MovieLabs
Innovation Engine for the Media and Entertainment Industry

Who
Motion Picture Laboratories, Inc. ("MovieLabs") is a non-profit 501(c)(6) studio-only technology R&D joint venture of the major motion picture studios.

What
MovieLabs drives innovative solutions to industry challenges shared by both our member studios and the broader ecosystem. Beyond just movies – MovieLabs delivers efficiency for all motion picture and television content.

How
We architect next generation, interoperable production technologies, streamline/automate distribution supply chains, enable new consumer experiences and secure the assets that are the capital of our industry.

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THE EVOLUTION OF MEDIA CREATION

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

www.movielabs.com/production-technology/the-2030-vision/
CSAP is a workflow-driven zero-trust security architecture for securing media production in the cloud.
Workflows are changing

Facility-based production
• Private on-premises infrastructure in each facility
• Data moves to the application
• Data moves between facilities
• Manual and scripted workflows
• Static security provisioned by sys admins

Production in the Cloud
• Shared cloud infrastructure
• Application moves to the data
• Data does not move*
• Automated workflows
• Dynamic security provisioned directly by workflow management

*except for convenience
Why is CSAP needed?

Production is migrating to a cloud infrastructure shared by everyone working on a production: the studio, the production, vendors and individuals.

Workflow centric security
- Secure the workflow, not the infrastructure

Burden-free security
- Security must not get in the way of the creative process

Perimeterless security
- We are not connecting people to the network, people are connecting to brokers and web services.
- No longer possible to always identify a network perimeter to defend.
Secure the Workflow, Not the Infrastructure
For example, encryption

Encryption at Rest
• Encryption is protecting the piece of infrastructure where the data is stored
• Must prevent intruders getting access to the infrastructure

Asset Encryption
• Encrypting individual assets or sets of assets
  • Assets are protected even on untrusted infrastructure
• Protect the keys
  • Asset files can be managed (or stolen!) but only opened by those authorized to do so
  • Granularity of security depends only on granularity of encryption

Consider: What is the threat that couldn’t be mitigated just as well with access controls?
SECURITY SERVICES CONFIGURED FOR CSAP

Glocal security policies

Authorization policy requests

Security Drivers
- Global security management
- Workflow management
- Production Management
- Asset management

CSAP Core Security Components
- Authorization Service
  - Who, What, When
- Authentication Service
  - Users, Devices, Applications
- Asset Protection Service
  - Access and Key Management
- Authorization Rules
  - Distribution service

Supporting Security Components
- Identity management
- Trust inference
- Continuous trust validation
- Certificate service
- Continuous monitoring & security ops
- Threat analysis & intelligence

Policy enforcement point

Authorization rules

https://movielabs.com/production-technology/production-security/

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Software-Defined Workflows

A software-defined workflow uses a highly configurable set of tools and processes to support creative tasks by connecting them through software-mediated collaboration and automation.

- All activity is denied by default
- CSAP permits authorized activity
- Authorization starts with workflow management
Software Defined Workflow Example

Workflow infrastructure

Edit → Review → Approved? → Publish

OK to publish

Review and publish workflow

Key:
- Authorization policy/rule
- Policy enforcement point
- Task
- Infrastructure
- Participant
CSAP Security Dial: Functionality and Capabilities

Level 100

Goal:
• Workflow driven security
• Improved security

Target workflows:
• Majority of production

Zero-trust foundation
• Transition to CSAP

Level 200

Goal:
• Finer security control
• More security improvement

Target workflows:
• Distributed
• Sensitive content

Level 300

Goal:
• Granular security control
• Highest security level
• End-to-end encryption capable

Target workflows:
• Low risk tolerance
• Complex and distributed
• Highly sensitive content
CSAP Specifications Published

Part 1: Architecture
Part 2: Interfaces
Part 3: Security Levels
Part 4: Software-defined Workflows
Part 5: Implementation Considerations
  Part 5A: Starting Out
  Part 5B: CSAP Core
  Part 5C: Approaches

https://movielabs.com/production-technology/production-security/
For the full set of CSAP specifications:

Go to www.movielabs.com and follow link under Production tab