

# Multiplatform Distribution: Challenges and Solutions for Modern Broadcasters

**Date of Publishing:** 10<sup>th</sup> March 2023

## Introduction

Modern broadcasters are always investigating new options for linear and on-demand content distribution to increase income sources. From 3-D hybrid TVs to smartphones, viewers have multiple alternatives for accessing content while choosing languages, audio and video quality, subtitling, background information, engagement, and so on. More devices with more user options have not only increased the complexity of digital rights management, but the number of files necessary in a variety of formats (to air only one piece of content) is on the rise. In this multiplatform context, determining if the rights for all necessary services are available is no more a straightforward "yes" or "no" question. In an increasing number of circumstances, complex and costly rights mandate that not all material cannot be made available on every platform. Furthermore, if the material is not supplied on a certain platform, it is undesirable to waste transcoding capacity and storage space on file formats that will never be used. In practice, this implies that the rights, services, and marketing requirements for each title a broadcaster must deliver will govern which files must be available in which formats. As a result, creating multiplatform and ready-to-air content becomes more difficult. It necessitates both expensive human resources and costly transcoding and storage capacity to alter the files.

## Traditional workflow to integrated workflow

Broadcasters who continue to use old isolated systems are becoming the rarities. Their previous systems, which were frequently built in-house, have been superseded with integrated channel management. These station-wide solutions not only manage a large portion of the back office metadata and workflow, but they also connect this data on a system level with finance, administration, and the broadcast environment.

## Upcoming difficulties

With the growth of multimedia devices and the establishment of increasingly complex rights, new issues await, while the file jungle grows thicker. Consider the following example: Previously, a trailer producer would receive a request to create a trailer during a meeting or over e-mail. After retrieving the tape from the archive, the trailer producer modified the content, copied the trailer with graphics back to tape, copied the trailer on a new tape, and returned that tape to the tape manager. The tape manager then evaluated the quality of the material and recorded the time codes and status so that it could be scheduled and aired. The voice-over was recorded during the broadcast day, or the live announcer advised the viewer of what was about to happen.

We nearly forget how scheduling changes or misfiled cassettes created a slew of faults and complications. Such errors are avoided in our present integrated environment. Changes in titles or start times automatically update graphics engines, rendering the new and updated message on-screen. Tape numbers are not re-keyed, and file IDs are transferred automatically from the editing suite to the MAM, then to the scheduling environment and playout suite. This increased efficiency was — and continues to be — a game-changer for modern broadcasters, allowing them to experiment with new services, launch new channels quickly and efficiently, and reduce the financial impact on the organization by limiting the rise in manpower.

### **AWS Customer challenge that aligns with the scope of the competency category: -**

ZEE ought to have their own content and want to serve it through their own platform. They have their own content as well as agreements with other content producers. They have a lot of videos and audio content, but no OTT platform where they can broadcast the video/audio/etc. and generate revenue. There was also no proper CMS for managing videos, audios, and their mapping, as well as publishing to apps. They do not have an ad manager to add advertisements to the apps, whether they are display ads, rich media ads, or video ads.

## A new period

Let's return to our previous scenario. Trailer production requests are created by the scheduling system in contemporary integrated channel management systems, which automatically develops and maintains the metadata that characterizes the trailer and its campaign. Requesting a new trailer generates material numbers, ingest requests, transcoding tasks, and subtitle requests, as well as indicating that trailer clips must be created. This entire sequence is generated solely by a simple trailer request function from the schedule, sometimes months before the program and trailer actually air. Multiply the number of requests across all channels, and you'll get hundreds of open trailer requests that must all be handled by a particular date. This exemplifies the existing integrated system workflow's flaw: everyone expects everyone to know what needs to be done simply by actively searching for new content and material states in the integrated software environment.

People, on the other hand, do not prefer to constantly check the status of all relevant things. When jobs are not assigned to an operator, they are never thoroughly examined. Frequently, the instant at which someone identifies items with a problem is precisely when the content is required. It is frequently too late at that point to remedy the situation. If a trailer scheduler detects, for example, a trailer that is not ready to air, the artwork, QC process, subtitling, and voice-over processes are unlikely to be completed on time.

Even in a completely integrated and sophisticated setting, it can be difficult to determine the current status. Perhaps the process has already begun, but someone simply neglected to update the system. Alternatively, that person will only update the state after the entire job is completed, making it impossible to manage the work in progress.

## The broadcast method

The most recent channel management systems have workflow functionality that is meant to solve and manage workflows in a modern broadcast environment. Administrators can now create workflow scenarios that outline the sequence of operations required to effectively execute a specific job, such as the trailer example above, to solve workflow concerns.

A workflow's task sequences are defined in a specific order. This sequence means that a certain task can begin only after one or more preceding tasks have been performed. Only activities with all prerequisite tasks performed will be provided to users in a to-do list.

For example, the step defining that the voice-over must be recorded is only marked as to-do once the video production is complete. If a task is on a to-do list, it will wait for a user's acknowledgement before marking it as completed. If management has to recognize that a specific production can begin, the workflow will include a job named "acknowledge production." This task will wait for a user (in this case, the manager) to indicate that the acknowledgement for the production in question has been provided. In other words, the acknowledgement producing assignment will be marked as finished.

Some tasks can also be automated, which means that the workflow task will not be acknowledged as complete by a human and will instead rely on a small software program known as an actuator. Actuators execute a certain test, and the work can be completed based on the results of the test. An example of an automated task is determining whether or not a file has been read. The ingest server handles files according to their priority and capacity. However, when a certain file is ingested, status is set within the MAM system. The actuator in the workflow tool will use an API call or a web service to check the ingest file status. If the actuator detects that the file has been ingested, the associated process step is marked as completed automatically. As a result, such an automated job might designate a step in the workflow is complete, updating the to-do status of the next activities in the workflow chain. Automated tasks are critical components that can test for information not only in the scheduling system but also in integrated systems like file servers, MAM, transmission suites, file servers, and so on. Actuators can even be used to start processes like FTP file transfers, email sending, and so on. Priority is an important consideration in anyone's to-do list. When you have a large number of items on your to-do list, it is critical to be able to prioritize them. The administrator can specify the expected deadlines when creating a workflow scenario. Different rules can be used to set a deadline. Deadline criteria might be as basic as an offset from the job's start time, such as "Create a subtitle file."

A typical workflow server records all status changes and notifications. This information helps identify bottlenecks, gaps, and opportunities in the workflow. Such information will aid in fine-tuning the workflow and allowing management to allocate resources where they are most required. It can even assist them in estimating the impact on people and infrastructure when launching new services.

## Our Work

We have developed a portal which has similar functionalities as that of an OTT platform with the help of our CMS which is filled with all the required features that should be there to make sure the user gets a hassle-free smooth experience while streaming on the platform. Live video streaming and video on demand are extremely useful in the professional world, but they also present new storage, security, and asset management problems. The widespread use of video material has resulted in massive amounts of data that must be safely structured and transferred across both public and private networks.

A video content management system (CMS) is intended to assist businesses in better managing, storing, and distributing their video assets. Video management technologies simplify video processing by including a central repository with specialized capabilities for scheduling, publishing, and, in some cases, monetizing material.

Users can format and store content in central repositories that can be readily searchable and shared online with the help of our CMS.

Platform administrators can also delegate rights based on the roles of groups or individuals, such as system administrators, operators, subscribers, and so on. This enables fine-grained control over who has access to specific content and what they can do once connected. Content management systems often contain automated publishing capabilities that allow subscribers and site visitors to schedule and push content.

The extremely collaborative nature of these systems is a big draw for establishing an OTT CMS. Multiple team members can work together to create, edit, and publish video content without causing bottlenecks or downtime for others.

The portal consists of the following functions

1. **Login -**
  - To log in, enter your email address and password.
  - If you have forgotten your password, click 'Forgot password?' You will see the screen shown below.
  - Enter and submit your email address. You will receive an email with a link to reset your password

## 2. **Dashboard -**

- After successfully logging in, the user will be taken to the dashboard.
- The dashboard data will be visible to the user based on the properties supplied to him or her.
- The user can filter the data on the dashboard by entering a date range.
- The user may see the total number of videos uploaded, transcoded, edited, and pushed, as well as how many are yet to be uploaded, transcoded, edited, and pushed.
- The user can view this data in graphical form, as illustrated in the screenshot below.

## 3. **Profile -**

- By clicking the profile menu in the upper right corner of the screen, users can view their email address and reset their password.
- Click on 'Change Password' to change your password.
- Enter the old password, the new password, and confirm the new password, then submit to store the new password.

## 4. **Notification for failed videos -**

When a video fails to transcode, the user will receive the notification displayed below. In addition, the user will receive an email anytime a video fails to transcode or is successfully published to the properties.

## 5. **Live Video –**

- The user must first select the channel, and then just the relevant live video will begin playing, as shown in the screenshot below.
- For the movie to be shortened, manually enter the start and end times in HH:MM:SS format.
- Enter a file name and then press the 'Process File' button. The trimming of live footage will take place at the rear end.
- Once processed, this video will be available in the S3 bucket, and the user can choose it from the 'All Videos (S3)' / 'Recent Videos (S3)' dropdowns. You can find the video you trimmed by searching for the file name you added.

## 6. Settings -

users can create new templates, CMS users, and properties.

### Adding property -

There is a property button in the side navigation bar; after clicking on it, In the listing, the user can examine the properties and their details, and then click 'Add Property', to add a new property. When you click 'Add Property,' the screen below will appear. Enter the name of the property to be added. This is a required field. This property can also include several video portions. To save the property, click the Add Property button. The user will then be able to see this property in the property listing.

### Templates -

By selecting the templates option in the navigation bar, you can create a new template or delete an existing one. By clicking on templates, the user can see all of the existing templates.

- To edit the existing templates, go to the Action column and click the edit button.
- In the Action column, click the delete button to delete any existing templates.
- To add new templates, click the Add button.

Enter the name of the template and the property to which it should be attached. Then, from your local machine, upload the start bumper and end bumper templates. The preview of these bumpers is also available to the user. When you submit it, templates for the relevant property will be added.

### Users -

Click on the user to add a new user or delete/edit an existing user.

By clicking the 'User' button, the user can examine all of the users created to date.

- To edit an existing user, click the 'edit' symbol in the 'Action' column.
- To delete an existing user, click the 'delete' icon in the 'Action' column.
- To add a new user, click the 'Add New User' button.

### Video Library -

By clicking 'Video Library' in the Navbar, the user can access the video library.

The user may see the video ID, video name, channel name, date the video was submitted, and the status of the videos, such as 'Transcoded,' 'In Progress,' 'Not Transcoded,' 'Failed,' and 'Published.'

The user may also see the transcoding time of the view, including when the transcoding began and ended.

Additionally, the 'Pushed On' column allows the user to see when the video was pushed/published.

By clicking the 'Examine' icon in the Action column, the viewer can only view the video details shown below in view mode. Nothing on this screen can be edited or deleted by the user.

Users can select a video from the following 3 options -

1. Computer
2. All videos
3. Recent videos

When you click 'Preview,' you will see a preview of the selected video.

The progress bar appears when the user clicks the 'Upload & Continue' button.

Once the movie has been altered and finished, the user can Edit the thumbnail that will be added to the video.

Users can pick when the video should be uploaded on the platform - at the same time - later by specifying a date and time.

Users can afterwards choose the platform to which the video should be uploaded, such as YouTube, Twitter, or Instagram.

## **Conclusion -**

OTTOHM will assist broadcasters in going above and beyond the promise of integrated channel management solutions at a fraction of the cost of typical stand-alone products. Users will not only have access to the right and relevant data to conduct their duties, but when deadlines approach, they will also be able to notice problems before it is too late to take proper action.