and greater than symbols (<>); they are placeholders in the operation's description, to be replaced by values you specify.

Note: Operation names are not case-sensitive. For example, you can specify *Encoders/GetStreams* or you can specify *encoders/getstreams* to execute the *GetStreams* operation.

When an operation has required and/or optional parameters, they are displayed as name/value pairs in the query portion (?) of the request. Additional parameters are separated by an ampersand (&). Parameters in brackets ([]) are optional:

```
http://<host>:<port>/record/start
[?<parameter>=<value>[&<parameter>=<value>]]
```

Here are the keyword terms you'll encounter in parameters:

Term	Description
host	The Windows domain name or the IP address of the Lightspeed Live Capture or Stream server you are targeting. For example: *localhost* | `LightspeedServer` | `192.168.1.23`.
port	The TCP port number assigned to the web service. When using the Live Capture API, the port number used in the operation identifies the workflow whose jobs you are controlling—thus, when you have multiple workflows, each workflow should be configured with a different port if they are going to run concurrently. The port (default: 17000) is displayed and configured in the Capture action inspector of the target workflow. (See the Lightspeed Live Guide or man page for the Capture action.) The following API server ports are selectable in the Live Stream web app settings. • Live API server port (default: 18000) • Source API server port (default: 15000) • Authorization API server port: 16000 (this port can not be changed).
parameter	An optional, named parameter defined by the web service operation. Parameters are listed and described in the associated table in each operation.
value	The value for the associated parameter.

Use of GUIDs/UUIDs in Operations

A GUID (Globally Unique IDentifier)—referred to as UUID in Capture operations—is used in most operations to target or identify a specific instance of a component. For example, a stream or program. The important property of a GUID is that each value is globally unique, enabling you to identify a specific target using the GUID. The value is generated by an algorithm, developed by Microsoft, which assures this uniqueness.

A GUID is a 16-byte binary data type that can be logically grouped into the following subgroups: 4byte-2byte-2byte-2byte-6byte.

The standard textual representation is {12345678-1234-1234-1234-1234567890AB}.

For example, `ad1c45b7-67fb-419d-8c5b-8ba474bd6dfd`.

Note: If the GUID you supply in an operation is not properly formed, the operation fails to execute and returns an HTML XML advising of the Request Error.

Using GUIDs in Capture Operations

When you are operating on a specific clip, the GUID is first obtained when you begin capturing the clip, via the *Start* operation. In the response, the GUID is returned in the UUID element.

Use the clip's GUID when you use Modify, MarkIn/MarkOut, EditIn/EditOut, Stop, and Status operations to identify the target clip.

Using GUIDs in Stream Operations

When you are requesting information about a specific component from the system (such as a source track), the GUID is the identifier of that component.

You obtain GUIDs for specific components in your system using the Get operation for the component set (without a GUID): *GetPrograms*, for example.

When you are retrieving multiple components (for example, all tracks), the GUID is the identifier of the parent component.

For example, in this hierarchy: *Machine* > *Source* > *Source Track*...

If you want to retrieve a specific Source or Source Track, you provide its GUID identifier. If you want to retrieve all of the Sources that belong to a Machine or all of the Source Tracks that belong to a Source, you supply the identifier of the Machine or Source.

Use of Timecodes in Operations

Timecodes are used as parameters and are also returned as part of responses.

Timecodes can be specified in either drop frame (for example: 01:00:10;00) or non-drop frame format (for example: 01:00:10:00). The recorded file's timecode format always matches the input source's timecode regardless of the type of timecode notation used within a Web API command. Timecode notation types are treated identically and have no effect on the output file's timecode.

The timecode source is determined by the configuration of the source input. The timecode may be Source, Computer Clock, Free Run, Analog LTC, or RS422, as defined in the Vantage Domain Console's Capture Inventory Capture Source settings.

Response Formats

Response formats vary by API and by operation.

Capture Operation Response Formats

When you execute a Capture operation, the Capture service executes the operation and returns an XML response. For example:

```
<Response>
  <UUID>27638f24-2bb1-4ce6-8816-5a05a5e05897</UUID>
  <PercentCompleted>0</PercentCompleted>
  <Progress>0</Progress>
  <ActionDuration>3239.9733066</ActionDuration>
  <FPS>29.97002997003</FPS>
  <Start>11:05:06;09@29.97</Start>
  <End></End>
  <MarkIn>11:05:06;09@29.97</MarkIn>
  <MarkOut>11:59:06;09@29.97</MarkOut>
  <Excluding>False</Excluding>
  <Name>SDI-2 - Web UI_LSL-PM - SDI Input 2.8</Name>
  <HorizontalResolution>1920</HorizontalResolution>
  <VerticalResolution>1080</VerticalResolution>
  <FrameRate>29.97002997003</FrameRate>
  <Channels>16</Channels>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>11:02:38;01</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

Stream and Source Operation Response Formats

When you execute a Stream or Source operation, the Stream | Source web service returns a JSON response. For example:

```
[
  {
  "Description":null,
  "Identifier":"89d2be4b-be21-4838-a551-522cce299fbe",
  "Name":"LL-PM-1"
  },
  {
  "Description":null,
  "Identifier":"4bd2be89-2c24-3947-a432-484bca2387fba",
  "Name":"LL-PM-1"
  },
  {
  "Description":null,
  "Identifier":"43b2ff5b-ac29-48573-c443-567cad734efa",
  "Name":"LL-PM-1"
  }
]
```

Reserved Characters in Value Strings

This list of reserved characters can cause a variety of problems in parameters—you should not use them in parameter values:

```
" < > # % { } | \ ^ ~ [ ] ` ; / ? : @ = & +
```

During processing, certain characters are omitted; others truncate the remainder of the string or are changed to a space character. In some circumstances, this error is displayed: “Request Error - The server encountered an error processing the request. See server logs for more details.”

Capture Operations

You use the Lightspeed Live Capture web service operations to control Capture recordings. All Capture operations are GET operations; *Start* may also be submitted as a POST, when supplying runtime variables to a Capture job.

Each operation in the API is presented with a brief description, including the format of the operation, and all required and optional parameters in a table. Finally, a typical *Response* is presented using an example.

Most operations return a *Response* XML. *Get-Statistics* returns a *Statistics* XML, *Message* returns a *string*, and *Variables* returns a *Customization*, which lists Variable Conditions supported by a Capture workflow.

Note: In order to respond to Capture API operations, the Capture action in the capture workflow must be configured with a Web Service trigger, with a unique, user-specified port (default: 17000; min/max 1024-65536). The port must be specified as the target port for the workflow in each operation you execute. Finally, the workflow must be activated in Vantage and it must remain activated to process jobs underway and jobs awaiting execution in the clip list. You can optionally enable manual control (via the Web application) and you can also enable logging.

Response Elements

For operations that return a *Response* XML, certain elements are returned in every successful *Response*. Other elements are returned only for specific operations.

Standard Response Elements

Response Element	Description
Access-Control-Allow-Origin	For use only by Telestream.
EngineState	Keyword; the current state of the Capture service. It always reports *Running*.
EngineTime	Timecode; the current Lightspeed Live Capture server clock time. For example: `12:34:56:00`. **Note:** *EngineTime* is only returned when at least one job is in the clip list; either queued or running.
UUID	The GUID of the clip being operated on. For example: `5b1eb65c-3018-a4cf-8134-6e1c16b378a7`.
XMLRevision	Integer; the *Response* XML revision number. For example: `2`.

Optional Response Elements

These elements are returned in a successful *Response*, based on the operation and the parameters utilized. Some elements are always updated in the initial *Response*. Others are updated only in the *Response* to subsequent *Status* operations.

Response Element	Description
ActionDuration	Real; the estimated duration of the Capture action, in seconds. Returned by Start | Stop | Modify | Status operations when a GUID is specified.
Channels	Integer; the number of audio channels in the target clip.
Discontinuity	Keyword (Abort | Ignore); specifies how to control capturing when timecode discontinuities are observed in the video stream. When set to *Ignore*, any timecode discontinuity will be ignored and recording will continue. When set to *Abort*, recording stops and the job is terminated when a timecode discontinuity is detected.
End	Timecode; end or anticipated end of the target clip, represented in timecode format: HH:MM:SS:FF.
Error	String; reports a detailed error during a Failed state (the *EngineState* element has the keyword Failed). For example: "Writer stalled. This is often caused by the writer not being able to keep up with the reader due to I/O limitations."
Excluding	Boolean; reports *True* if frames are being excluded via the use of MarkOut|MarkIn or EditIn|EditOut operations. Mark operations can only be used on TIFO files. *Excluding* is *False* upon starting an initial capturing and after an In operation. *Excluding* is *True* after an Out operation.
FPS	Real; the frame rate in FPS of the target clip.
FrameRate	Real; the time scale, divided by the duration of the target clip.
HorizontalResolution | VerticalResolution	Integer; the clip's horizontal and vertical frame resolution, in pixels.
Identifier	GUID; the Vantage Capture workflow's job identifier for the target clip; used in *Status*, *Start*, and *Stop* operations. Can be used in Vantage SDK queries to obtain additional status and information about the workflow associated with the clip being captured.
MarkIn | MarkOut	Timecode; timecode of beginning (inclusive) or ending (exclusive) frame of a segment of the target clip.
Name	String; the file name of the clip being recorded by the workflow, including the suffix.

Response Element	Description
Path	String; fully-qualified path to the file being recorded, including the file name and suffix.
PercentCompleted	Not implemented.
Progress	Real; elapsed time (in seconds) of the capture job. Returned by Start | Stop | Modify | Status operations when UUID specified.
Start	Timecode; starting timecode of the target clip.
State	Keyword; the state of the job for the specified clip: *Closed*—when GUID supplied, recording of the clip is complete or the job was stopped. *Failed*—when GUID supplied, the capture job failed. The *Error* element contains a descriptive string describing the cause of the *Failed* state. *Opened*—when GUID supplied, the clip is present in the clip list. It may be queued waiting for the specified start time or it may be actively recording. *Waiting*—when no GUID supplied, the clip list is empty and the Capture workflow is waiting for jobs to submit. When monitoring a clip in the *Opened* state, you can test the *Progress* element returned from a Status (with UUID) operation to determine if it is waiting to start or is currently capturing. If State = Opened and Progress > 0, then the clip is capturing. To determine the job's progress, calculate the percent using this formula: (Progress / ActionDuration) X 100. The *PercentCompleted* element should not be used.
TransmitError	String; messages or errors returned from the Capture process.
UUID	GUID; unique identifier of clip being operated upon.

Get-Statistics

The *Get-Statistics* operation returns a *Statistics* XML for the target (by host and port number) Lightspeed Live server, with source and deck information. This operation has no parameters.

Get-Statistics has the following format:

```
http://<host>:<port>/record/get-statistics
```

Statistics Elements

* Deck-Mode, Deck-State, Deck-Status are returned only when a VTR is detected on the input channel associated with the job being captured.

Response Element	Description
Audio	Integer; the number of channels in the target clip.
Bit-Depth	Integer; bit depth of the target clip.
Captions	Keyword: No | Yes; indicates the presence of captions in the clip.
CPU-Usage	Integer; the current load on the CPU, expressed as a percentage.
Deck-Mode*	Keyword; reports the VTR's Remote state: *Remote* | *Local*.
Deck-State*	Keyword; reports the VTR's Transport state: *Stopped* | *Playing*.
Deck-Status*	Reports DATA-0 through DATA-A STATUS DATA bytes returned by a STATUS SENSE RS-422 serial protocol command. Data bytes 0 - A (2 nibbles = one byte): 00 11 22 33 44 55 66 77 88 99 AA [checksum]. Example: 00 20 00 00 00 00 00 00 00 80 3A 74
Frame-Rate	Real; the frame rate in FPS of the target clip.
Firmware-Version	String; version of the firmware installed on the target Live Stream server.
Memory	Integer; the total memory in the server, in MB.
Process	Integer; the Program Identifier (PID) of the LiveSource process assigned to the workflow/channel. (Also displayed in the LiveSource.exe row of the Task Manager Details table in the Web application.)
Resolution	String; the frame size and type of the source. For example: *1920x1080i*. This information is also displayed in the Web application's Preview panel and in the Vantage Management Console's Capture Inventory panel Preview dialog for a given SDI input.
SDI	Integer; the video port currently being streamed.
Time-Code	Timecode; the current timecode of the video on the SDI port.

Example

Here is an example of a *Get-Statistics* operation:

```
http://LS-SVR:17001/record/get-statistics
```

Typical Response

Issuing a *Get-Statistics* operation returned the following *Statistics* XML:

```
<Statistics>
  <Firmware-Version>2016/12/30</Firmware-Version>
  <CPU-Usage>0</CPU-Usage>
  <Memory>7933</Memory>
  <Process>8404</Process>
  <SDI>4</SDI>
  <Resolution>1920x1080i</Resolution>
  <Frame-Rate>29.97</Frame-Rate>
  <Bit-Depth>10-Bit</Bit-Depth>
  <Audio>16</Audio>
  <Captions>No</Captions>
  <Time-Code>01:01:01;10</Time-Code>
  <Deck-Status>0020000000000000000ba74</Deck-Status>
  <Deck-State>Stopped</Deck-State>
  <Deck-Mode>Remote</Deck-Mode>
</Statistics>
```

Start

The *Start* operation may be executed as a GET or a POST operation, both of which initiates the recording of a new clip by submitting a Capture job from the target workflow. A POST operation should be used when you need to supply runtime variables to a Capture job; only use a GET operation when you aren't submitting variables.

Note: If you are submitting runtime variables to the job, you should execute *Start* as a POST instead. (See *Start POST—Supplying Runtime Variable Values* for a description of submitting the variables.)

The *Start* operation initiates a job from the Capture workflow identified by the port number that the Capture action's Web service trigger is configured to monitor. No GUID is provided.

You can start capturing the video immediately or you can specify a future *start* time. You can also explicitly name the file and specify an alternate file storage path, and control how video recording is handled when discontinuous timecodes are detected.

If an *end* time or *duration* is not specified, the clip records for up to 9 hours unless stopped or disk space is exhausted. For best results, specify an *end* time or *duration*, and design your application to actively monitor and control the recording time.

Note: Specifying a *start* timecode that is 60 seconds or less earlier than the current time results in a capture job starting immediately. For example, if the current timecode is 02:30:00;20 and a *start* timecode of 02:29:30;00 is specified, the job starts capturing immediately.
Conversely, specifying a *start* timecode greater than 60 seconds prior to the current time causes the capture job to be queued, to start capturing in 24 hours. For example, if the current timecode is 02:30:00;20 and the *start* timecode is 02:29:00;00, the job is queued and capturing will begin at 02:29:00;00 tomorrow, nearly 24 hours later.

The job ID GUID (in the *Identifier* element) is always returned with an all-zero GUID, indicating that Vantage has not yet updated its database—it may take several seconds (typically up to ten) to update it; obtain the job ID GUID using *Status*.

Note: Up to 16 jobs per Capture workflow can be queued in a clip list for processing. Jobs are automatically removed from the clip list when complete or stopped. If you submit more than the maximum number of jobs permitted, an error is generated.
You can use the *Status* operation to obtain a clip list for the target workflow, so that you can determine the number of clips currently queued for processing.

Start POST—Supplying Runtime Variable Values

To use a Start POST operation and supply runtime variables, use the *Variables* operation to discover all variables that are associated with the workflow.

Then, submit the *Start* command as a POST, providing a Customization XML which contains your variables, enclosed in the body of the request message.

The POST Body should be submitted withe a Content-Type = text/plain, with the following Body Form:

```
<Customization xmlns:soa="urn:telestream.net:soa:core"
xmlns="urn:telestream.net:soa:live">
  <soa:Condition identifier="Variable GUID" name="Variable Name"
  type="string"><soa:Value> Variable Runtime Value</soa:Value></
  soa:Condition>
…
  <soa:Condition identifier="Variable GUID" name="Variable Name"
  type="int32"><soa:Value> Variable Runtime Value</soa:Value></
  soa:Condition>
…
  <soa:Condition identifier="Variable GUID" name="Variable Name"
  type="boolean"><soa:Value>Variable Runtime Value</soa:Value></
  soa:Condition>
</Customization>
```

Example Customization Variable XML

```
<Customization xmlns:soa="urn:telestream.net:soa:core"
xmlns="urn:telestream.net:soa:live">
  <soa:Condition identifier="221e9868-84ca-459a-ac1d-270fd3ee8a38"
name="FilenameToken" type="string"><soa:Value>This is where the
Name Token Goes</soa:Value></soa:Condition>
  <soa:Condition identifier="d678dcb9-6e44-4142-ad0c-62048d93980c"
name="Video Quality - ProRes" type="string"><soa:Value>422 LT</
soa:Value></soa:Condition>
  <soa:Condition identifier="8ccedf06-580e-4629-85cd-8bd78315eaeb"
name="Web Service option - Create Metadata Log"
type="boolean"><soa:Value>False</soa:Value></soa:Condition>
</Customization>
```

Note: The *soa:Condition* element's *type* attribute value (for example, `"string"`) must be in lower case or the operation will fail.

These are the elements and attributes you must supply:

- *soa:Condition* element:
  - *identifier* attribute— the target variable GUID (replacing the string <Variable GUID>), in double quotes.
  - *name* attribute— the name of the target variable (replacing the string <Variable Name>), in double quotes.
  - *type* attribute— the type of the target variable (replacing the string <Variable Type>), in double quotes. For example, string, integer, or boolean.
- *soa:Value* element value—the value you want to assign the variable (replacing the string <Variable Runtime Value>). It should *not* be in quotes. The *soa:Value* element value should be updated to contain the new runtime value for each job you submit (capture you start).

Start Formats

This operation has the following formats:

```
http://<host>:<port>/record/start
```

OR

```
http://<host>:<port>/record/start
[?<parameter>=<value>[&<parameter>=<value>]]
```

Parameters

The *ActionDuration* element in the *Response* is always updated immediately when a *Start* operation is executed. Other elements are also updated when specific optional parameters are utilized. Their values can be obtained using a *Status* operation.

Parameter	Description
duration (optional)	Timecode; specifies the duration of the clip based on the number of frames captured. Default: 9 hours. For example: `duration=00:30:00:00`. When used in conjunction with *end*, the *end* timecode overrides *duration* when the specified timecode (or one later in time) is detected. If no *duration* or *end* is specified, the clip is recorded for 9 hours, the capture job is stopped, or disk space is exhausted. When *duration* is specified, the *ActionDuration* and *MarkIn* elements are updated immediately in the *Response*. The session continues until the number of frames in the file is functionally equivalent to the *duration* parameter. This allows for timecode jumps that occur during recording. **Error**: Returns an "Unable to start recording..." *Error* if timecode contains invalid timecode characters.
end (optional)	Timecode; specifies the clip's *exclusive* ending timecode. For example: `end=01:42:35:00`. The *end* timecode represents the timecode of the frame after the last frame of video. Recording stops when the specified timecode (or one later in time) is detected. If no *duration* or *end* is specified, the clip records for 9 hours, the capture job is stopped, or disk space is exhausted. When *end* is specified, the *ActionDuration* and *End* elements are updated immediately in the *Response* to *Start*. *MarkIn* and *MarkOut* are updated in the first valid *Status Response*. **Error**: Returns an "Unable to start recording..." *Error* if timecode contains invalid timecode characters.

Parameter	Description
folderPath (optional)	String; specifies the path to a folder where the clip file should be written. The path must end with a \. If a folder path is not specified, the clip is recorded in the storage folder associated with the respective workflow. If a new folder is added to an existing path, the folder will be created. If the folder could not be created an error will be reported. The Capture action must have the *Create output file(s) at job start* option enabled. For example: `folderPath=[Drive letter]:\[folder path]\ or \\[Share server]\[Share]\[Folder Path]\`
name (optional)	String; specifies a name for the clip. If a clip name is not specified, then a random name is generated. **Note**: For this name to be utilized, you must configure the Capture action to include the Base Name token in the Primary or Secondary Output's file name creation pattern in the Filename Pattern Editor (see the Capture Primary and Secondary Output Panels topic in the Lightspeed Live Guide for more detail). The appropriate file extension is automatically added to the file name. If a file exists, the web service will append an incremental integer to the file name. The Capture action must have the *Create output file(s) at job start* option enabled. For example: `name=LiveInOakland_Cam7_16062016_1342_PQ_234`. **Error**: Returns an error if the name contains *Reserved Characters in Value Strings*.
discontinuity (optional)	Keyword (Abort | Ignore); specifies how to control recording when timecode discontinuities are observed in the video stream. When set to *Ignore*, any timecode discontinuity will be ignored and recording will continue. When set to *Abort*, the recording stops and the job is terminated when a timecode discontinuity is detected.
rs422delay (optional)	Integer; specifies the number of frames delay when capturing from a VTR deck, adjusting the RS-422 time code by the specified number of frames. Negative numbers indicate early frames (an advance); positive numbers indicate latent frames (a true delay). Default 0; minimum -3 frames; maximum +3 frames). For example: `rs422delay=-1`. RS-422 time code delay is used to compensate for VTR decks requiring frame timing adjustments. Frames can appear early or late, depending on the type and/or age of the deck used. This adjustment compensates for decks that are not 100% frame-accurate (or for systems with routing latency to the associated timecode). Most decks do not require an offset adjustment. If you have a deck that requires an adjustment, use a trial-and-error process to determine the correct offset. **Note**: The Capture action must have *Create output file(s) at job start* enabled. **Error**: Returns an error if *rs422delay* is not an integer or contains values out of range.

Parameter	Description
start (optional)	Timecode; specifies the clip's i*nclusive* starting timecode. For example: `start=01:12:35:00`. The *start* time represents the at which to record the first frame. If a *start* time is not specified, the clip begins recording immediately. When a *start* parameter is supplied, the *ActionDuration* and *Start* elements are updated in the *Start Response*. The *MarkIn* element is updated in the first valid *Status Response*. **Error**: Returns an "Unable to start recording..." *Error* if timecode contains invalid timecode characters.

Using Time-based Response Elements

These timecode-based *Response* elements are updated based on the parameters specified in the *Start* operation. Elements that are not updated (populated or changed value) on the initial *Response* are noted.

Start (without any parameters)

- *ActionDuration*

Start (start)

- *ActionDuration*
- *Start*

Start (duration)

- *ActionDuration*
- *MarkIn*—on the first valid Status operation

Start (start, duration)

- *ActionDuration*
- *Start*
- *End*
- *MarkIn*—on the first valid Status operation

Example—Immediate Start, No Duration

In this example, recording starts immediately and runs until it is stopped, 9 hours has elapsed or disk space is exhausted:

```
http://LS-SVR:17001/record/start
```

Typical Response

In this response, the clip GUID is in the *UUID* element. You can use this for *Status* or other operations on the clip. The *State* element indicates *Opened*, meaning that recording is ready to start or has started. Note that the *Identifier* is an all-zero GUID, indicating that Vantage has not yet updated its database with the job GUID—it may take several seconds (typically up to ten) to obtain the job GUID, using *Status*. The *ActionDuration* is 32,400 seconds—9 hours—and typically is updated in the *Start* operation's *Response*.

```
<Response>
  <UUID>d35d4e41-1c87-478d-9c9e-edb64d3adf6e</UUID>
  <PercentCompleted>0</PercentCompleted>
  <Progress>0</Progress>
  <ActionDuration>32400</ActionDuration>
  <FPS>29.97002997003</FPS>
  <Start></Start>
  <End></End>
  <MarkIn></MarkIn>
  <MarkOut></MarkOut>
  <Excluding>False</Excluding>
  <Name>capture_default_undefined_TeamBUndefined.mxf</Name>
  <Path>\\LS-SVR\Live\31a5a309-3fde-43be-8855-
a1a39e63ccb1\capture_default_undefined_TeamBUndefined.mxf</Path>
  <HorizontalResolution>1920</HorizontalResolution>
  <VerticalResolution>1080</VerticalResolution>
  <FrameRate>29.97002997003</FrameRate>
  <Channels>16</Channels>
  <Identifier>00000000-0000-0000-0000-000000000000</Identifier>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>12:52:28;13</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

GET Example—Start with Time and Duration

In this example, recording starts later today at 2PM (14:00), and runs for 10 seconds:

```
http://LS-SVR:17001/record/
start?start=14:00:00:00?duration=00:00:10:20
```

POST Example—Start with Time and Duration

In this POSTS example with variables in the body (set as text/plain), recording starts later today at 2PM (14:00), and runs for 10 seconds:

```
http://LS-SVR:17001/record
start?start=14:00:00:00?duration=00:00:10:20
```

Body

```
POST /record/start?start=14:00:00:00&amp; duration=00:00:18:20
HTTP/1.1
Host: ll-pm:17000
```

```
cache-control: no-cache
<Customization xmlns:soa="urn:telestream.net:soa:core"
xmlns="urn:telestream.net:soa:live">
  <soa:Condition identifier="221e9868-84ca-459a-ac1d-270fd3ee8a38"
name="FilenameToken" type="string"><soa:Value>This is where the
Name Token Goes</soa:Value></soa:Condition>
  <soa:Condition identifier="d678dcb9-6e44-4142-ad0c-62048d93980c"
name="Video Quality - ProRes" type="string"><soa:Value>422 LT</
soa:Value></soa:Condition>
  <soa:Condition identifier="8ccedf06-580e-4629-85cd-8bd78315eaeb"
name="Web Service option - Create Metadata Log"
type="boolean"><soa:Value>False</soa:Value></soa:Condition>
</Customization>
```

Typical Response

In this *Response*, note that the recording lasts for 10.01 seconds:

```
<Response>
  <UUID>7db7c9bc-e2b9-4ec2-93e2-dfe89b876045</UUID>
  <PercentCompleted>0</PercentCompleted>
  <Progress>0</Progress>
  <ActionDuration>10.01</ActionDuration>
  <FPS>29.97002997003</FPS>
  <Start>14:00:00;00@29.97</Start>
  <End>14:00:10;00@29.97</End>
  <MarkIn/>
  <MarkOut/>
  <Name>capture_default_undefined_TeamBUndefined.mxf</Name>
  <Path>\\LS-SVR\Live\3c003eda-8222-476d-aafc-51770a1dd791/
capture_default_undefined_TeamBUndefined.mxf</Path>
  <HorizontalResolution>1920</HorizontalResolution>
  <VerticalResolution>1080</VerticalResolution>
  <FrameRate>29.97002997003</FrameRate>
  <Channels>16</Channels>
  <Identifier>00000000-0000-0000-0000-000000000000</Identifier>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>13:26:04;20</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

Modify

The *Modify* operation is used to modify the start time and/or duration of a specific clip, specified by its GUID or all clips in the clip list, when no GUID is provided. The clip may be in any state. The *start* parameter is always required. If a clip has already started recording, it does not affect the job.

This operation has the following formats:

```
http://<host>:<port>/record/modify
?&start=<TimeCode>
```

OR

```
http://<host>:<port>/record/modify
?uuid=<GUID>[&start=<TimeCode>[&duration=<TimeCode>]]
```

Note: If you only have one clip in the clip list (or you want to modify all clips in the clip list), you can issue a *Modify* without a UUID. It returns a *Response* with only the standard elements.

Parameters

Parameter	Description
uuid (optional)	GUID; the unique identifier of the target clip. When not supplied, all clips in the list are updated. For example: `uuid=21EC2020-3AEA-4069-A2DD-08002B30309D` **Error**: Returns *404 Not Found* if the specified clip is not in the clip list.
start (required)	Timecode; specifies the clip's new i*nclusive* starting timecode—the *start* timecode of the first frame to be recorded—when executed before the scheduled *start* timecode. If recording is underway, you can specify any value—it does not affect the job, but it does update the *Start* element. For example: `start=01:12:35:00`. When a start timecode is specified, the *ActionDuration* and *Start* elements are updated in the *Response*. **Error**: Returns an "Unable to start recording..." *Error* if timecode contains invalid timecode characters.
duration (optional)	Timecode; specifies the new duration of the clip. For example: `duration=01:12:35:00`. When a a duration timecode is specified, the *ActionDuration*, *Start*, *MarkIn*, and *MarkOut* elements are updated in the *Response*. **Error**: Returns an "Unable to start recording..." *Error* if timecode contains invalid timecode characters.

Errors

If you don't supply a *start* parameter, this error is returned:

```
<Response>
    <Error>Unable to modify recording. Start time code must be
     specified</Error>
    <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
</Response>
```

Example

In this example, a new clip is created, to start at 18:00:00:00 for a duration of 10 minutes. Before 18:00 (recording has not started yet), the start time is modified to start at 18:30:00:00.

Here are the operations executed in this example:

Starting the Clip: `http://LS-SVR:17001/record/start?start=14:00:00:00&duration=00:10:00:00.`

Modifying the Clip Start Time: `http://LS-SVR:17001/record/modify?uuid=cd76fe46-700f-47b1-b483-7eaa1ed32241&start=11:30:00:00.`

Typical Response

Issuing the example *Modify* operation with a UUID and new start timecode results in the following *Response*:

```
<Response>
  <UUID>cd76fe46-700f-47b1-b483-7eaa1ed32241</UUID>
  <PercentCompleted>0</PercentCompleted>
  <Progress>0</Progress>
  <ActionDuration>10.01</ActionDuration>
  <FPS>29.97002997003</FPS>
  <Start>14:30:00;00@29.97</Start>
  <End>14:30:10;00@29.97</End>
  <MarkIn>14:00:00;00@29.97</MarkIn>
  <MarkOut>14:30:10;00@29.97</MarkOut>
  <Excluding>False</Excluding>
  <Name>capture_default_undefined_TeamBUndefined.mxf</Name>
  <Path>\\LS-SVR\Live\6220fd60-05c2-4b47-b481-f7a628708567/
capture_default_undefined_TeamBUndefined.mxf</Path>
  <HorizontalResolution>1920</HorizontalResolution>
  <VerticalResolution>1080</VerticalResolution>
  <FrameRate>29.97002997003</FrameRate>
  <Channels>16</Channels>
  <Identifier>8ee1376a-e1c0-490b-bea8-6ee42ee68fb2</Identifier>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>15:25:07;27</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

MarkOut | MarkIn

The MarkOut and MarkIn operations enable you to mark a specific segment of all clips in the clip list or a specific clip, specified by its GUID, for deletion during processing by a Vantage workflow.

Note: Mark In and Mark Out operations are only valid for TIFO format encoding. Using MarkOut/MarkIn with formats other than TIFO may have unintended consequences. Processing TIFO frames marked as OUT requires Vantage Transcoder 2012.1 or later in your Vantage domain. Alternatively, to temporarily halt streaming media to the Capture workflow, use *EditOut | EditIn*.

All TIFO frames after a *MarkOut* is executed are marked with an OUT metadata tag. The TIFO decoder included in a Vantage workflow ignores frames marked as OUT and prevents them from being passed to a transcoder for encoding.

If a filler file is specified in the workflow, markout frames are replaced by frames in the same ordinal position in the filler file until the *MarkIn* operation is received.

All frames are marked as IN after a *MarkIn* has been executed.

You can use the *Status* command to determine the current state of these operations. The Excluding element in the Response has two values:

- Excluding = *False* means frames are not being affected by a Mark/Edit command.
- Excluding = True means frames are being affected by a Mark/Edit command.

These operations have the following formats:

```
http://<host>:<port>/record/<markout | markin>
?[&timecode=<TimeCode>]
```

OR

```
http://<host>:<port>/record/<markout | markin>
?[uuid=<GUID>[&timecode=<TimeCode>]]
```

On success, these operations return a *Response* element. If the uuid is not in the clip list, returns this error: "*The server encountered an error processing the request. See server logs for more details.*"

Parameters

Parameter	Description
uuid (optional)	GUID; the unique identifier of the clip on which to set the MarkOut/In point. When not supplied, all clips in the list are updated. For example: `uuid=21EC2020-3AEA-4069-A2DD-08002B30309D` Returns *404 Not Found* if the specified clip is not in the clip list.
timecode (optional)	Timecode; specifies the timecode in the future for a MarkOut/In point in the clip. For example: `timecode=01:12:35:00.` If a timecode is not specified the MarkOut/In point starts or stops immediately. MarkOut timecode is INCLUSIVE; the frame will be marked OUT. MarkIn timecode is EXCLUSIVE; the frame will be marked IN. **Error**: Returns an "Unable to start recording..." *Error* if timecode contains invalid timecode characters.

MarkOut Example

In this example, a new clip recording was started. Next, a MarkOut was executed, and finally, a MarkIn was executed:

Starting the Clip: `http://LS-SVR:17001/record/start`

Marking Out the Clip: `http://LS-SVR:17001/record/markout?uuid=d769249e-8bd8-4579-91b6-beb58f19d859`

Marking In the Clip: `http://LS-SVR:17001/record/markin?uuid=d769249e-8bd8-4579-91b6-beb58f19d859`

Typical MarkOut Response

Issuing the *MarkOut* operation returned this *Response*:

```
<Response>
  <UUID>d769249e-8bd8-4579-91b6-beb58f19d859</UUID>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>15:35:02;20</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

Typical MarkIn Response

Issuing the *MarkIn* operation returned this *Response*:

```
<Response>
  <UUID>d769249e-8bd8-4579-91b6-beb58f19d859</UUID>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
```

```
  <EngineTime>15:36:05;04</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

EditOut | EditIn

The EditOut and EditIn operations temporarily halt streaming to the Capture workflow, to prevent recording a segment between the EditOut and the EditIn of all clips in the clip list or a specific clip, specified by its GUID, where recording of the streamed clip resumes.

Note: As an alternative, when capturing TIFO format, you can use *MarkOut | MarkIn* operations and perform the cuts directly in the workflow.

EditOut/EditIn functionality differs, based on whether a Lightspeed Live Capture workflow's Filler feature has been enabled in the Capture action, and a file specified. This feature is identical to using the Out and In buttons in the Capture Portal with a manually-triggered capture.

If Filler is *not checked* in the Capture action, issuing an EditOut operation prevents source frames from being added to the file; issuing an EditIn operation returns to adding source frames to be written to the file.

If Filler *is checked* in the Capture action, issuing an *EditOut* enable frames from the Filler file to be written to the file. Issuing an *EditIn* returns to adding source frames to be written to the file. If the filler is longer than the edit out period, it will loop.

Note: See the Lightspeed Live Guide for details on enabling and using Filler.

You can use the *Status* command to determine the current state of these operations. The Excluding element in the Response has two values:

- Excluding = *False* means frames are not being affected by a Mark/Edit command.
- Excluding = True means frames are being affected by a Mark/Edit command.

These operations have the following format:

```
http://<host>:<port>/record/<editin | editout>
[?timecode=<TimeCode>]
```

OR

```
http://<host>:<port>/record/<editin | editout>
?[uuid=<GUID>&timecode=<TimeCode>]
```

On success, these operations return a *Response* element.

Parameters

Operation	Description
uuid (optional)	GUID; the unique identifier of the clip on which to set the EditOut|EditIn point. When not supplied, all clips in the list are updated. For example: `uuid=21EC2020-3AEA-4069-A2DD-08002B30309D` Returns *404 Not Found* if the specified clip is not in the clip list.
timecode (optional)	Timecode; specifies the timecode for an EditOut|EditIn point in the clip. If a timecode is not specified, the EditOut|EditIn operations are issued immediately. For example: `timecode=01:12:35:00`. EditOut timecode is *inclusive*; the frame will be edited out. EditIn timecode is *exclusive*; the frame will be edited in. **Error**: Returns an "Unable to start recording..." *Error* if timecode contains invalid timecode characters.

Example

In this example, a new clip was started. Next, an EditOut was executed, and finally, an EditIn was executed:

Starting the Clip: `http://LS-SVR:17001/record/start`

Editing Out the Clip: `http://LS-SVR:17001/record/EditOut?uuid=ee74da56-6e01-4e2f-b1c3-ed3449878934`

Editing In the Clip: `http://LS-SVR:17001/record/editin?uuid=ee74da56-6e01-4e2f-b1c3-ed3449878934`

Whether you supply a timecode or not, the *Response* is essentially the same.

Typical EditOut Response

Issuing this *EditOut* operation returned this *Response*:

```
<Response>
  <UUID>ee74da56-6e01-4e2f-b1c3-ed3449878934</UUID>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>15:45:23;09</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

Typical EditIn Response

Issuing this *EditIn* operation returned this *Response*:

```
<Response>
  <UUID>ee74da56-6e01-4e2f-b1c3-ed3449878934</UUID>
  <State>Opened</State>
```

```
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>15:47:04;15</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

Message

The *Message* operation enables an application to control a VTR by sending Sony VTR operations to the connected VTR from the Lightspeed Live server via RS-422 and retrieving the *Response*.

Note: The Sony 9-pin operations are specified in the Sony Video Cassette Recorder/ Player Protocol of Remote (9-pin) Connector, 2nd Edition.

The SDI Source Input associated with the Capture workflow receiving this operation must be connected to a VTR device via EIA RS-422A.

You can not use this operation unless the target workflow is in an active state with a Monitor Status of VTR connected. (View the Monitor Status tab in Workflow Designer).

This operation has the following format:

```
http://<host>:<port>/record/Message?request=<Sony Operation>
```

Parameters

Parameter	Description
request (required)	String, reserved numeric strings identified by Sony for 9-pin device operations. For example: `request=2000` Typical Sony operations (supported by most VTRs) include: • Stop = 2000 • Play = 2001 • Fast Forward = 2010 • Rewind = 2020 • Cue with DATA (Go To) = 2431[TC DATA] - TC = 09:59:59:00; TC DATA = 00595909 Reference your VTR guide for supported operations.

Example

In this example, the *LS_Live* server is contacted on port 17001, issuing a Sony VTR Stop operation:

```
http://LS-SVR:17001/record/Message?request=2000
```

Typical Response

The XML responses from *Message* operations do not follow the pattern of the other responses. Instead, they are specified by a Microsoft schema. *Message* operations return a *string* element, whose data value is a string. The last two characters are a checksum. The remaining string is the return value.

Issuing this *Message* operation with a 2001 request (Play):

```
http://LS-SVR:17001/record/message?request=2001
```

returned the following XML:

```
<string xmlns="http://schemas.microsoft.com/2003/10/
Serialization/">100111</string>
```

The response string 1001 (dropping the last 2 numbers—the checksum) = ACK.

In this example, the *Message* operation is issued for a Status Sense:

```
http://LS-SVR:17001/record/message?request=612002
```

The response is:

```
<string xmlns="http://schemas.microsoft.com/2003/10/
Serialization/">7220000193</string>
```

This response string (7220000193) is de-constructed as:

7220 (7X20) = Status Data returning 2 data bytes (Data No. 0 through Data No. 1)

Data No. 0 = 20 = 00100000 (Bit 5 = 1 which means Tape or Cassette IN; more properly NOT OUT)

Data No. 1 = 01 = 00000001 (Bit 0 =1 which indicates a status of PLAY).

Stop

Stops a queued or in-progress job and removes the specified clip from the clip list or—when no GUID is provided—stops and removes all clips from the clip list.

This operation has the following format:

```
http://<host>:<port>/record/stop
```

OR

```
http://<host>:<port>/record/stop
?uuid=<GUID>[&end=<TimeCode>]
```

The Response that is returned contains one *UUID* element with the GUID for each clip that was stopped.

Parameters

Parameter	Description
uuid (required)	GUID; the unique identifier of the clip to stop. For example: `uuid=21EC2020-3AEA-4069-A2DD-08002B30309D` **Error**: Returns *404 Not Found* if the clip is not in the clip list.
end (optional)	Timecode; specifies the clip's *exclusive* new end timecode. For example: `end=01:42:35:00`. The end timecode represents the timecode of the frame after the last frame of video. If an end time is not specified the clip stops recording immediately. This parameter has no affect if the duration parameter was used within the job's start operation. **Error**: Returns *400 Bad Request* if the end time results in a clip with a duration longer than initially specified. **Note:** You can only change the end timecode on files recorded without an initial duration or when recording QuickTime Closed or MXF OP1a Closed container formats.

Example

```
http://LS-SVR:17001/record/stop
?uuid=d35d4e41-1c87-478d-9c9e-edb64d3adf6e
```

Typical Response

Issuing this *Stop* operation on the same clip started in the example in the *Start* operation returned the following *Response*:

```
<<Response>
  <UUID>d35d4e41-1c87-478d-9c9e-edb64d3adf6e</UUID>
  <PercentCompleted>0</PercentCompleted>
  <Progress>383.783395833333</Progress>
  <ActionDuration>32400</ActionDuration>
  <FPS>29.97002997003</FPS>
  <Start/>
  <End/>
  <MarkIn>12:52:28;13@29.97</MarkIn>
  <MarkOut/>
  <Excluding>False</Excluding>
  <Name>capture_default_undefined_TeamBUndefined.mxf</Name>
  <Path>\\LS-SVR\Live\31a5a309-3fde-43be-8855-a1a39e63ccb1/
capture_default_undefined_TeamBUndefined.mxf</Path>
  <HorizontalResolution>1920</HorizontalResolution>
  <VerticalResolution>1080</VerticalResolution>
  <FrameRate>29.97002997003</FrameRate>
  <Channels>16</Channels>
  <Identifier>f66d4a1d-0c30-4829-90c3-bed03454b3f3</Identifier>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>12:58:52;19</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

Status

The *Status* operation supplies status information for a clip when the clip's GUID is supplied. When you don't specify a GUID, the Status operation returns the clip list (the list of clips currently in the capture queue).

You can obtain the clip GUID from its *Start* operation or from a separate Status operation that returns the clip list.

You must use the *Status* operation to obtain the job ID GUID in the *Identifier* element, which identifies the Vantage capture job. The *Start* operation does not return the job ID GUID in its Response. After starting a clip capture, you may have to wait to issue the *Status* operation or a few seconds (or poll repeatedly and test) for the status to be fully-updated and available. For example, the Job ID (the value in the *Identifier* element) is returned as zeros until the process is fully updated.

This operation has the following formats:

```
http://<host>:<port>/record/status
```

OR

```
http://<host>:<port>/record/status?uuid=<GUID>
```

Parameters

Parameter	Description
uuid (optional)	GUID; the unique identifier of the clip to obtain status information from. For example: `uuid=21EC2020-3AEA-4069-A2DD-08002B30309D` When this operation is issued with a GUID, the *Response* provides status details for the associated clip. **Error**: Returns *404 Not Found* if the clip is not in the clip list.

Example

```
http://LS-SVR:17001/record/status
?uuid=d35d4e41-1c87-478d-9c9e-edb64d3adf6e
```

In this example, the uuid is the clip GUID associated with the job created in the example provided in the *Start* operation topic.

Typical Response

Issuing this *Status* operation returned the following *Response*.

Note: You may have to wait (or poll) for several seconds (typically up to ten) to obtain a valid job ID GUID in the *Identifier* element.

The GUID in the *Identifier* element is the job ID GUID of the job created by issuing the *Start* command. The *Progress* value of 173 is the totaled elapsed recording time (in seconds) so far.

```
<Response>
  <UUID>d35d4e41-1c87-478d-9c9e-edb64d3adf6e</UUID>
  <PercentCompleted>0</PercentCompleted>
  <Progress>173.773604166667</Progress>
  <ActionDuration>32400</ActionDuration>
  <FPS>29.97002997003</FPS>
  <Start/>
  <End/>
  <MarkIn>12:52:28;13@29.97</MarkIn>
  <MarkOut/>
  <Excluding>False</Excluding>
  <Name>capture_default_undefined_TeamBUndefined.mxf</Name>
  <Path>\\LS-SVR\Live\31a5a309-3fde-43be-8855-a1a39e63ccb1/
capture_default_undefined_TeamBUndefined.mxf</Path>
  <HorizontalResolution>1920</HorizontalResolution>
  <VerticalResolution>1080</VerticalResolution>
  <FrameRate>29.97002997003</FrameRate>
  <Channels>16</Channels>
  <Identifier>f66d4a1d-0c30-4829-90c3-bed03454b3f3</Identifier>
  <State>Opened</State>
  <Access-Control-Allow-Origin>*</Access-Control-Allow-Origin>
  <EngineState>Running</EngineState>
  <EngineTime>12:55:22;20</EngineTime>
  <XMLRevision>2</XMLRevision>
</Response>
```

Variables

The purpose of the *Variables* operation is to obtain the variables defined in the Capture action of the target workflow, so that you can start a job using the *Start* POST operation and supply the required run-time variable values.

The *Variables* operation returns the variables as a Customization XML describing the variables in the Capture action of the target workflow. The XML contains the variables and current values in the */Customization/Conditions/a:Condition/* elements.

Note: If a variable was added to the Capture action, it uses namespace b:, not a:.

This operation has the following format:

```
http://<host>:<port>/record/variables
```

Example

Here is an example of a *Variables* operation:

```
http://LS-SVR:17001/record/variables
```

Typical Response

Issuing this *Variables* operation on the target workflow illustrated in the *Start* example returned the following *Response*, where *Condition* elements defined each variable and its attributes:

- TeamA
- TeamB

```
<Customization xmlns="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Facility.Live.Vocabulary" xmlns:i="http://
www.w3.org/2001/XMLSchema-instance">
<xmlns xmlns="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Vocabulary" xmlns:a="http://
schemas.datacontract.org/2004/07/System.Xml.Serialization"
i:nil="true"/>
<Identifier xmlns="http://Telestream.Vantage.Sdk/2010/
07">42c887d0-a06c-4e66-96d7-82cf75ba37b7</Identifier>
<Categories xmlns="http://Telestream.Vantage.Sdk/2010/07"
xmlns:a="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Vocabulary"/>
<Components xmlns="http://Telestream.Vantage.Sdk/2010/07"/>
<CustomEditorType xmlns="http://Telestream.Vantage.Sdk/2010/07"
i:nil="true"/>
<Description xmlns="http://Telestream.Vantage.Sdk/2010/07"
i:nil="true"/>
<Name xmlns="http://Telestream.Vantage.Sdk/2010/07" i:nil="true"/>
<ParameterSelections xmlns="http://Telestream.Vantage.Sdk/2010/07"
xmlns:a="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Vocabulary"/>
```

```
<ParameterSetCollections xmlns="http://Telestream.Vantage.Sdk/
2010/07" xmlns:a="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Vocabulary"/>
<Parameters xmlns="http://Telestream.Vantage.Sdk/2010/07"/>
<Summary xmlns="http://Telestream.Vantage.Sdk/2010/07"
i:nil="true"/>
<Conditions xmlns:a="http://Telestream.Vantage.Sdk/2010/07">
<a:Condition>
<xmlns xmlns="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Vocabulary" xmlns:b="http://
schemas.datacontract.org/2004/07/System.Xml.Serialization"
i:nil="true"/>
<a:Identifier>d27afbf9-8ed3-45fb-9ae5-0992a1757d7f</a:Identifier>
<a:Categories xmlns:b="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Vocabulary"/>
<a:Components/>
<a:CustomEditorType i:nil="true"/>
<a:Description/>
<a:Name>TeamB</a:Name>
<a:ParameterSelections xmlns:b="http://schemas.datacontract.org/
2004/07/Telestream.Soa.Vocabulary"/>
<a:ParameterSetCollections xmlns:b="http://
schemas.datacontract.org/2004/07/Telestream.Soa.Vocabulary"/>
<a:Parameters/>
<a:Summary i:nil="true"/>
<a:Instance>106c7a70-42b0-4ae4-9d7d-7bf54e9d6a78</a:Instance>
<a:ConditionValue>
<a:ComplexValue i:nil="true"/>
<a:Text xmlns:b="http://schemas.microsoft.com/2003/10/
Serialization/Arrays" i:nil="true"/>
<a:Default>
<a:ComplexValue i:nil="true"/>
<a:Text xmlns:b="http://schemas.microsoft.com/2003/10/
Serialization/Arrays">
<b:string>TeamBUndefined</b:string>
</a:Text>
</a:Default>
</a:ConditionValue>
<a:TypeCode>String</a:TypeCode>
</a:Condition>
<a:Condition>
<xmlns xmlns="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Vocabulary" xmlns:b="http://
schemas.datacontract.org/2004/07/System.Xml.Serialization"
i:nil="true"/>
<a:Identifier>d2907504-ee16-4af2-bfcd-eb18e0bde7b0</a:Identifier>
<a:Categories xmlns:b="http://schemas.datacontract.org/2004/07/
Telestream.Soa.Vocabulary"/>
<a:Components/>
<a:CustomEditorType i:nil="true"/>
<a:Description/>
<a:Name>TeamA</a:Name>
<a:ParameterSelections xmlns:b="http://schemas.datacontract.org/
2004/07/Telestream.Soa.Vocabulary"/>
<a:ParameterSetCollections xmlns:b="http://
schemas.datacontract.org/2004/07/Telestream.Soa.Vocabulary"/>
<a:Parameters/>
```

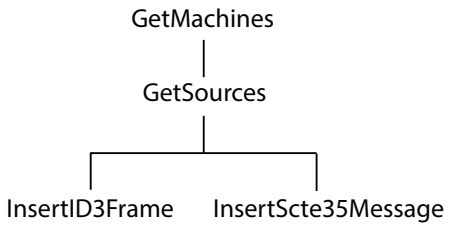
```
<a:Summary i:nil="true"/>
<a:Instance>6ad3eec9-28cd-499c-8927-0710f1b5622a</a:Instance>
<a:ConditionValue>
<a:ComplexValue i:nil="true"/>
<a:Text xmlns:b="http://schemas.microsoft.com/2003/10/
Serialization/Arrays" i:nil="true"/>
<a:Default>
<a:ComplexValue i:nil="true"/>
<a:Text xmlns:b="http://schemas.microsoft.com/2003/10/
Serialization/Arrays">
<b:string>default_undefined</b:string>
</a:Text>
</a:Default>
</a:ConditionValue>
<a:TypeCode>String</a:TypeCode>
</a:Condition>
</Conditions>
<Labels xmlns:a="http://Telestream.Vantage.Sdk/2010/07"/>
</Customization>
```

Source Operations

You can use the Lightspeed Source web service operations in a program to identify Live servers by GUID, obtain a list of sources to operate on, and insert various SCTE-35 triggers and ID3 frame tags into a source. Source operations can be used in both Capture and Stream programs.

Note: All Source operations at located at the root level: `http://<host>:<port>/`. Sources operations do not require authentication.

In this diagram, the operations are organized hierarchically, by machine GUID and Source GUID requirement.



Note: To display help for Source operations, enter `http://<host>:<port>/help`.

Introduction

The Live Source interface is implemented over HTTP as a RESTful interface, and results (if any) are returned in JSON format.

The following topics provide general information about the Source API and how operations are presented. This reference is intended for readers who understand how to use Live Stream and Capture; for information, read the Lightspeed Live Guide.

Port for Lightspeed Live/Capture Server Access

Port 15000 is used to access the Sources API on a Lightspeed Live or Capture server.

This port can be changed in the Lightspeed Live Stream web app. Under Settings, update the Source REST API server port. After changing a port, you must restart the Live Source service for the new port number to take effect.

Using Live Stream Groups via the API

A Live Stream group is a set of Live servers organized into a single, functional system, enabling you to increase scalability without significantly increasing complexity. Where reference is made to a Live server, it may be a single server or a group of servers—there is no difference in functionality or reporting.

Using Shared vs. Dedicated Components

Unlike most other categories of components in a Live server, media sources are associated with a port directly on a specific server. Thus, Source operations must be executed directly on that server. When you are operating on a media source, you must execute the operation using the DNS name or the IP address of the Live server where the source was created.

Live Source Component Hierarchy

When operating on sources, you must first obtain a list of machines and then identify the machine you want to access by GUID: Machine > Source. Next, obtain a list of Sources and then identify the source you want to access by GUID.

Obtaining Help for Source Operations

You can obtain information about these operations in a variety of ways:

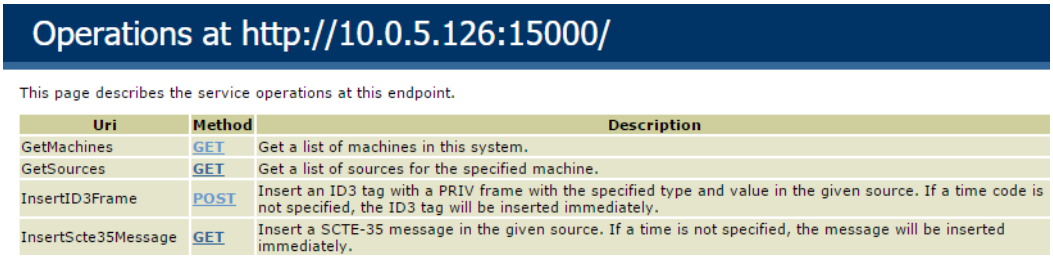
Displaying the Operations of a Live Source Service

To list all of the operations in a Live Source service, execute this command:

`http://<host>:<port>/help.`

For example: `http://10.0.25.158:15000/help`

Help returns a web page listing all Source operations:



Hover over the GET or POST link to view the format of the operation.

Displaying Operation Details

To display details about a specific operation and view the syntax of the JSON response:

- Click on GET or POST link for the operation

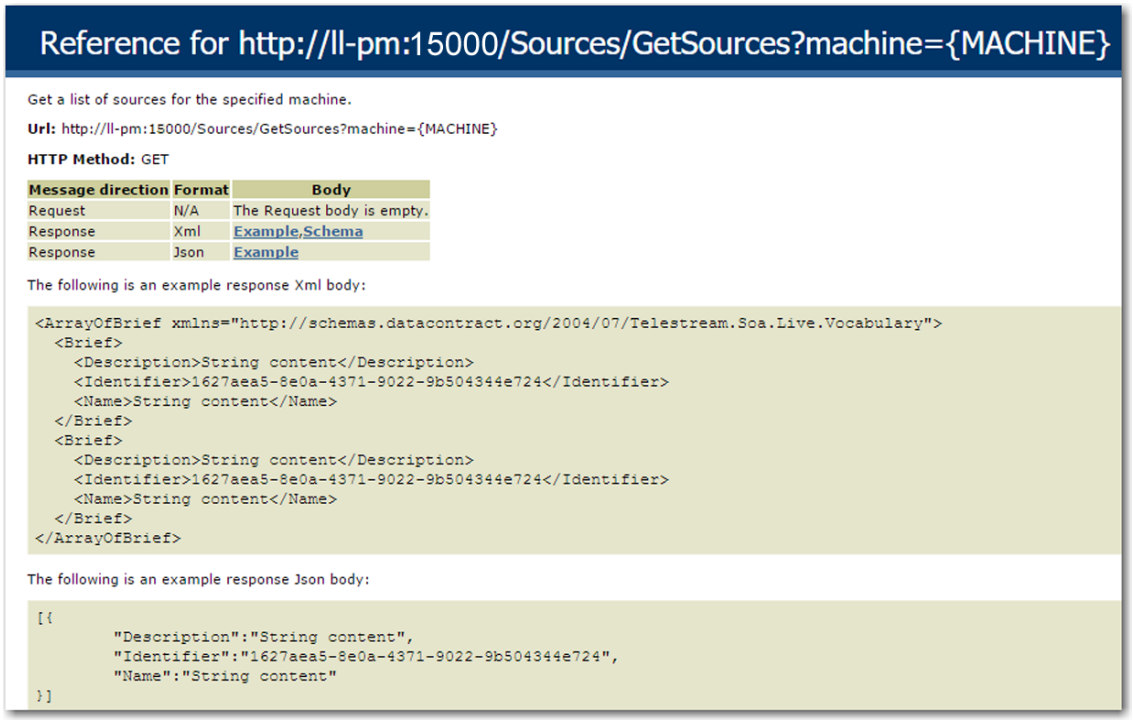
  or

- Execute the operation in the /help/operations directory, (no parameters).

This form of Help has the following format:
`http://<host>:<port>/help/operations/<Operation>.`

For example:
`http://10.0.25.158:15000/help/operations/GetSources`

Help returns a web page illustrating the operation and its method plus example responses:



Reference for http://ll-pm:15000/Sources/GetSources?machine={MACHINE}

Get a list of sources for the specified machine.

Url: http://ll-pm:15000/Sources/GetSources?machine={MACHINE}

HTTP Method: GET

Message direction	Format	Body
Request	N/A	The Request body is empty.
Response	Xml	Example,Schema
Response	Json	Example

The following is an example response Xml body:

```
<ArrayOfBrief xmlns="http://schemas.datacontract.org/2004/07/Telestream.Soa.Live.Vocabulary">
  <Brief>
    <Description>String content</Description>
    <Identifier>1627aea5-8e0a-4371-9022-9b504344e724</Identifier>
    <Name>String content</Name>
  </Brief>
  <Brief>
    <Description>String content</Description>
    <Identifier>1627aea5-8e0a-4371-9022-9b504344e724</Identifier>
    <Name>String content</Name>
  </Brief>
</ArrayOfBrief>
```

The following is an example response Json body:

```
[{
        "Description":"String content",
        "Identifier":"1627aea5-8e0a-4371-9022-9b504344e724",
        "Name":"String content"
}]
```

The help page displays two types of responses: XML and JSON. JSON responses are returned in all Source operations.

GetMachines

The purpose of this GET operation is to identify the Live server (or in the case of a group, all of the Live servers in the group) by GUID.

This operation is a prerequisite for other operations which require a machine GUID.

To execute this operation, use the Windows domain name or the IP address of the Live server or any Live server in the group.

GetMachines has the following format:

```
http://<host>:<port>/GetMachines
```

Operation Sequence

No other operations are required before you can execute this operation.

Results

Upon success, *GetMachines* returns an array, with a record of the Live server (or, in the case of a group, each Live server) GUID and Name.

Example

```
http://10.9.9.9:15000/GetMachines
```

Typical Response

In this response, three server records are listed with their Identifier and Name. You can extract each machine's GUID from the Identifier and use it to connect and monitor or control its resources. Of course, in a standalone system, only one record is returned.

```
[
  {
  "Description":null,
  "Identifier":"89d2be4b-be21-4838-a551-522cce299fbe",
  "Name":"LL-PM-1"
  },
  {
  "Description":null,
  "Identifier":"4bd2be89-2c24-3947-a432-484bca2387fba",
  "Name":"LL-PM-1"
  },
  {
  "Description":null,
  "Identifier":"43b2ff5b-ac29-48573-c443-567cad734efa",
  "Name":"LL-PM-1"
  }
]
```

GetSources

The purpose of this GET operation is to identify all of the video sources that are available on the target Live server, and return them in a list for further use.

Note: Sources are defined for a specified hardware port on a specific server. Thus, the host that you specify must be the server where the Source was added.

GetSources has the following format:

```
http://<host>:<port>/Sources/GetSources?machine={MACHINE GUID}
```

Operation Sequence

Execute the following operation to obtain the required GUID for this operation:

GetMachines (machine GUID)

Required Parameter

Parameter	Description
machine	GUID; string that identifies a specific Live server.

Results

On success, *GetSources* returns a set of records; one for each source in the Live server.

Example

```
http://10.9.9.9:15000/Sources/GetSources
?machine=1129625b-0d7d-490a-aa3f-315214a0b6f2
```

Typical Response

In this response, all of the Sources that are operational on the target server are listed along with their Identifier and Name values, which you can use to query and use them.

```
[
  {
    "Description":null,
    "Identifier":"4ad20640-a5d8-45d1-a035-3a38227f21d5",
    "Name":"QA-VL-LIVE-9 - SDI Input 3"
  },
  {
    "Description":null,
    "Identifier":"8a7bc656-6704-41a2-8161-f4d0d5a5f8de",
    "Name":"Test1"
  }
]
```

GetSourceTimecode

The purpose of this GET operation is to obtain the timecode of a source with timecode.

GetSourceTimecode has the following format:

```
http://<host>:<port>/Sources/GetSourceTimecode?source={SOURCE
GUID}
```

Operation Sequence

Execute the following operations to obtain the required machine GUID and source GUID for this operation:

GetMachines > (machine GUID)

GetSources > (source GUID)

Required Parameter

Parameter	Description
source	GUID; string that identifies a specific SDI source.

Results

On success, *GetSourceTimecode* returns the timecode for the specified source on the Live server.

Example

```
http://10.9.9.9:15000/Sources/GetSourceTimecode
?source=4ad20640-a5d8-45d1-a035-3a38227f21d5
```

Typical Response

In this response, the source timecode is returned for your use.

```
"00:46:36;07"
```

InsertID3Frame

This POST operation inserts an ID3 tag with a single PRIV frame and the specified type and value in the source at the specified timecode. If a time code is not specified, the tag is inserted immediately. Sources are defined for a specified hardware port on a specific server. Thus, the host that you specify must be the server where the Source was added.

InsertID3Frame has the following format:

```
http://<host>:<port>/InsertID3Frame?
source={SOURCE GUID}&type={FRAME TYPE}&timeCode={TIMECODE VALUE}

Body <MIME TYPE>: {type value>}
```

Operation Sequence

Execute the following operation to obtain the required GUID for this operation:

GetMachines (machine GUID) > *GetSources* (Source GUID)

Parameters

Parameter	Description
source	GUID; string that identifies a specific source on the Live server. For example: `source=442082bf-bde8-44b5-9bce-832b6d0fd885`
type	String; the type of PRIV frame. For example: `type=com.cisco.streaming.SplicePoint.0`
timeCode (optional)	Timecode; time code value in the source at which to insert the tag. If a time code is not specified, the tag is inserted immediately. For example: `source=01:03:15:00@29.97`

Required Post Body

Type Value	String; appropriately-encoded string that is the value for the type key-pair value inserted into the video. This operation supports four MIME types: - text/plain (base 64-encoded binary data) - application/xml or text/xml (un-encoded XML) - application/octet-stream (raw binary data).

Results

Upon success, *InsertID3Frame* adds an ID3 tag with a PRIV frame of the specified type and value to the source at the indicated time frame (or immediately) and returns a record with the string "`Success`":

```
[
  {
  "Success"
  }
]
```

Example

```
http://10.9.9.9:15000/InsertID3Frame?
source=442082bf-bde8-44b5-9bce-
832b6d0fd885&type="com.cisco.streaming.SplicePoint.0"
```

Body (text/plain MIME type with base-64-encoded binary data)

```
PD94bWwgdmVyc2lvbj0iMS4wIiBlbmNvZGluZz0iVVRGLTgiPz4NCjxNYXJrZXI+DQ
o8TWFya2VySUQ+MHgxNWQxZTg8L01hcmtlcklEPg0KPFByZXJvbGxITlM+MDwvUHJl
cm9sbEhOUz4NCjxTcGxpY2U+DQo8RXZlbnRJRD4xNDI5OTkyPC9FdmVudElEPg0KPE
91dE9mTmV0d29yaz4wPC9PdXRPZk5ldHdvcms+DQo8UHJvZ3JhbVNwbGljZT4xPC9Q
cm9ncmFtU3BsaWNlPg0KPER1cmF0aW9uPjA8L0R1cmF0aW9uPg0KPFNwbGljZUltbW
VkaWF0ZT4wPC9TcGxpY2VJbW1lZGlhdGU+DQo8VGltZVNwZWNpZmllZD4xPC9UaW1l
U3BlY2lmaWVkPg0KPEF1dG9SZXR1cm4+MDwvQXV0b1JldHVybj4NCjwvU3BsaWNlPg
0KPFByb2dyYW0+DQo8UHJvZ3JhbUlEPjEyNDwvUHJvZ3JhbUlEPg0KPEF2YWlsTnVt
PjA8L0F2YWlsTnVtPg0KPEF2YWlsRXhwZWN0ZWQ+MDwvQXZhaWxFeHBlY3RlZD4NCj
wvUHJvZ3JhbT4NCjxUaW1lPg0KPFNwbGljZVRpbWVITlM+MTAxOTE4MjEzMDAwMDA8
L1NwbGljZVRpbWVITlM+DQo8U3BsaWNlRGF0ZVRpbWU+MjAxNy0xMC0yN1QwMDoxNz
oyM1o8L1NwbGljZURhdGVUaW1lPg0KPER1cmF0aW9uSE5TPjA8L0R1cmF0aW9uSE5T
Pg0KPC9UaW1lPg0KPC9NYXJrZXI+
```

InsertScte35Message

The purpose of this GET operation is to insert a SCTE-35 message in the source. If a time is not specified, the message will be inserted immediately.

Note: Sources are defined for a specified hardware port on a specific server. Thus, the host that you specify must be the server where the Source was added.

InsertScte35Message has the following format:

```
http://<host>:<port>/
InsertScte35Message?source={SOURCE}&scte35Message={SCTE35MESSAGE}&
time={TIME}&eventID={EVENTID}
```

Operation Sequence

Execute the following operation to obtain the required GUID for this operation:

GetMachines (machine GUID) > *GetSources* (Source GUID)

Parameters

Parameter	Description
source	GUID; string that identifies a specific source on the Live server. For example: `source=442082bf-bde8-44b5-9bce-832b6d0fd885`
scte35 Message	String; keyword that defines the SCTE-35 message. You can enter a string representing the SCTE segmentation type ID in plain text or as a string representation of the hex value. Capitalization is ignored, and with or without spaces. For example: "Program Start", "programstart", and "0x10" all refer to the same message; creating a SCTE trigger and setting its segmentation type ID to 0x10 (16 in base 10). For example: scte35Message=`"Program Start"` See the SCTE Commands table below.
timeCode (optional)	Timecode; time code value in the source at which to insert the SCTE-35 message. If a time code is not specified, the message is inserted immediately. For example: `timeCode=01:03:15:00@29.97`
eventID	Integer value; a 32-bit unsigned integer value which specifies the ID of the message.

SCTE-35 Commands

Command	Hex Value	Text Value
Program Start	0x10	ProgramStart
Program End	0x11	ProgramEnd
National Break Start	0x30	ProviderAdStart
National Break End	0x31	ProviderAdEnd
Local Break Start	032	DistributorAdStart
Local Break End	0x33	DistributorAdEnd
Ad Break Start	0x34	AdBreakStart
Ad Break End	0x35	AdBreakEnd

Results

Upon success, *InsertScte35Message* adds the specified message and its type value in the body, to the source at the indicated time frame (or immediately) and returns a record with the string “Success”.

```
[
  {
  "Success"
  }
]
```

Example

```
http://10.9.9.9:15000/InsertScte35Message?
source=442082bf-bde8-44b5-9bce-832b6d0fd885&scte35Message="Program
Start"&eventID=4967295
```