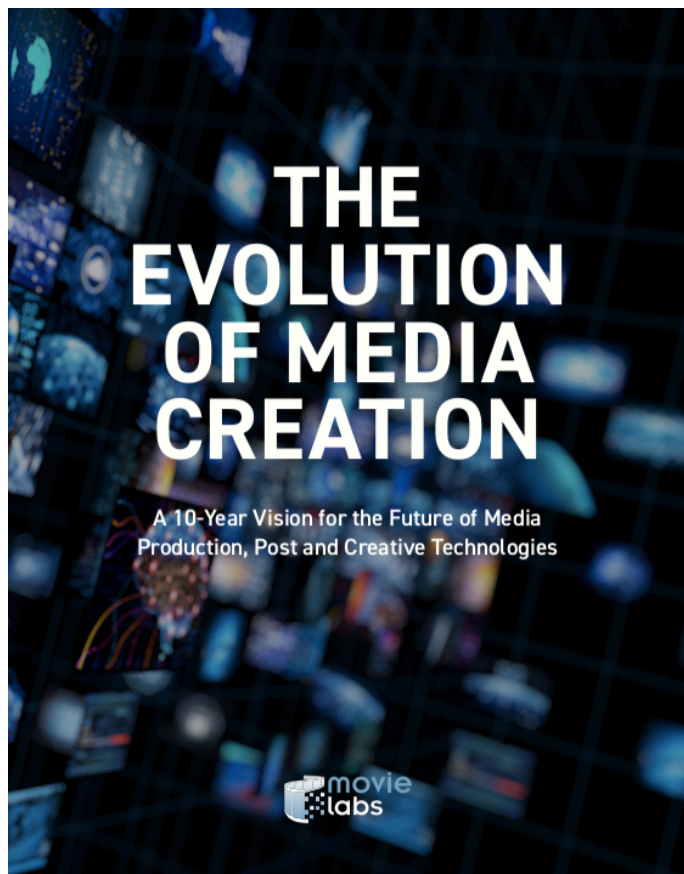# WHO IS MOVIELABS?

MovieLabs is a nonprofit technology research lab jointly run by the major Hollywood Studios.

MovieLabs helps the industry converge on new directions in entertainment technology and works to define specifications, standards, and workflows that deliver those visions. Our goal is always to empower storytellers with new technologies that help deliver the best of future media.

2030 Future of Production

THE EVOLUTION OF MEDIA CREATION

A 10-Year Vision for the Future of Media Production, Post and Creative Technologies
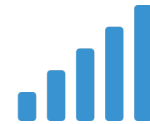
movie labs

- Studios' vision for the future of production
  - Published in August, presented at IBC, SMPTE ATC
  - Download: **www.movielabs.com/production-technology**
- 10 Principles
- Cloud is central (whether public or private/on-prem)

10-YEAR VISION FOR PRODUCTION

MOTIVATED BY CHANGES

that bandwidth, cloud processing, and real-time engines are having on workflows.

GOAL

to get better and more flexible tools and workflows in the hands of creatives.

PLAN

to engage industry players and groups to define best practices, develop specifications and implement the vision.

THE 10 PRINCIPLES OF THE 2030 VISION

A NEW CLOUD FOUNDATION

1. All assets go straight to the cloud

2. Applications come to the media

3. Distribution becomes a publish function

4. Archives are controlled by policy, not access

5. Preservation includes future edit ability for archived assets

SECURITY & ACCESS

6. Every project individual can be identified with unique permissions

7. A new cloud-native security system to protect workflows

8. A new system to find and link media assets

SOFTWARE DEFINED WORKFLOWS

9. Workflows are built from standard building blocks and industry APIs

10. Workflows are designed around real-time iteration

SECURITY CHALLENGES AND OPPORTUNUTUES

Challenges

- Users coming from everywhere
  - No facility or extended/hybrid cloud perimeter
- Not impact efficiency and usability
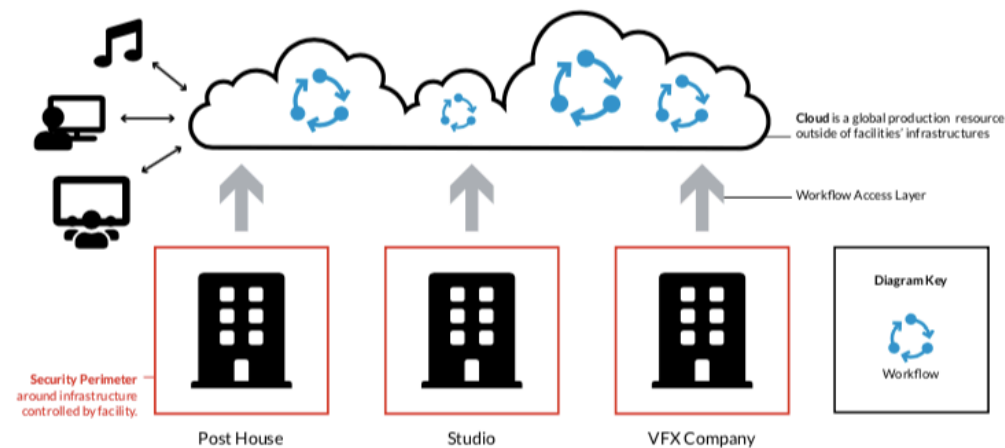
Opportunities

- Deploy new security *with* the new cloud workflows and tools
- Cloud resources are all managed
- Can make security *intrinsic* rather than an add-on – *security by design*
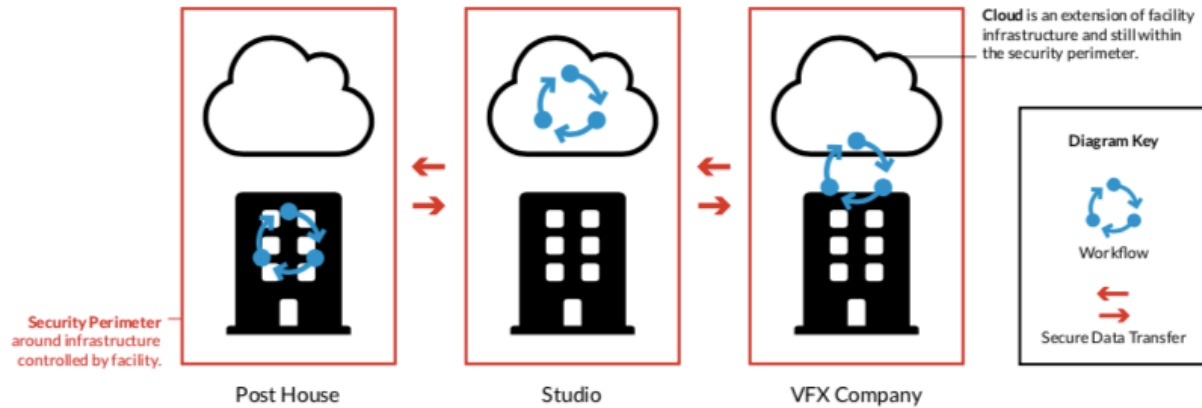
EVOLUTION OF PRODUCTION SECURITY

- New security white paper
  - Companion to 2030 vision paper
- Studios' vision for the future of production security
  - Double clicks on security principle
- Built around 6 security principles
- Want to know when it comes out?
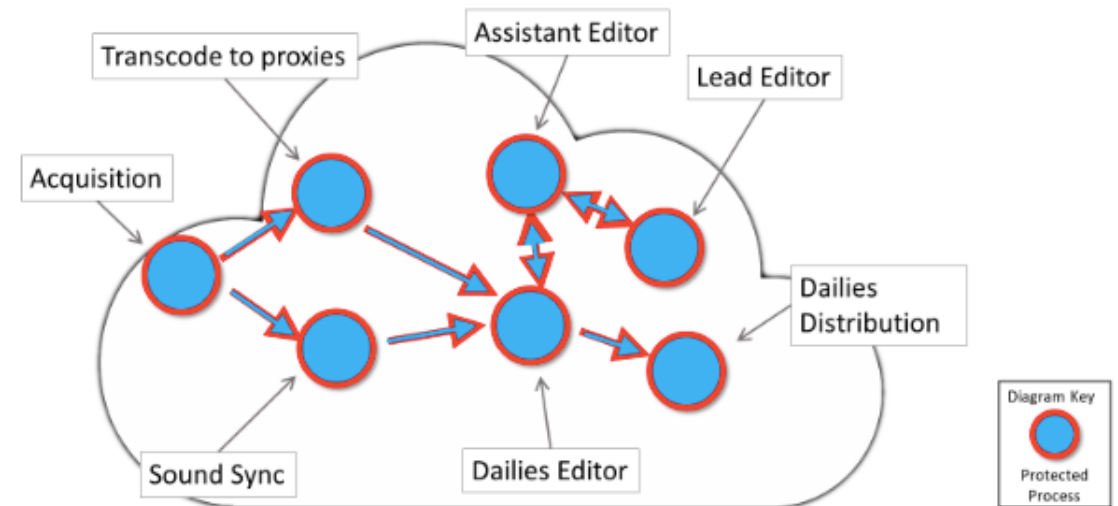 - Contact info@movielabs.com

PREVIEW: THE 6 SECURITY PRINCIPLES

1. Security is intrinsic and does not inhibit creative processes.
2. The security architecture addresses challenges specific to cloud workflows.
   a. Security is centered on workflows, rather than the infrastructure they run on.
   b. Security is centered on assets, rather than their storage and transport.
   c. The integrity of assets, processes, and workflows is protected.
3. Workflows, processes and assets are secure, even on untrusted infrastructure.
4. The content owner controls security and workflow integrity.
5. The security can be scaled to appropriate levels and integrates with systems.
6. The security architecture limits the spread of any breach and is adaptable.

PREVIEW: MOVING FROM PERIMETERS TO WORFLOWS & ASSETS

Cloud is an extension of facility infrastructure and still within the security perimeter.

Diagram Key

Workflow

Secure Data Transfer

Security Perimeter around infrastructure controlled by facility.

Post House

Studio

VFX Company

- Hybrid cloud security often extends the facility perimeter

- Need to secure each asset and process in the workflow

- Zero trust approach

Transcode to proxies

Assistant Editor

Lead Editor

Acquisition

Dailies Distribution

Sound Sync

Dailies Editor

Diagram Key

Protected Process
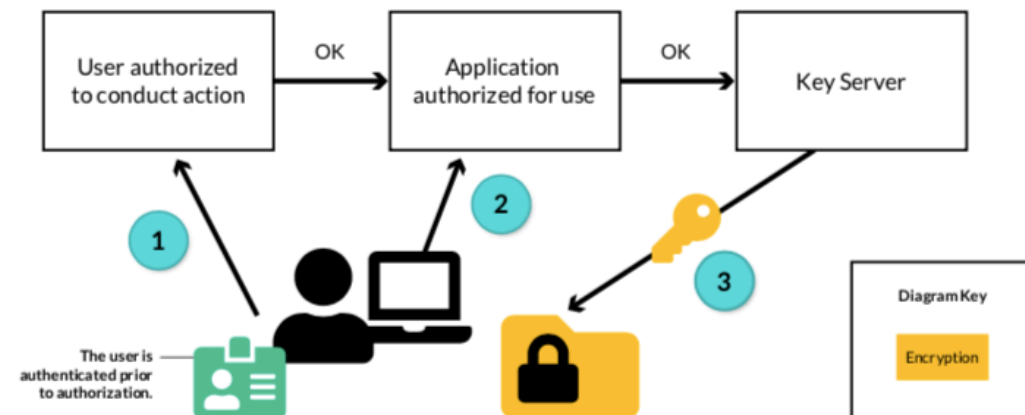
PREVIEW: PATHS TO ZERO TRUST

Key Goals

- Allow users and applications to come to the assets

- Run on untrusted infrastructure

- Be scalable to risk levels

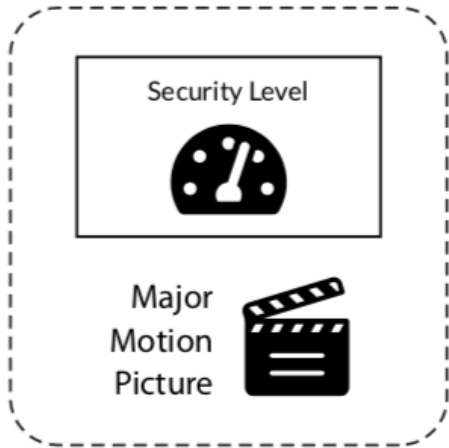- Not interfere with usability & efficiency
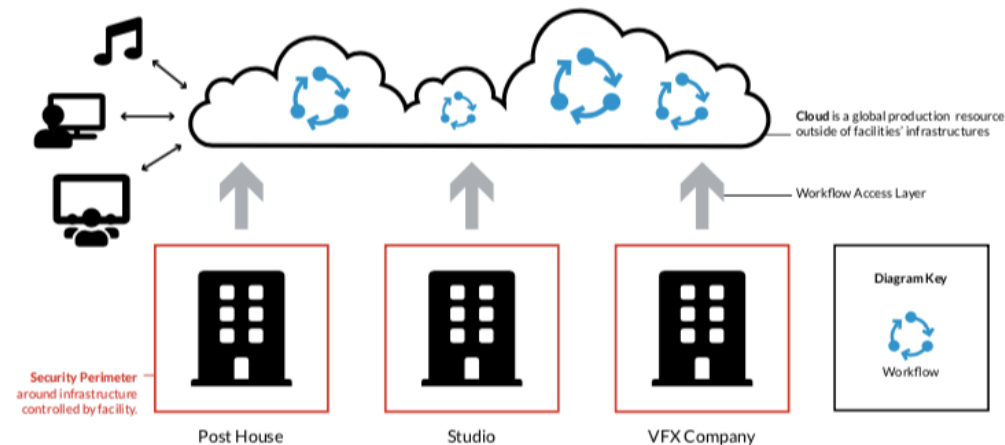
Approaches

- Asset access control
  - Network micro-segmentation
  - Encrypt files, not just volumes

- Authentication and authorization of users & applications

- Maintain facility physical security

Cloud is a global production resource outside of facilities' infrastructures

Workflow Access Layer

Security Perimeter around infrastructure controlled by facility.

Post House   Studio   VFX Company

Diagram Key

Workflow

User authorized to conduct action — OK → Application authorized for use — OK → Key Server

The user is authenticated prior to authorization.

1 2 3

Diagram Key

Encryption

PREVIEW: SCALABILITY

- Dial in security

- Different productions and assets warrant different levels of protection

- Knobs include:
  - Which assets get encrypted
  - Who gets access to which assets
  - What applications get access to which assets
  - Global vs. individual asset keys
  - Locations from which users may access

REVIEW

- Big opportunity here to get security right as new workflows and tools are built out in the cloud

- Need to move focus from perimeters to workflows and assets

- Zero trust approaches useful
  - Limit access to authenticated users and applications
  - Network microsegmentation
  - DRM-like asset encryption can offer very high levels of protection

- Security can't get in the way of creative workers

- Security needs to scale to assessed risk and asset value

STUDIO CONTRIBUTORS

Paramount

Anthony Guarino

Jaclyn Knag

Mike Trainotti

Sony Pictures

Bill Baggelaar

Bryan Blank

Daniel De La Rosa

The Walt Disney Studios

Shadi Almassizadeh

Mark Arana

Eddie Drake

Aaron Kim

Arjun Ramamurthy

Universal — A Comcast Company

Anthony Anderson

Annie Chang

Horst Sarubin

WB

Susan Cheng

Daphne Dentz

Adam Slohn

Angel Stone

Fireside Chat

Jim Helman
MovieLabs

Anthony Anderson
Universal Pictures