PRODUCTION 3.0

HPA Tech Retreat 2020

UNIVERSAL PICTURES
FILMTECH

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February 2019

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PRODUCTION CHALLENGES

- Movie sequels **require** footage and data from **previous** shows

- New experiences like VR/AR and other groups like our Theme Parks **require re-use of metadata and assets** from pre-production, production, post-production and VFX

- **Production asset archive** does not hold nor search all production assets like VFX models and we cannot **find assets** easily

- **Collapsing timelines** for production and post-production

- Tax incentives drive locations for productions which increases the need for **remote collaboration** and **ways to transfer data back** to home base

- Our industry is shifting to be more **data-driven**. We have the data but cannot access or relate it.
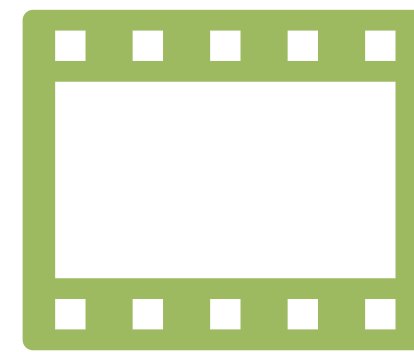
PRODUCTION VERSIONING

Production 1.0 - Film

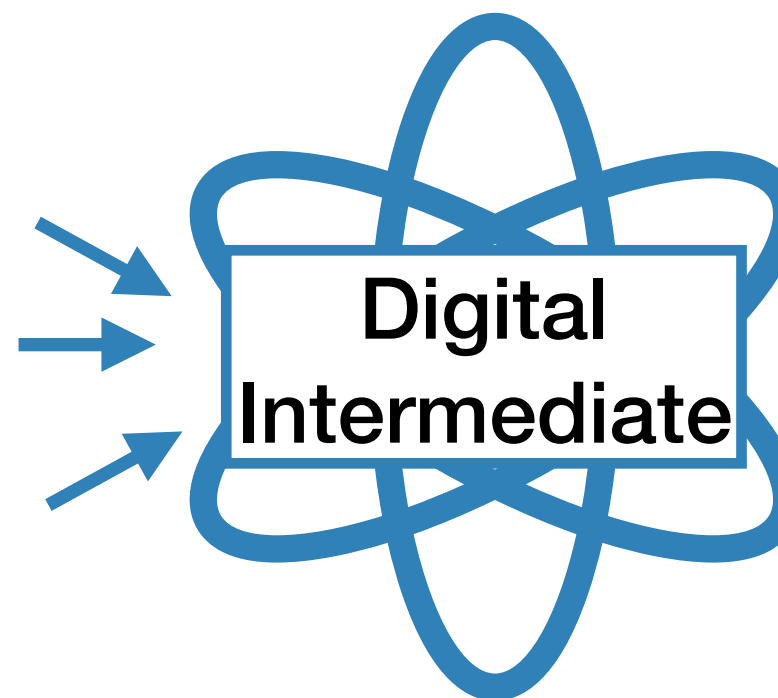**Hundreds of Assets**

Film → Edit → Print → Theaters

Production 2.0 - Digital - Present

Millions of Assets

Capture
Post → Digital Intermediate → Theatrical → Large Format
VFX   3D

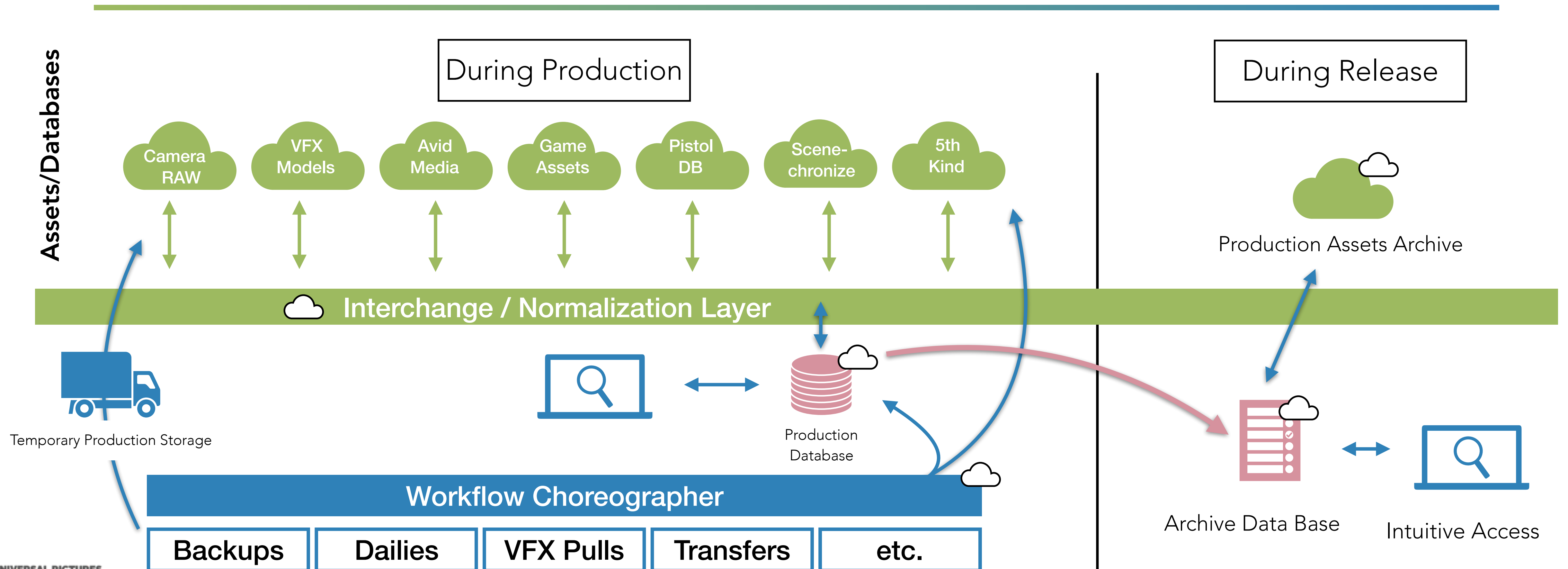Home Entertainment → HDR

Immersive Audio

PRODUCTION 3.0
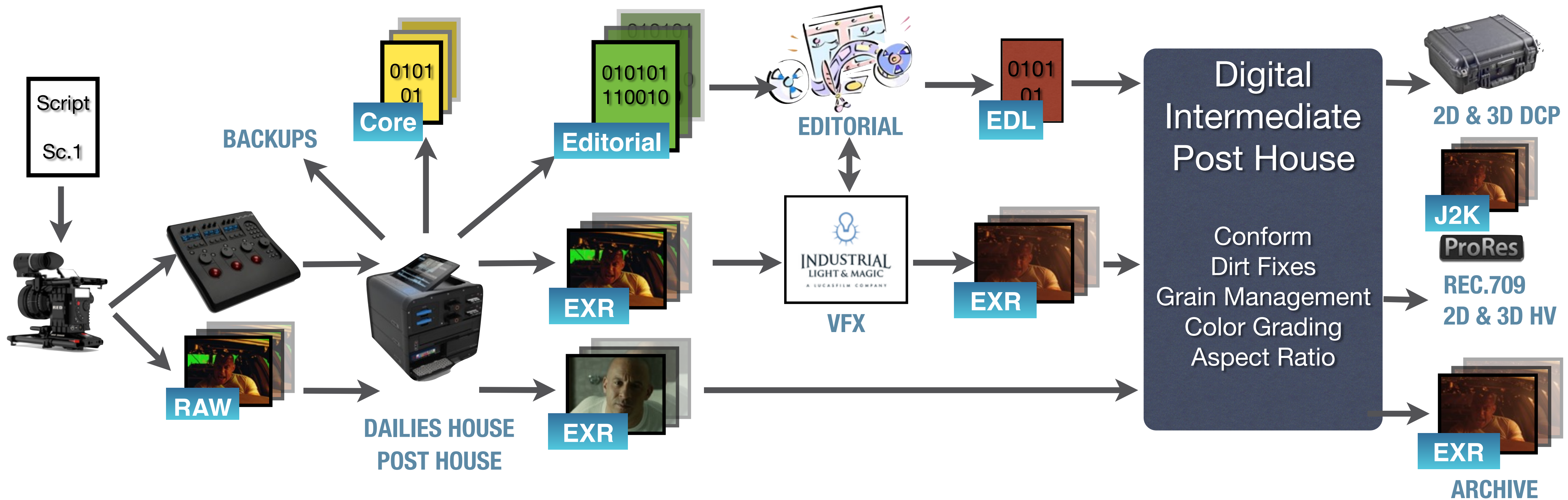## Updating the Live-Action Production Process

- Take advantage of the production process being **digital-native**

- **Cannot silo the data** between Pre-Production, Production, Post, and VFX anymore

  - Need to **connect systems and databases** for assets/metadata from pre-production through finishing

  - Able to **relate assets to each other and to the script** to facilitate reuse & enable analytics

  - Need to **find and deliver assets easily** to internal & external partners

  - Work towards common production/post **workflows + archiving in the cloud** to increase efficiency, security and remote collaboration

- **Abstract technology** from filmmakers, allowing them to **focus on creativity**

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PRODUCTION 3.0
Production Asset Pipeline & Next Gen Archive

Assets/Databases

During Production

During Release

Camera RAW · VFX Models · Avid Media · Game Assets · Pistol DB · Scene-chronize · 5th Kind

Production Assets Archive

Interchange / Normalization Layer

Temporary Production Storage

Production Database

Workflow Choreographer

Archive Data Base

Intuitive Access

Backups · Dailies · VFX Pulls · Transfers · etc.

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CURRENT IMAGE WORKFLOW

FUTURE CLOUD WORKFLOW

BACKUPS

Core
0101
01

Editorial
010101
110010

EDITORIAL

EDL
010
101

2D & 3D DCP

J2K

ProRes

REC.709
2D & 3D HV

EXR

EXR

ARCHIVE

RAW

Script
Sc.1

DAILIES HOUSE
POST HOUSE

EXR

EXR

RAW

INDUSTRIAL
LIGHT & MAGIC
A LUCASFILM COMPANY

VFX

Digital
Intermediate
Post House

Conform
Dirt Fixes
Grain Management
Color Grading
Aspect Ratio

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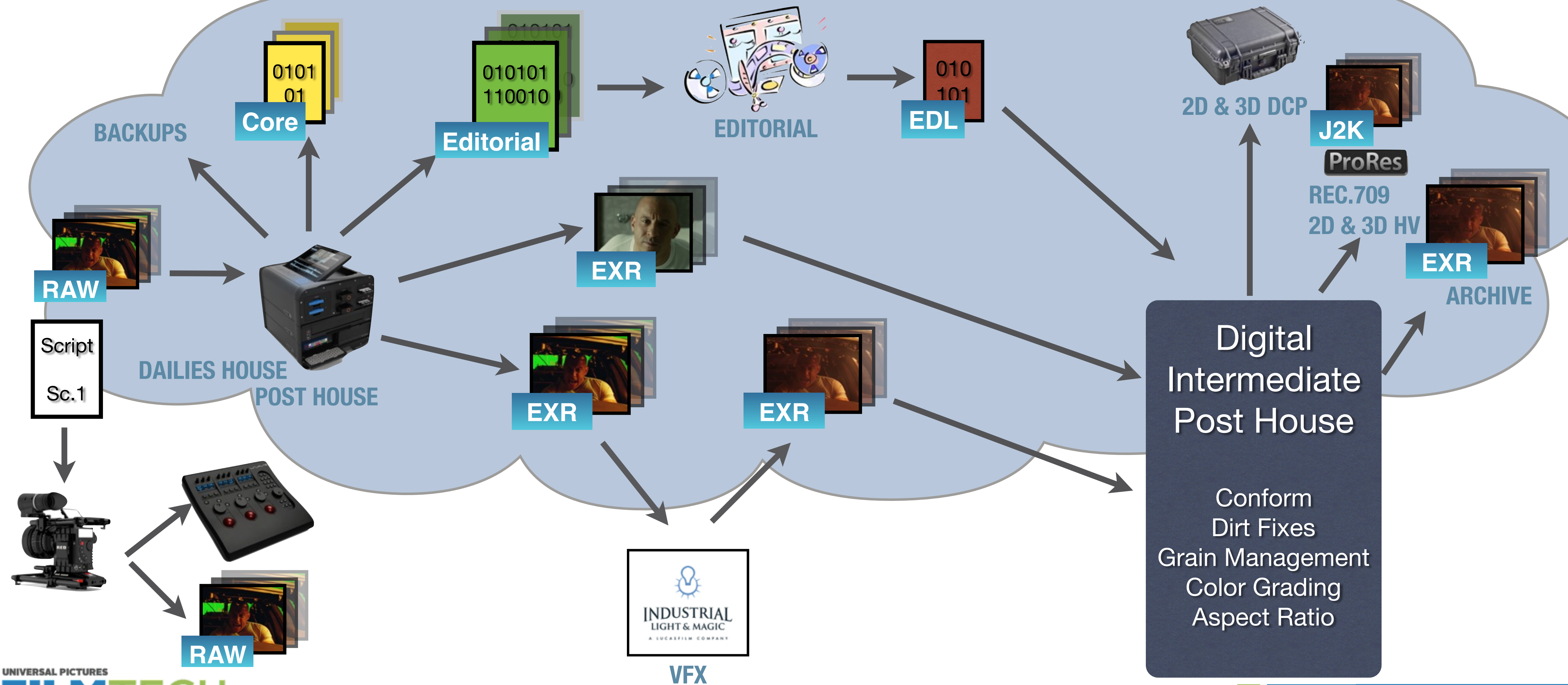
WHERE TO START?

- **DreamWorks Animation** built a cloud-native platform that creates workspaces for their artists. Assets are related to each other and workflows can be kicked off through **microservices**

- Could Universal **re-purpose** the DWA platform for live action, perhaps VFX assets and workflows?

- **POC** - took **one shot from *Fast & Furious 8*** (reference photos, LIDAR scans, camera RAW, etc.)

- We were able to **relate them** and **do something with them** - demonstrated a **VFX pull**

- We did this **on-prem** at DWA and also tested in a **public cloud provider**

- **Ran the POC from the cloud** & showed it to our VFX execs and the VFX producer from *Hobbs & Shaw*

- Their response? **"We've been asking for this for 10 years!"** And a lot of expletives in a good way

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Search Assets

Enter a search term below to find related assets.

SEARCH

INGEST

MINE

VFX PULL

Universal Pictures / HPA 2020

Ingest Files

SEARCH

INGEST

MINE

SHOW: Fast 8

Asset Type

3D Model

SCRIPT ASSET

The Script Asset "Type" and "Value" denotes a global asset defined in the script. (e.g. character, set, etc.)

TYPE

SELECT TYPE

VALUE

SELECT VALUE

SLATE

The slate used for this model

SCENE

SELECT SCENE

DESCRIPTOR

Exclude any illegal filename characters (/?*:;{}"'\)

Any extra descriptive text for this model (i.e. damaged)

Drag and Drop Files

OR

⬆ Select Files

UPLOAD

VFX PULL

WHAT'S NEXT?

- We are continuing to develop out the platform in 2020, targeting to test on a production next year

- We have over **10** concurrent projects and multiple industry efforts that will converge at some point

- We have a bi-weekly task force meeting with stakeholders in film & TV to go over all projects

Production Database

Workflow Choreographer

Industry Efforts

MovieLabs
- Whitepapers (*Evolution of Media Creation, Securing the 2030 Vision*)
- Cloud Fundamentals, Security & Access, SW Defined Workflows

USC ETC
- Production User ID / Shared Identity
- VFX Standards Working Group

Others
- ACES

- Next year, we will have more to share!

QUESTIONS?

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