

DIGITAL PRODUCTION CHALLENGE II

Lisbon, 30 November – 3 December 2016



THE WORKFLOW OF KING'S CHOICE

FOCAL
resource

F O CAL



DIGITAL PRODUCTION CHALLENGE II

LISBON 2016

Film title: **KONGENS NEI (THE KING'S CHOICE)**

Length of the film: 2. 13min

Country of origin: **Norway**

Main Producer (s) : **Stein B Kvae and Finn Gjerdrum / Paradox**

Co-producing countries: **Ireland, Denmark an Sweden**

Co-producers: **Jackie Larkin, Lesley McKimm**

Executive Producer: **Henrik Zein**

Executive Producer: **Peter Garde**

Production Manager/Line producer: **Kaare Storemyr**



TOTAL BUDGET: 8.106 522 mill. €

DIGITAL PRODUCTION CHALLENGE II

LISBON 2016

Director: **Erik Poppe**

Cinematographer/DoP: **John-Christian Rosenlund FNF**

Editor: **Einar Egeland**

Production Designer: **Peter Bävman**

Set Designer/Art Director: **Åsa Nilsson**

Colorist: **Kaj Ivanovic, Sandra Klas**

VFX Supervisor: **Arne Kaupang**

Post-production Manager: **Mette Høst Hansen, Stein B Kvae**

Shooting locations/countries: **Norway, Sweden and Denmark.**



Motto from the cinematographer:

- “Reality show” first take approach
- Cinema verite shot in 1940

Presentation

John-Christian Rosenlund - Cinematographer FNF

Specificity of the postproduction:

Budget: 1.583 927 mill. € including
700 000 € for the VFX



SHOOT

FILM

Super 8



Super 16



35 mm



65 mm



Imax



SENSORS

Digital Still
Camera DSLR



Standard
Definition



High Definition



From EX-3 to CANON
C300 MKII, VARICAM 35
RED WEAPON, SONY
F65, ARRI ALEXA 65



Digital Cinema

POST-PRODUCTION

CHEMICAL



DIGITAL

Telecine

SD Standard
Definition

HD High
Definition

2K Scan

2K DI

4K Scan

4K DI

6K Scan

SCREENING

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



SHOOT

FILM

Super 8



Super 16



35 mm



65 mm



Imax



SENSORS

Digital Still
Camera DSLR



Standard
Definition



ARRI AMIRA



PANASONIC
VARICAM LT



ARRI ALEXA XT

Digital Cinema

POST-PRODUCTION

CHEMICAL



DIGITAL

Telecine

SD Standard
Definition

HD High
Definition

2K Scan

2K DI

4K Scan

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6K Scan

SCREENING

35 mm - 70 mm



Film Projection

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DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



What is the final destination



35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



What is the final destination



35 mm - 70 mm



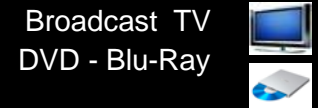
Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K



Broadcast TV
DVD - Blu-Ray

INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Shoot



Norway



Sweden



Denmark

Production



Norway

Editing



Norway

Postproduction



Norway



Denmark

When the head of department are occupying different locations (some on-set, some off-set - in several countries at the same time, shown in the presentation by different colors) it lead to different strategies of workflows

VFX



Norway



Sweden



Denmark



Ireland

Distances between shooting locations, post and editing room are changing the approach to design a workflow

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

Shoot

Postproduction

Production

Editing

VFX

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

Shoot

Production

Editing

Postproduction

VFX

The post-production doesn't occupy a central place in the workflow

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

Shoot



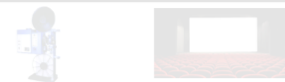
Production

Postproduction

Editing

VFX

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

Shoot

Another concept of workflow mainly controlled by the shooting (on set crew) with a on/near set system to control and share the images with a creation of metadata

Gives a possibility to keep the artistic signature (and technical information) from the filmmakers on set trough out the workflow all the way to final destination.

Production

Editing

VFX

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Shoot

Freq: **25p**
Spherical 1:2,35 extracted



85%

ARRI AMIRA UHD 12-bit
ProRes 4:4:4:4



7%

PANASONIC VARICAM LT
5% AVC Intra 4K 10-bit 4:2:2



8%

ARRI ALEXA for VFX
RAW

Production

Editing



AVID

Postproduction

Grading



Da Vinci
Resolve

VFX

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

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INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

DRYLAB

Shoot

Freq: **25p**
Spherical 1:2,35 extracted

Set Report Metadata

Camera file Scene/
Slate/Take

Tags Circled/
best take

Take notes Scene/
notes

By DRYLAB

QC

Data verification

On set Color
Grading in Rec.
709

Da Vinci Resolve Lite 11.1

Create color graded
QT or H264 and
DNxHD with sound
and all available
Metadata



85%

ARRI AMIRA UHD 12-bit
ProRes 4:4:4:4



7%

PANASONIC VARICAM LT
5% AVC Intra 4K 10-bit 4:2:2



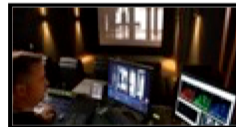
8%

ARRI ALEXA for VFX
RAW

Production

Postproduction

Grading



Da Vinci
Resolve

Editing



AVID

VFX

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

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INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

DRYLAB

Shoot

Freq: 25p
Spherical 1:2,35 extracted

QC

Set Report Metadata

Camera file	Scene/ Slate/Take
Tags	Circled/ best take
Take notes	Scene/ notes

By DRYLAB

Data verification

On set Color Grading in Rec. 709

Da Vinci Resolve Lite 11.1

Create color graded QT or H264 and DNxHD with sound and all available Metadata

H264

With all related camera Metadata and guide sound with 1:2.39 guide border

DNxHD

With camera Metadata full frame 1:1.77 (16/9)

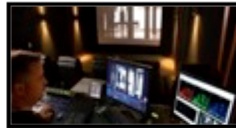
1:1,77 allows relinking in post

- 85% ARRI AMIRA UHD 12-bit ProRes 4:4:4:4
- 7% PANASONIC VARICAM LT 5% AVC Intra 4K 10-bit 4:2:2
- 8% ARRI ALEXA for VFX RAW

Production

Postproduction

Grading



Da Vinci Resolve

Editing

DNxHD

With camera Metadata full frame 1:1.77 (16/9)



AVID

VFX

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

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Broadcast TV
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INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

DRYLAB

Shoot

Freq: 25p
Spherical 1:2,35 extracted

QC

Set Report Metadata

Camera file Scene/ Slate/Take

Tags Circled/ best take

Take notes Scene/ notes

By DRYLAB

Data verification

On set Color Grading in Rec. 709

Da Vinci Resolve Lite 11.1

Create color graded QT or H264 and DNxHD with sound and all available Metadata

H264

With all related camera Metadata and guide sound with 1:2.39 guide border

DNxHD

With camera Metadata full frame 1:1.77 (16/9)

1:1,77 allows reframing in post

Dailies Creator

Combined:

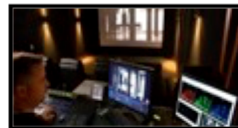
- The graded image
- Camera Metadata
- CamReport Metadata
- Additional Metadata reported directly in Dailies Creator
- Generated encrypted H264 with metadata with guide sound-track

- 85% ARRI AMIRA UHD 12-bit ProRes 4:4:4
- 7% PANASONIC VARICAM LT 5% AVC Intra 4K 10-bit 4:2:2
- 8% ARRI ALEXA for VFX RAW

Production

Postproduction

Grading



Da Vinci Resolve

Editing

DNxHD

With camera Metadata full frame 1:1.77 (16/9)



AVID

VFX

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile

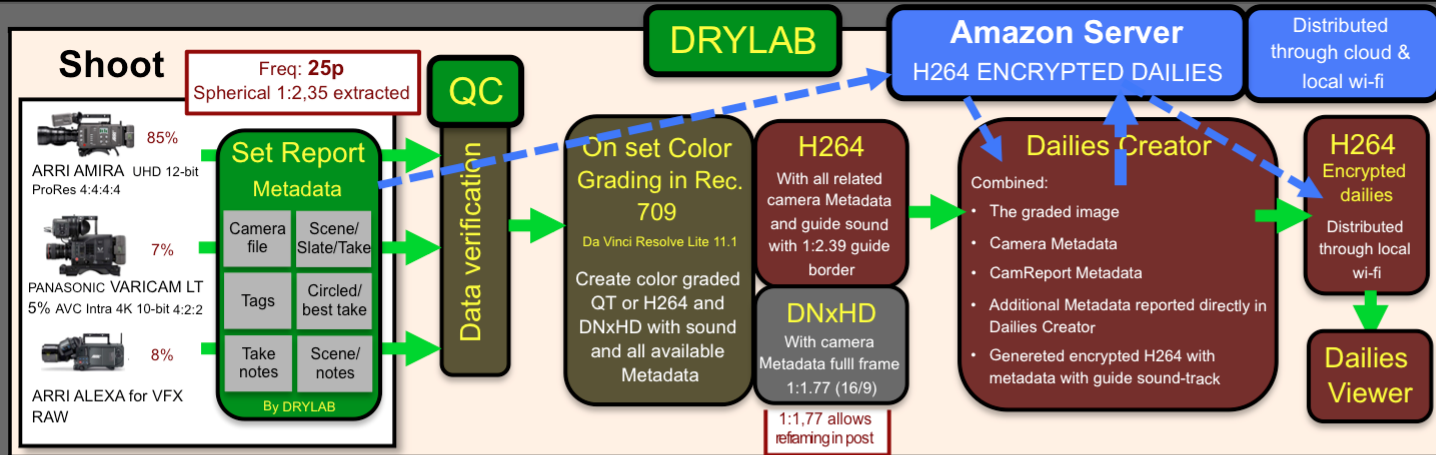


OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



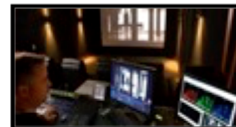
Production: KING'S CHOICE



Production

Postproduction

Grading



Da Vinci Resolve

Editing

DNxHD

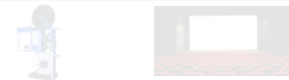
With camera Metadata full frame 1:1.77 (16/9)



AVID

VFX

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile

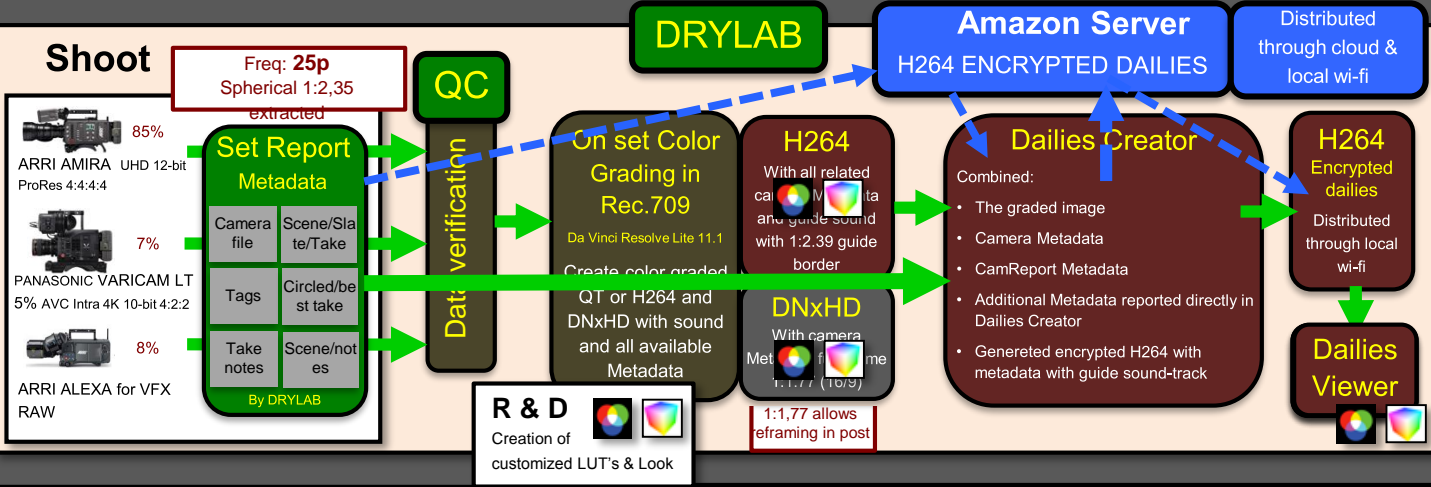


OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE



35 mm - 70 mm

Film Projection

SD - HD - 2K - 4K

Digital Projection

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INTERNET PROTOCOL

Internet - VOD
Mobile

OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)

Production

Postproduction

Grading

Da Vinci Resolve

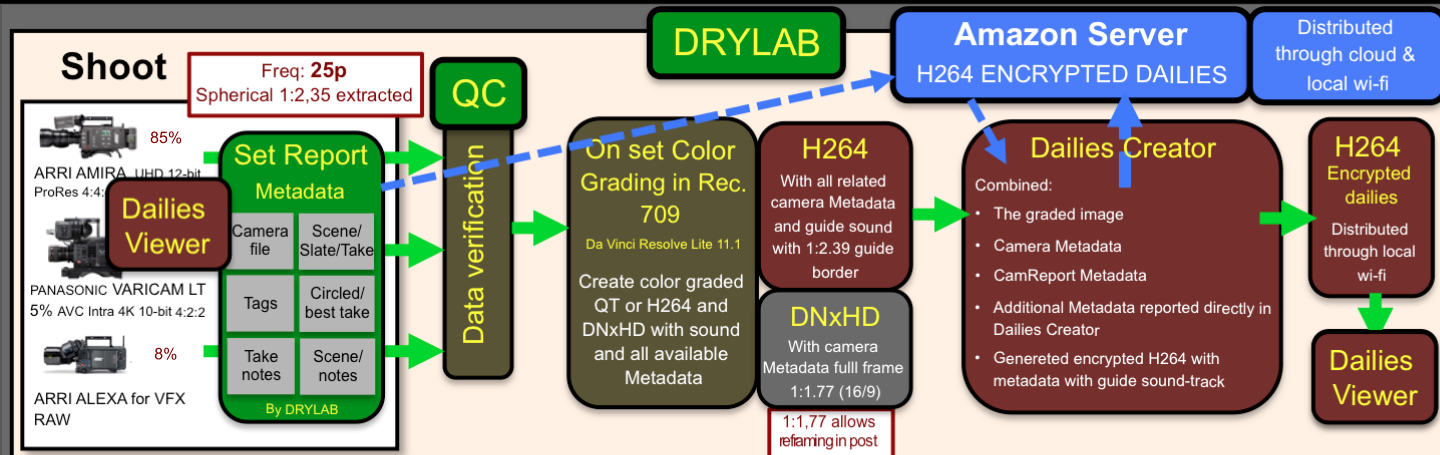
Editing

AVID

VFX

**Same Lut's
Same Look
all along the workflow**

Production: KING'S CHOICE




Production

Dailies Viewer

Editing

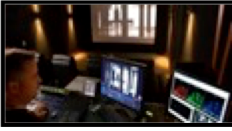
Dailies Viewer



AVID

Postproduction

Grading




Da Vinci Resolve

VFX

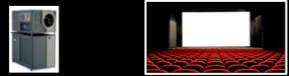
Dailies Viewer

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV 

DVD - Blu-Ray 


INTERNET PROTOCOL

Internet - VOD  

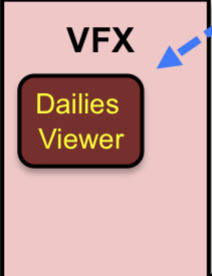
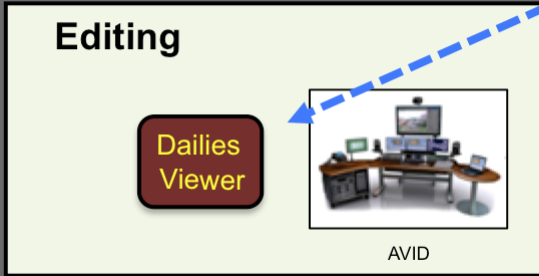
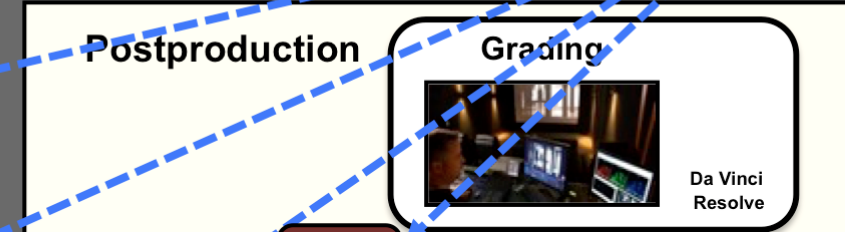
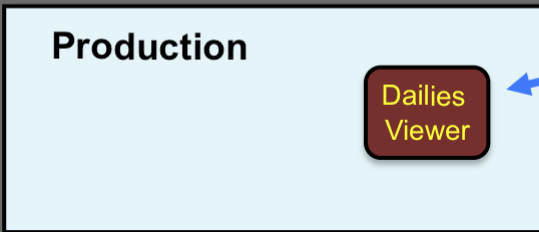
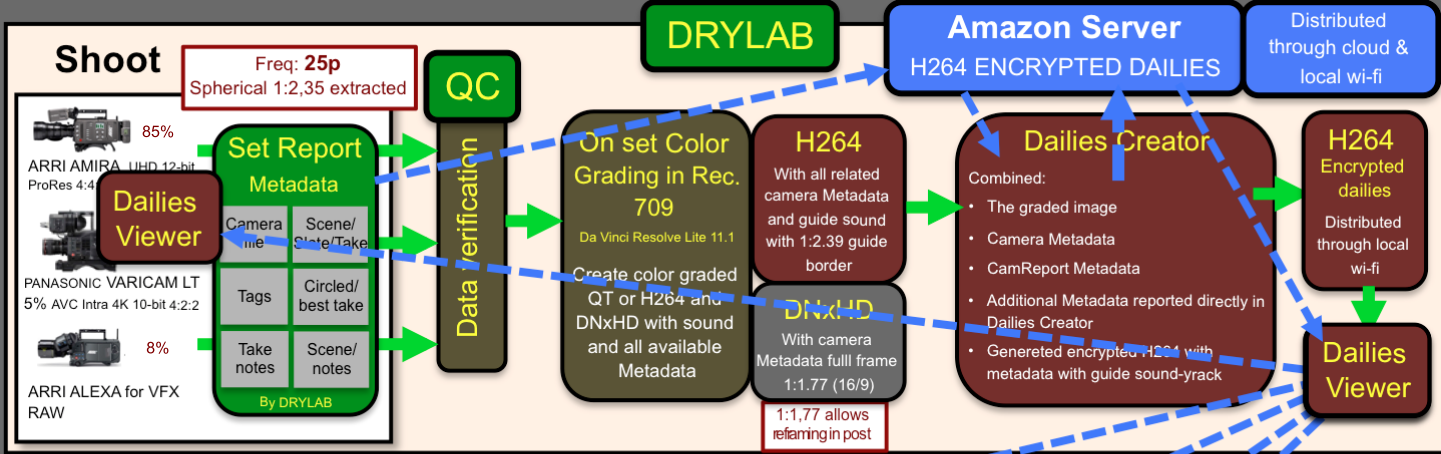
Mobile 

OTHER SCREENINGS

360° - Hologram

3D - AR/VR (Virtual Reality) 

Production: KING'S CHOICE



35 mm - 70 mm

Film Projection

SD - HD - 2K - 4K

Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray

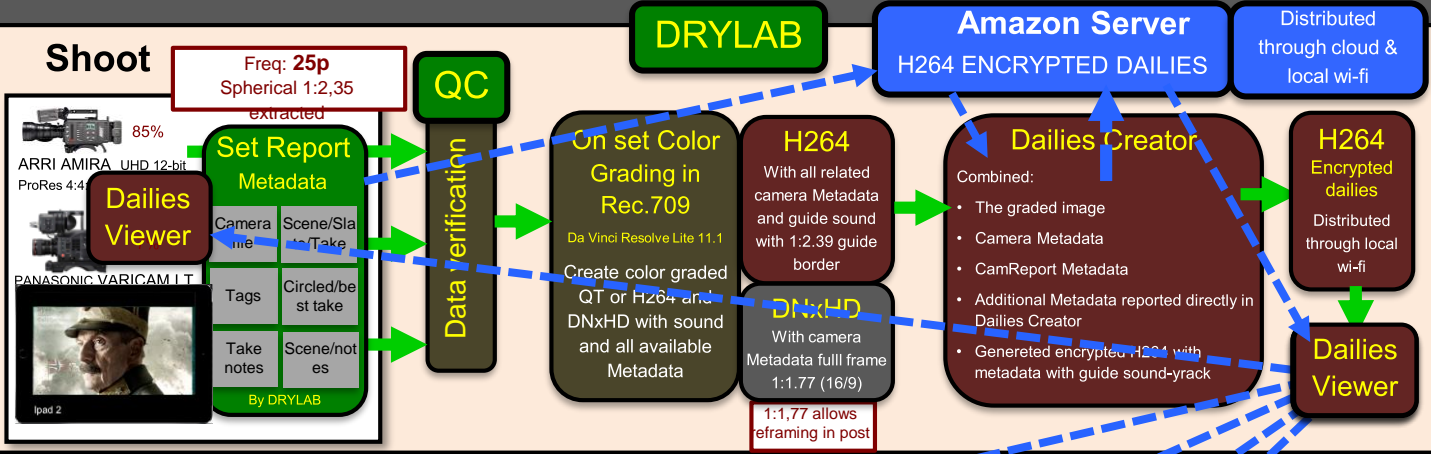
INTERNET PROTOCOL

Internet - VOD
Mobile

OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)

Production: KING'S CHOICE



35 mm - 70 mm

Film Projection

SD - HD - 2K - 4K

Digital Projection

SD - HD - UHD - 8K

Product TV

Production

Dailies Viewer

Ipad 2

Postproduction

Grading

Dailies Viewer

Ipad 2

Editing

AVID

Ipad 2

VFX

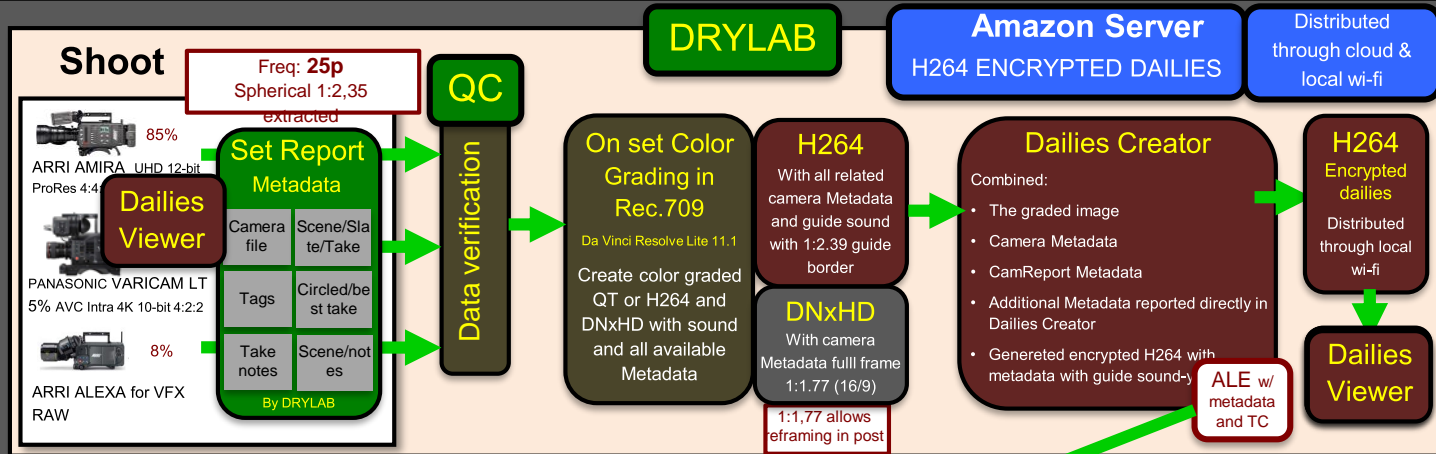
Dailies Viewer

Ipad 2

Same image shared all along the workflow through Encrypted Dailies Viewer on Ipad 2, controlled in terms of color

(Virtual Reality)

Production: KING'S CHOICE




Production

Dailies Viewer

Editing


Dailies Viewer



AVID

Postproduction

Grading



Da Vinci Resolve

VFX


Dailies Viewer

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

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Broadcast TV
DVD - Blu-Ray




INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

DRYLAB

Shoot

Freq: 25p
Spherical 1:2,35 extracted

85%
ARRI AMIRA UHD 12-bit
ProRes 4:4:4:4

7%
PANASONIC VARICAM LT
5% AVC Intra 4K 10-bit 4:2:2

8%
ARRI ALEXA for VFX
RAW

Dailies Viewer

Dailies Creator

- Combined:
- The graded image
 - Camera Metadata
 - CamReport Metadata
 - Additional Metadata reported directly in Dailies Creator
 - Generated encrypted H264 with metadata with guide sound track

Dailies Viewer

Production

Dailies Viewer

Postproduction

Grading



Da Vinci Resolve

Dailies Viewer

VFX

Dailies Viewer

Editing

Dailies Viewer



AVID

35 mm - 70 mm



Film Projection

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DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

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(Virtual Reality)



Production: KING'S CHOICE

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Dailies Viewer

Production

Dailies Viewer

Postproduction

Grading



Da Vinci Resolve

Dailies Viewer

Editing

Dailies Viewer



AVID

VFX

Dailies Viewer

**Better communication
between departments**

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

SD - HD - UHD - 8K

Broadcast TV
DVD - Blu-Ray



INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

- Hologram
- AR/VR
(Virtual Reality)



Production: KING'S CHOICE

DRYLAB

Shoot

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RAW

Dailies Viewer

Dailies Creator

Combined:

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- CamReport Metadata
- Additional Metadata reported directly in Dailies Creator
- Generated encrypted H264 with metadata with guide sound-yrack

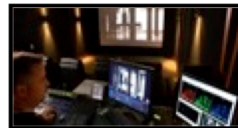
Dailies Viewer

Production

Dailies Viewer

Postproduction

Grading



Da Vinci Resolve

Dailies Viewer

Editing

Dailies Viewer

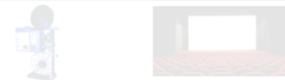


AVID

VFX

Dailies Viewer

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

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Broadcast TV
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INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production: KING'S CHOICE

DRYLAB

Shoot

Freq: 25p
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Dailies Viewer

Dailies Creator

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Dailies Viewer

Production

Dailies Viewer

Postproduction

Grading



Da Vinci Resolve

Dailies Viewer

Editing

Dailies Viewer



AVID

VFX

Dailies Viewer

**Better communication
between departments**

35 mm - 70 mm



Film Projection

SD - HD - 2K - 4K



Digital Projection

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INTERNET PROTOCOL

Internet - VOD
Mobile



OTHER SCREENINGS

- Hologram
- AR/VR
(Virtual Reality)



Production: KING'S CHOICE

DRYLAB

Amazon Server
H264 ENCRYPTED DAILIES

Distributed through cloud & local wi-fi


Shoot

Freq: 25p Spherical 1:2,35 extracted


Set Report Metadata

Camera file	Scene/Slate/Take
Tags	Circled/best take
Take notes	Scene/notes


By DRYLAB



ARRI AMIRA UHD 12-bit ProRes 4:4:4 **85%**



PANASONIC VARICAM LT 5% AVC Intra 4K 10-bit 4:2:2 **7%**




ARRI ALEXA for VFX RAW **8%**

QC
Data verification

On set Color Grading in Rec.709

Da Vinci Resolve Lite 11.1

Create color graded QT or H264 and DNxHD with sound



H264

With all related camera Metadata and guide sound with 1:2.39 guide border

DNxHD

With camera Metadata full frame 1:1.77 (16/9)

1:1.77 allows reframing in post

Dailies Creator

Combined:


- The graded image
- Camera Metadata
- CamReport Metadata
- Additional Metadata reported directly in Dailies Creator
- Generated encrypted H264 with metadata with guide sound-yrack

H264 Encrypted dailies

Distributed through local wi-fi


Dailies Viewer

35 mm - 70 mm



Film Projection

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Digital Projection

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INTERNET PROTOCOL

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Mobile




OTHER SCREENINGS

360° - Hologram
3D - AR/VR
(Virtual Reality)



Production


Editing



AVID


Postproduction

Back up

SAN-Sync 

Quantum LTO drives

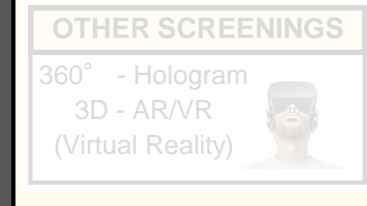
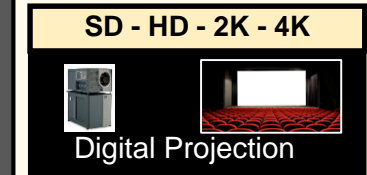
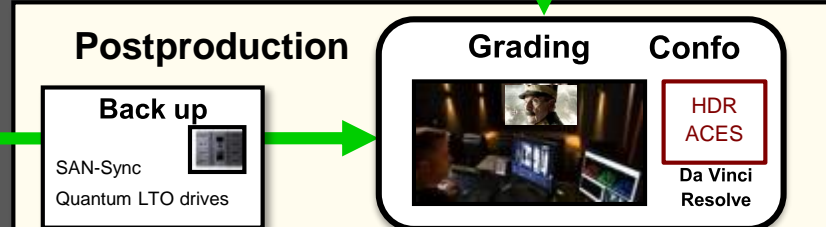
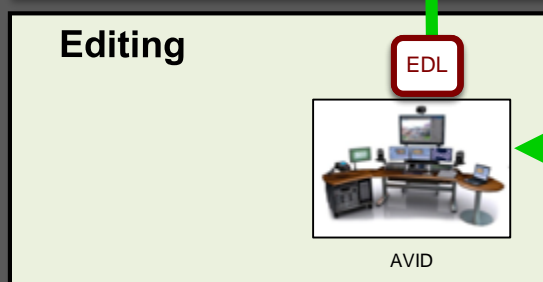
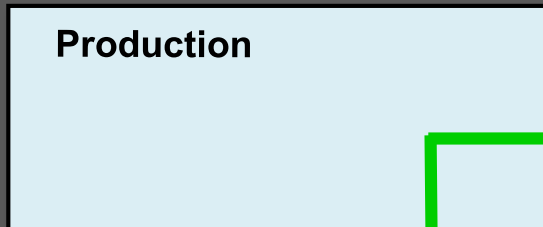
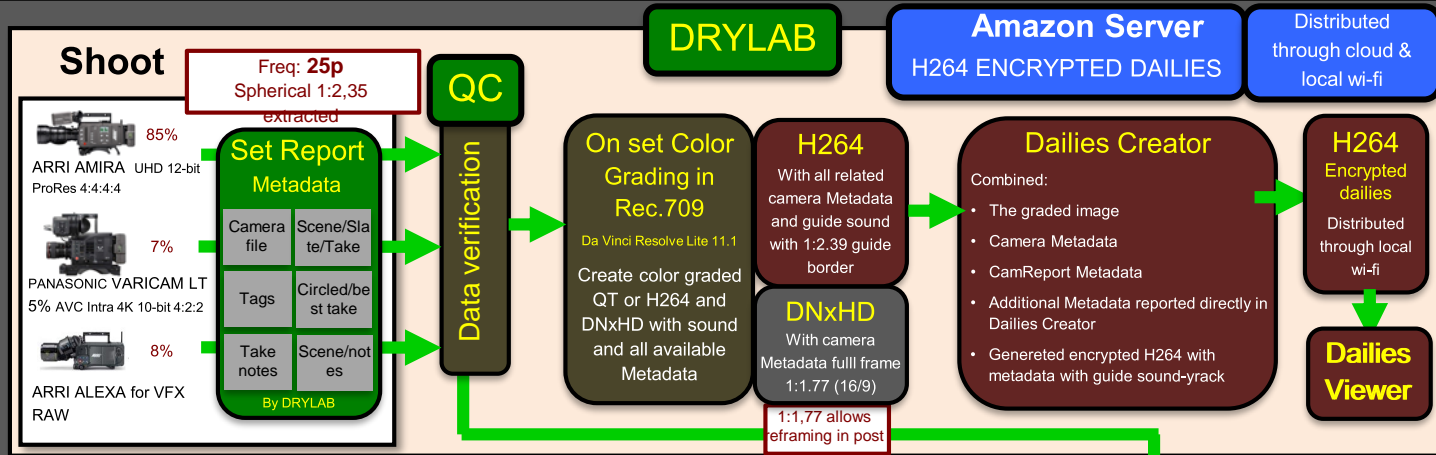
Grading



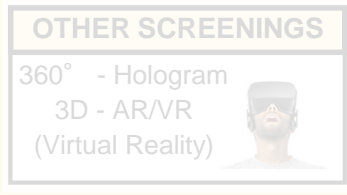
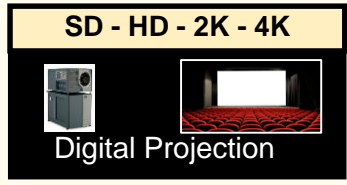
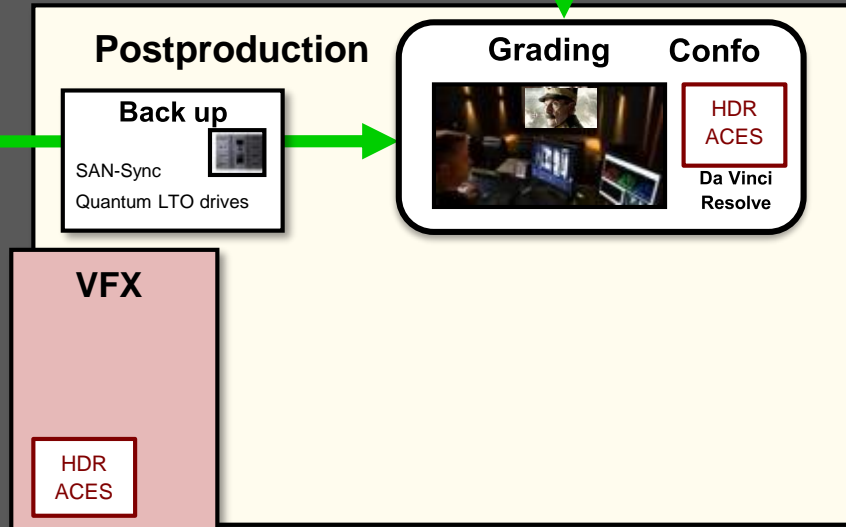
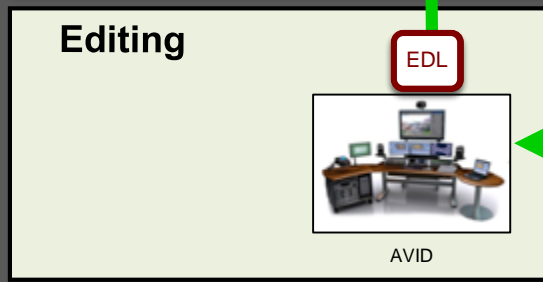
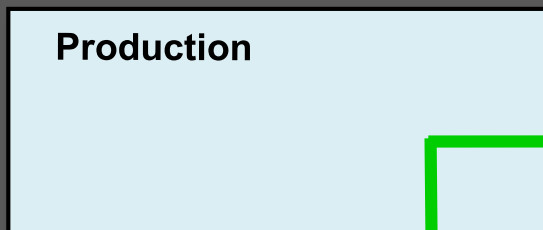
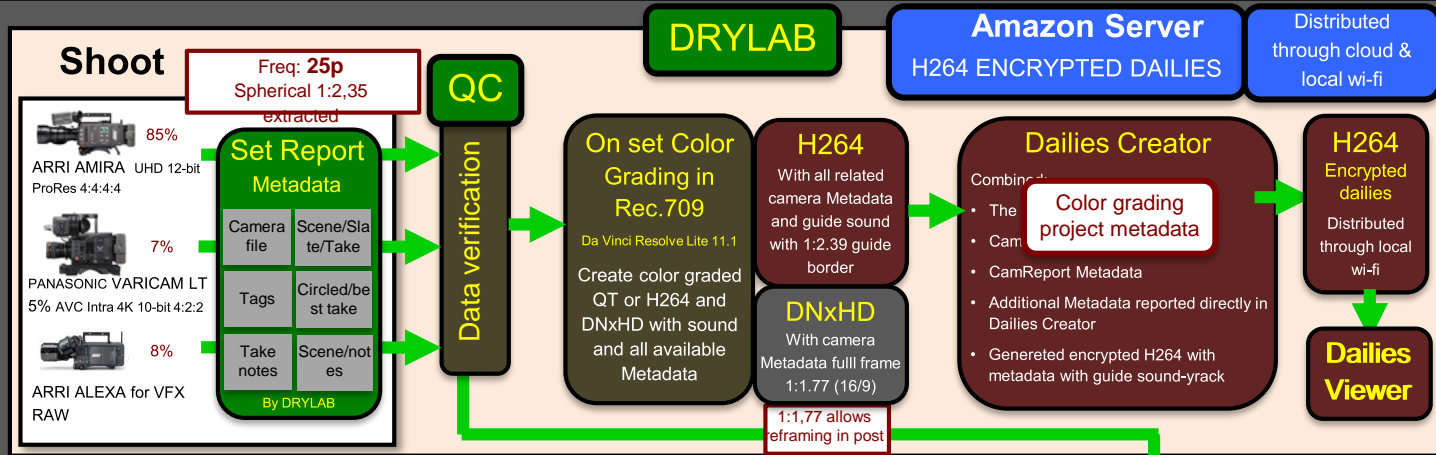
Da Vinci Resolve

VFX

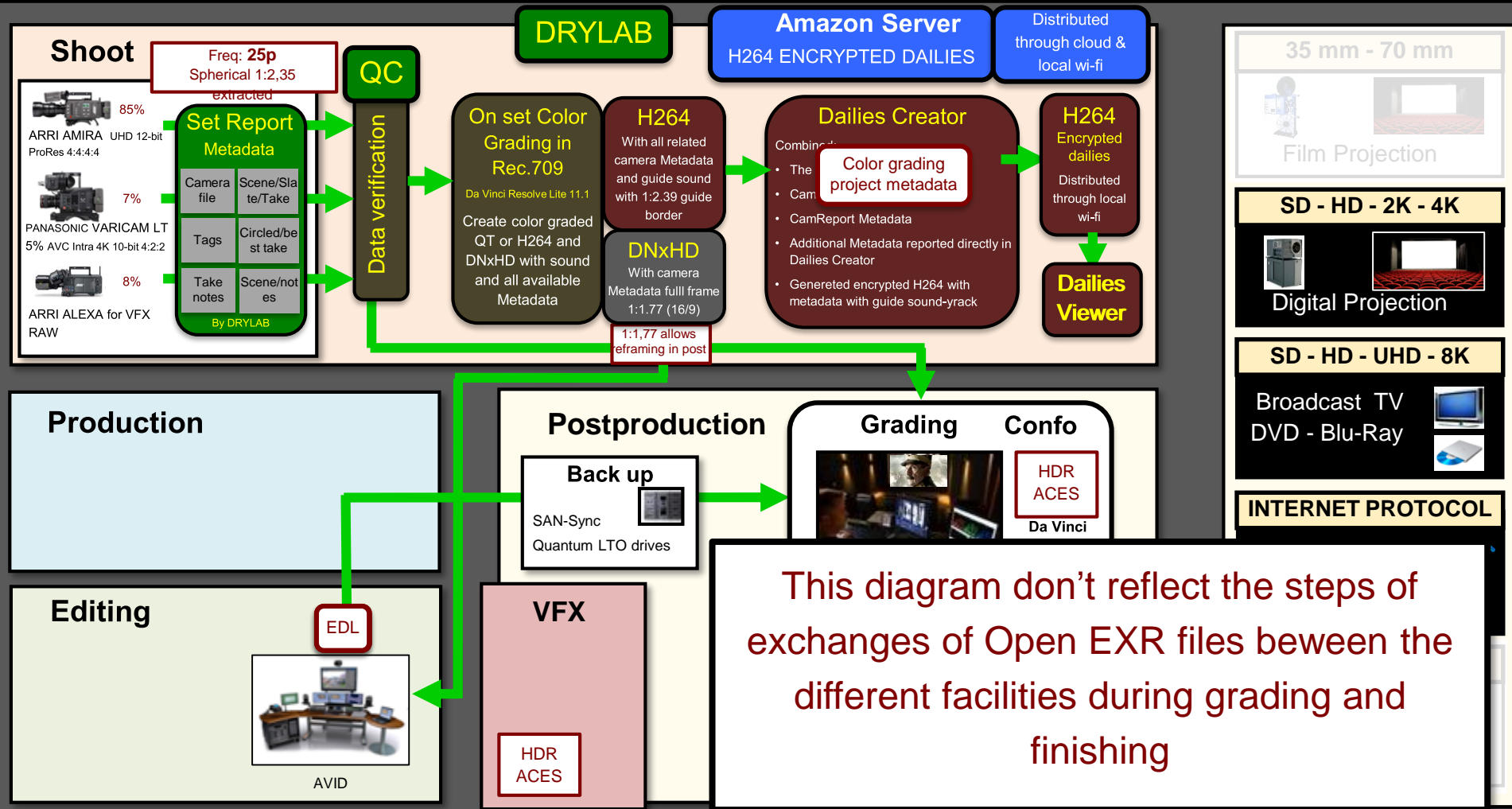
Production: KING'S CHOICE



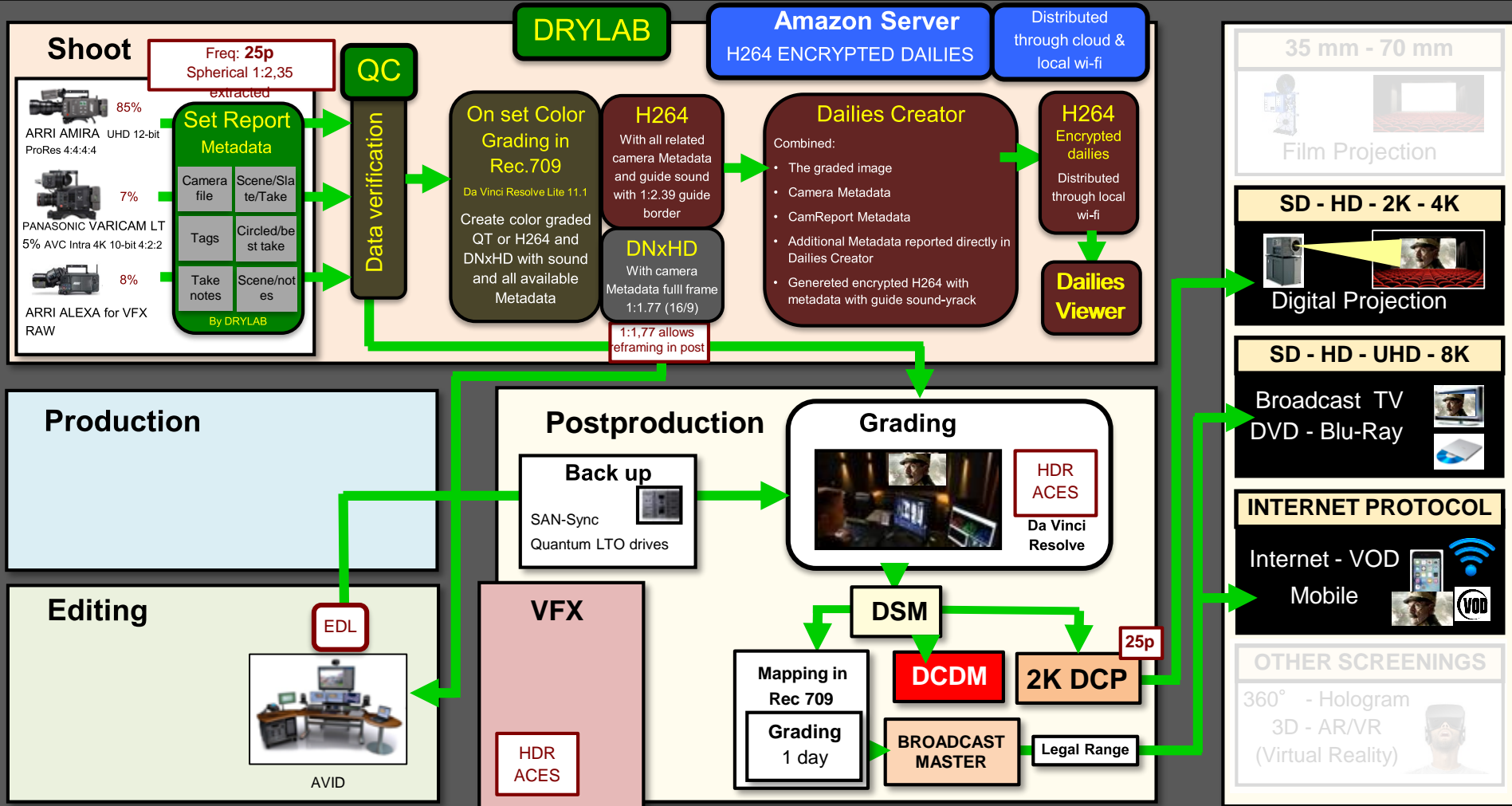
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Production: KING'S CHOICE



Production: KING'S CHOICE



Production: KING'S CHOICE

