# To Design an Instant Upload Service of Live Sport replay Clips to Online Media Services in a Live Broadcast Environment

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## Abstract:

Within the broadcast and media industry, cloud based storage and media management has become a widely used technique for storing large amounts of data used for playout and archives.

'Clouds, virtualization, and data storage networks can be used to enable cost reduction and stretching of resources by supporting consolidation initiatives. However, these same tools and techniques can also be used for enabling agility, flexibility, and enhanced services that can improve both top and bottom-line business metrics.' (Schulz, G., 2011)

The concept of this report is to understand the current technologies in use, an idea and design to implement accessible cloud upload and future developments that could be made. The outcome of this project is to have an upload point that can instantly store media files and send to the correct destination without the need for operator intervention.

The clip creation design had been initially conceived to connect an EVS 'LSM' or Evertz 'Dreamcatcher' to produce the media that will be uploaded. Due to the Technical developments of the project, this was unable to be fulfilled so pre made media had been used.
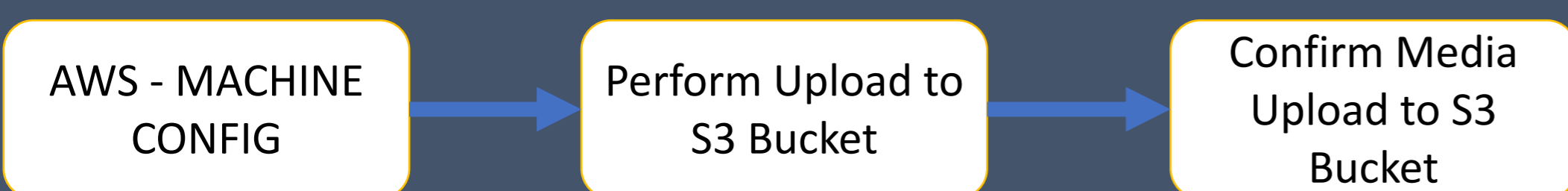
## Aims:

- To design software and hardware to operate with researched current replay systems in the Live Broadcast sector for Cloud Storage.
- Understand current technologies in use and whether they would be suitable for this project
- Test, Produce Results and analyse the final outcome of the project build.

## Objectives:

- Objective 1 - Research current Storage and Media Management Technology.
- Objective 2 - Design and build a working storage capacity with an upload point.

## Design Concept

```
AWS - MACHINE     →    Perform Upload to   →    Confirm Media
CONFIG                 S3 Bucket                Upload to S3
                                                Bucket
```

## Acknowledgements:

- Thankyou Alex Redfern from EVS, Alex provided a 'one-to-one' online session on the overall EVS system
- Thankyou to Polly Hickling, Course Leader Media Technology, for assisting throughout this Project.

## References:

Schulz, G., 2011. *Industry Trends and Perspectives: From Issues and Challenges to Opportunities.* [online] Cdn.ttgtmedia.com. Available at: <https://cdn.ttgtmedia.com/ITKE/uploads/blogs.dir/141/files/2011/12/cvdsn_chapter- 1.pdf> [Accessed 4 May 2021].

## Method:

Research into the different technologies concluded that the Amazon Web Service was the most accessible and easiest to build this project from. Figure (1) is the Example Upload of a 68 KB JPEG File.

The Build process consisted of three Stages:

**Stage 1: Users** – Users must be defined purely for access types, this was done centrally through the AWS Management Console. This will produce an 'Access Key ID' and 'Secret Access Key' that is unique to each User.

**Stage 2: S3 Buckets** - To confirm that the Upload was successful, the S3 Bucket must be pre-made using the correct User as defined from Stage 1, this will be used later in the Design.

**Stage 3: CLI Config** – To Upload to the S3 Bucket, the Command Line Interface must be configured to the Machine performing the Upload. This is done by downloading the CLI Interface from AWS and running the AWS Config code and executing the 'Access Key ID' and 'Secret Access Key' to define what user is operating the Interface.

## Figure (1)

```
PatrickHall@Patricks-MBP ~ % aws configure
AWS Access Key ID [****************BKXQ]: AKIAUQ2WCPC6GKMWBKXQ
AWS Secret Access Key [****************zvhO]: YPjpfSmeg4ENIwxID8LcPoiwhEJgpcXYqq
pTzvhO
Default region name [eu-central-1]: eu-central-1
Default output format [json]: json
PatrickHall@Patricks-MBP ~ %
PatrickHall@Patricks-MBP ~ %
PatrickHall@Patricks-MBP ~ %
PatrickHall@Patricks-MBP ~ % aws s3 sync /Users/PatrickHall/Desktop/DISSERTATION
/Upload\ Files/Jpeg\ Folder s3://bucket.test-1
upload: Desktop/DISSERTATION/Upload Files/Jpeg Folder/.DS_Store to s3://bucket.t
est-1/.DS_Store
upload: Desktop/DISSERTATION/Upload Files/Jpeg Folder/1.jpeg to s3://bucket.test
-1/1.jpeg
PatrickHall@Patricks-MBP ~ %
PatrickHall@Patricks-MBP ~ %
PatrickHall@Patricks-MBP ~ %
PatrickHall@Patricks-MBP ~ % aws s3 ls s3://bucket.test-1
2021-05-05 18:57:10       6148 .DS_Store
2021-05-05 18:57:10      67603 1.jpeg
```

## Results:

The results produced an Overall outcome of a project success, although the AWS CLI test was limited due to the brief the results gained where adequate to be successful. The results have been produced from the there phases of testing.

| Phase: | Function Description | Success or fail (Y/N) | Confirmed in CLI | Confirmed in AWS Management Console |
|---|---|---|---|---|
| 1 | File sync to S3 Bucket | Y | y | Y |
| 2 | S3 Bucket Creation | Y | y | Y |
| 3 | Sync Files to new S3 Bucket | Y | Y | Y |

## Conclusion:

The final project outcome was determined to be successful, the media was uploaded to the S3 Bucket using the CLI and other functions within testing had been completed. Objectives have been fulfilled, with areas of improvement, that have been justified based on research in current technologies.