

Date: Sep 25, 2024

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# Content Download and Dashboard Implementation

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This is an overview of how the content loader is being used in a wider system alongside the dashboard. The system consists of three components, the **Staging** bucket, the **Status** bucket, and the **Dashboard**.

## Overview

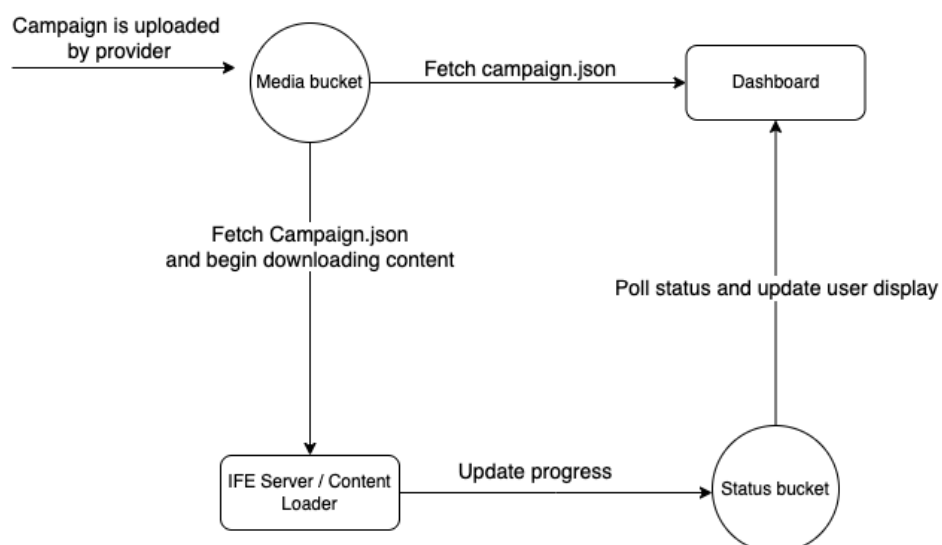
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### 1. Content Loader

- Downloads content from the Staging bucket to the aircraft's IFE server.
- Throughout the download, updates the Status bucket with progress and errors occurred.

### 2. Dashboard

- Polls the Status bucket for download progress updates
- Displays the progress of each aircraft and its respective campaign contents to the user.



## S3 Buckets

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### Media

- An S3 bucket where content to be downloaded is held
- Metadata will be stored at <airline>/<campaign-name>/campaign.json
- Content will be stored at <airline>/<campaign-name>/<content-name>.tgz
- campaign.json will contain a list of content items that content loader will refer to and download the corresponding .tgz files

### Status

- An S3 bucket where download progress will be updated
- Upon the start of a campaign, the <airline>/<tail-id>/<campaign-name> prefix will be added to the status bucket
- Each content item will have a corresponding progress file
  - <airline>/<tail-id>/<campaign-name>/<content>.tgz.progress
  - The progress file will simply store the number of bytes downloaded, e.g. "4194304"
- Each content item will have a corresponding error file
  - <airline>/<tail-id>/<campaign-name>/<content>.tgz.error
  - The error file will only be created if an error occurs downloading that content item

## Dashboard

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1. Detecting a new campaign
  - Backend will periodically poll the status/<airline>/<tail-id> buckets to detect a new <campaign-name>
2. Monitoring Progress Once a new campaign is detected, the backend will start tracking the progress of each content item.
  - **Progress File Monitoring:**
    - The dashboard will poll the campaign prefix for new .progress files and start to periodically check that file.

- On each change in progress, the frontend will receive the new progress and update the table.
  - **Error Monitoring:**
    - The dashboard will also monitor the <campaign-name> prefix for all mid-download content items for the .error file.
    - If one is detected, the backend will grab the error message from the file, and display it on the frontend.
  - **Display:**
    - Airline View: displays a progress bar alongside the metadata for each tail in the airline. If an error has occurred, it should be visible.
    - Aircraft (Tail) View: Shows which content items are currently downloading, along with the message if applicable.
3. Understanding progress The content loader will only provide the current bytes downloaded in the .progress files. So the backend is responsible for fetching additional information from the campaign.json. The backend will get the total size of each file from the metadata, and use this to track the percentage of completion at both a campaign level, and a specific content item level.