



MAM Integration Guide

Wurl's standard integration specifications for Media Asset Management customers.

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What is a MAM connector?

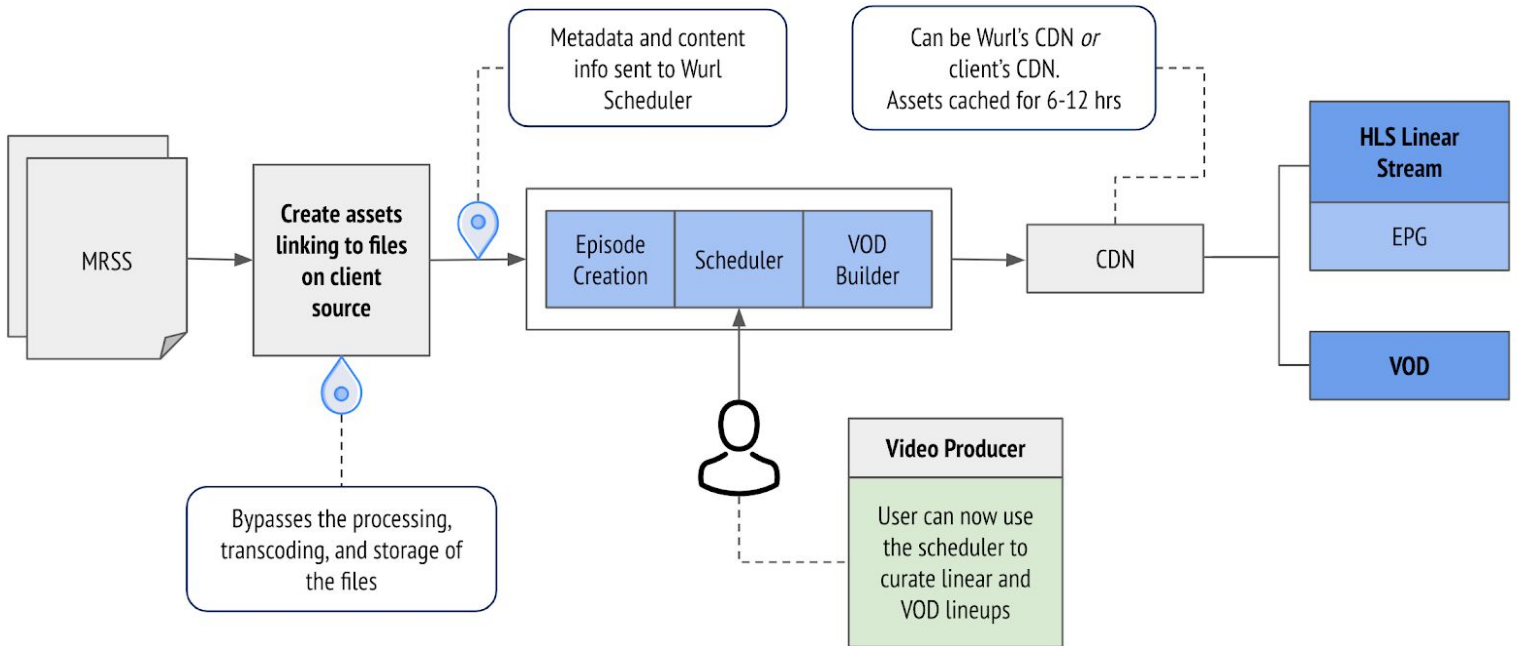
The MAM (Media Asset Management) connector connects Wurl directly to a video producer's media asset management system.

This connector allows for creating linear channels and VOD packages without having to process, transcode and store the files on the Wurl platform, until it is time to schedule the shows you will be broadcasting (note: your files need to be accessible by the wurl platform by the time schedules are locked).

How does it work?

The Video Producer provides an MRSS feed with the required specs, the metadata is ingested and used by the Wurl. Media assets themselves are not transferred or processed by Wurl. Once the MAM connection is complete, Video producer can use the Wurl to create episodes, linear channels, EPG and VOD packages and distribute them to multiple destinations.

On schedule lock, the content is either fetched or referenced, based on the type of connector. (see connector table, next page).



Supported MAM Connectors

Output Connector (Video service)	Supported?
Samsung	Yes
Sinclair	Yes
Twitch	No
TV Player	Yes
Xumo	No
Roku	No

MRSS data requirements per Output Connector

Video Service data requirements must be met in order to successfully distribute content on the specific platform. If the channel is going to multiple video services, it has to meet the superset of the requirements.

Samsung

- Video File Format
 - HLS
 - H264 video, AAC audio
- Closed Caption
 - WebVTT
- Metadata
 - Please refer to the specification below

Sinclair

- Video File Format
 - HLS
 - H264 video, AAC audio
- Closed Caption
 - Embedded 608
- Metadata
 - Please refer to the specification below

TV Player

- Video File Format
 - HLS
 - H264 video, AAC audio
- Metadata
 - Please refer to the specification below

HLS Rendition Requirements

The following table is the minimum requirement for all HLS video services:

ID	Width	Height	Video Bitrate (mbps)	Framerate (fps)	Audio Bitrate (kbps)	Audio Sample Rate (khz)	Encoding Profile
HD3000	1280	720	3000	30	128	48	Baseline@L 3.1
SD512	384	216	512	39	64	48	Baseline, 3.0
SD1200	640	360	1200	30	96	48	Baseline, 3.1
SD2000	960	540	2000	30	128	48	Main, 3.1

MRSS Feed Delivery Specifications

The most efficient way of building your program library within Wurl, is by delivering assets via an MRSS feed.

Send your high-priority content first: Delivery of your entire library doesn't have to happen in one swoop. Consider selecting the content you intend to incorporate in your launch and prioritize the delivery of that content first. This will alleviate the stress of delivering a large library in a single delivery.

Organize your feeds: Separating content logically between multiple MRSS feeds is strongly suggested as it can expedite workflows when scheduling content on Wurl. For example, separate feeds by genre, by show, or even by type (i.e. movie feed, tv feed, short form feed).

Validate your feeds: Validate your feed before sending it to Wurl by passing it through a tool such as feedvalidator.org to avoid overseen XML errors.

MRSS Feed Elements

Elements in <channel> section:	
Element	Description
<title> Required	The title of your video series. Recommended length 50 characters or less.

<code><description></code> Required	Brief description of your video series. Recommended length 200 characters or less.
<code><link></code> Required	URL of your website or app. (Required for feed validation, but not used by Wurl.)
<code><pubDate></code> Required	Date and time of last feed update in RFC-822 date-time format.
<code><media:keywords></code> Required	Highly relevant keywords describing your feed with typically a maximum of 10 words. The keywords and phrases should be comma-delimited. Keywords are used by Wurl search APIs.
<code><image></code>	URL of a thumbnail image (or “cover art”) to be associated with your video series or movie.

The `<channel>` section of the feed should contain multiple `<item>` groups, one for each video.

Elements in <code><item></code> sections:	
Element	Description
<code><title></code> or <code><media:title></code> Required	Title of the video. Recommended length is 50 characters or less.
<code><description></code> or <code><media:description></code> Required	Brief description of your video. Recommended length is 200 characters or less.
<code><pubDate></code> Required	Your video’s release date and time in RFC-822 date-time format.
<code><media:content></code> Required	The URL of a high-quality encoding of your video asset. Include your video’s duration in seconds and as much

	metadata about the video you have available using the attributes as shown in the example MRSS .
<code><media:captions></code>	The URL of your corresponding caption asset. Include the caption file format as show in the example MRSS .
<code><media:keywords></code> Required	Highly relevant keywords describing the video. Recommended limit of 10 keywords or phrases. The keywords and phrases should be comma-delimited. Keywords are used to search and find content within the Wurl Scheduler interface and may be sent to video services s for search or display within their platforms.
<code><media:thumbnail></code> Required	URL of a thumbnail image to be associated with your video. See the Content Requirements page.
<code><guid></code>	A string that uniquely identifies the item, may be an alphanumeric string or a URL.
<code><media:category scheme="urn:iab:categories"></code>	Specify a category for your video.
<code><media:credit></code>	Notable entity that contributed to the creation of the media object. May include actors, producers, studios, etc. More...
<code><media:copyright></code>	Copyright information for the video. More...
<code><wurl:cuepoints></code> Required if mid-rolls are present	Comma separated list of ad break tags, in one of these timecode formats: - HH:MM:SS.MSS (Hours: Minutes: Seconds. Milliseconds) - 3700, 781.626669999 (Seconds)

Example MRSS

```

<?xml version="1.0" encoding="UTF-8"?>
<rss version="2.0" xmlns:media="http://search.yahoo.com/mrss/"
xmlns:atom="http://www.w3.org/2005/Atom"
xmlns:wurl="http://api.wurl.com/wurlrss/1.0">
  <channel>
    <atom:link href="http://mysite.com/rss/my-series.rss" rel="self"
type="application/rss+xml"/>
    <title>MySite: Gaming Channel</title>
    <description>Latest gaming videos from mysite.com</description>
    <link>http://www.mysite.com</link>
    <image>
      <url>http://mysite.com/thumbnails/series-1.png</url>
      <title>MySite: Gaming Channel</title>
      <link>http://www.mysite.com</link>
    </image>
    <pubDate>Mon, 18 May 2015 18:56:21 +0000</pubDate>
    <media:keywords>kitty, cat, big dog, yarn, fluffy</media:keywords>
    <wurl:series>
      <wurl:officialTitle><![CDATA[Gaming Channel]]></wurl:officialTitle>
      <wurl:startYear>2011</wurl:startYear>
      <wurl:season>
        <wurl:seasonNumber>3</wurl:seasonNumber>
        <wurl:seasonTitle>Point and Shoot</wurl:seasonTitle>
      </wurl:season>
      <wurl:studio>GamingGalore</wurl:studio>
    </wurl:series>
    <item>
      <guid>http://mysite.com/videos/456.mp4</guid>
      <title>Gaming video Y</title>
      <description>A walk-through of the new Y game</description>
      <pubDate>Mon, 18 May 2015 18:56:21 +0000</pubDate>
      <!-- duration in seconds -->
      <media:content url="http://mysite.com/videos/456.mp4" type="video/mp4"
        medium="video" duration="120" lang="en" fileSize="12216320"

```

```
        bitrate="128" framerate="25" samplingrate="44.1" channels="2"
        height="200" width="300"/>
    <media:keywords>gaming y</media:keywords>
    <media:thumbnail url="http://mysite.com/thumbnail/video-456.png"
                    width="320" height="180"/>
    <media:category>gaming</media:category>
    <media:category scheme="urn:iab:categories"
                    label="Video and Computer Games">IAB9-30</media:category>
    <wurl:episode>
        <wurl:officialTitle><![CDATA[Gaming video Y]]></wurl:officialTitle>
        <wurl:seasonNumber>3</wurl:seasonNumber>
        <wurl:episodeNumber>2</wurl:episodeNumber>
        <wurl:firstAired>Sun, 17 Apr 2011 00:00:00 +0000</wurl:firstAired>
    </wurl:episode>
    <wurl:cuepoints>39,91</wurl:cuepoints>
</item>
<item>
    <guid>http://mysite.com/videos/123.mp4</guid>
    <title>Gaming video X</title>
    <description>A walk-through of the new X game</description>
    <pubDate>Wed, 1 Apr 2015 18:56:21 +0000</pubDate>
    <!-- duration in seconds -->
    <media:content url="http://mysite.com/videos/123.mp4" type="video/mp4"
                    medium="video" duration="120" lang="en" fileSize="12216320"
                    bitrate="128" framerate="25" samplingrate="44.1" channels="2"
                    height="200" width="300"/>
    <media:keywords>gaming x</media:keywords>
    <media:thumbnail url="http://mysite.com/thumbnail/video-123.png"
                    width="320" height="180"/>
    <wurl:episode>
        <wurl:officialTitle><![CDATA[Gaming video X]]></wurl:officialTitle>
        <wurl:seasonNumber>3</wurl:seasonNumber>
        <wurl:episodeNumber>1</wurl:episodeNumber>
        <wurl:firstAired>Sat, 16 Apr 2011 00:00:00 +0000</wurl:firstAired>
    </wurl:episode>
    <wurl:cuepoints>00:04:50.450, 00:12:25.038</wurl:cuepoints>
</item>
</channel>
</rss>
```