Archival Workflows and Media Micro-services at CUNY Television

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CUNY Television

CUNY TV is an independent public broadcasting station established in 1985. It is the largest university television station in the country. CUNY TV broadcasts diverse original programming about arts, politics, culture, and New York City life to 7.3 million households.

micro-services

Micro-services are a framework used to break up monolithic software architecture into individual parts. A micro-services approach consists of many programs with a single responsibility. This approach allows for freedom from the workflow constraints that a monolithic application imposes.

micro-services at CUNY TV

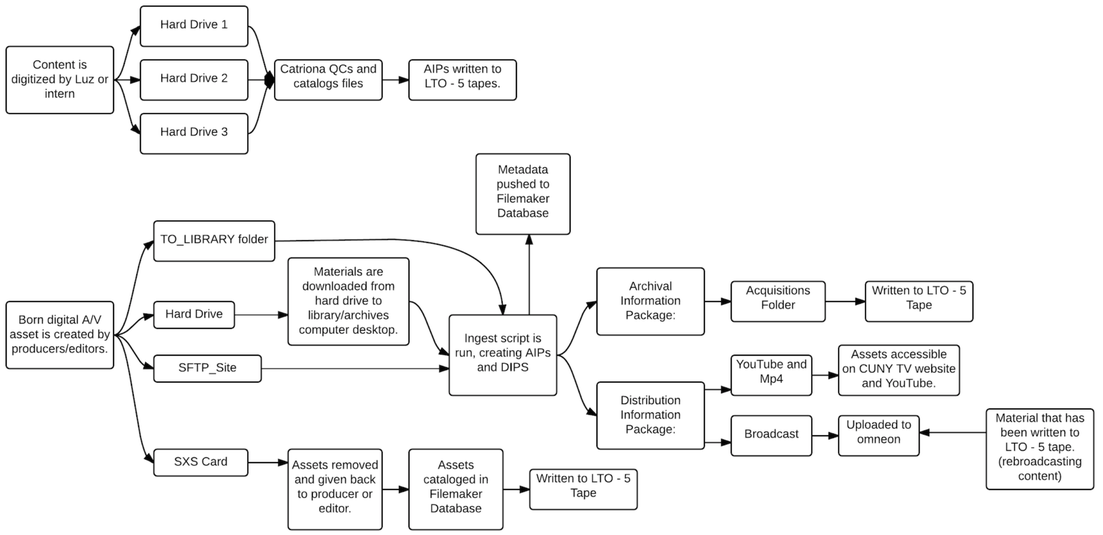
CUNY Television has developed a set of micro-services scripts for processing a/v materials called media micro-services. Media micro-services are free and open source, and hosted on GitHub. Media micro-services perform tasks such as transcoding video, ingesting content, and creating AIPs.

born-digital a/v processing workflow

The first stop for born-digital content is the library. Files arrive via networked folders, hard drives, file transfers, and SXS cards.

In order for a show to be broadcast, it must be run through the ingestfile script, which performs numerous micro-services on born-digital video. Ingestfile creates metadata, transcodes video at specified settings using ffmpeg, creates access copies for broadcast and YouTube, uploads access copies to the omneon (broadcast server) and YouTube, and packages the original file and access copies with corresponding metadata into an archival information package (AIP).

AIPs are written to LTO 5 tape for long-term storage.



CUNY TV workflow diagram

enhancing media micro-services and improving a/v workflows

My role at CUNY TV as a NDS Resident is to assess, modify, and implement enhancements to the micro-services code. Through staff interviews, I've determined and documented enhancements via the issue tracker on the project's GitHub repository. I've already implemented some changes, such as adding the preservation and PSA mode to ingestfile. As the project continues, I plan to create an archival package validation script, determine the best way to ingest b-roll, remote, and raw footage, and create documentation for the use and adoption of media micro-services at other institutions. I'll also be working with micro-services in the context of our upcoming LTO data migration, and the implementation of our internal digital asset management system.

digitized a/v processing workflow

CUNY TV is also in the process of digitizing content housed on Umatic, Betacam, and Betacam SX tapes.

CUNY TV digitizes 3 tapes at a time using vrecord and QCs files using QCTools, which are both open source.

After quality control, digitized files are packaged using the ingestfile script with preservation mode, which includes logs generated from digitization in the AIP.

AIPs are written to LTO 5 tape for long-term storage. With this workflow, CUNY TV digitizes close to 1 TB per week.