BROADCAST MANAGEMENT GROUP

Media Command™

OPERATOR & ENGINEERING GUIDE

Organization: Broadcast Management Group (BMG)

Version: Media Command™ v0.91

Reference Data: 12,353 Indexed Broadcast Assets

Date: October 2026

PRODUCTION · VERIFIED WITH REAL MEDIA

Table of Contents

Foundation

1. System Overview
2. Authentication & Access Control
3. Dashboard

Live Ingest & Control

4. Recorders
5. Schedule
6. Live Graphics
7. Monitor Wall

Media

8. Projects
9. Library
10. Asset Detail & Player
11. Upload
12. Contribution

13. YouTube Ingest

14. Cloud Import

Operations

15. Jobs

16. Staging

17. Playout

18. Clip Server

19. Editor

20. Engineering

21. Applications & Downloads

Administration

22. Users & Groups

23. API Tokens

24. Containers

25. Logs

26. Audit Log

27. Cluster

28. Alerts

29. Settings

Plugins & Applications

30. Premiere Pro UXP Plugin

31. DaVinci Resolve Plugin

32. Media Command Transfer

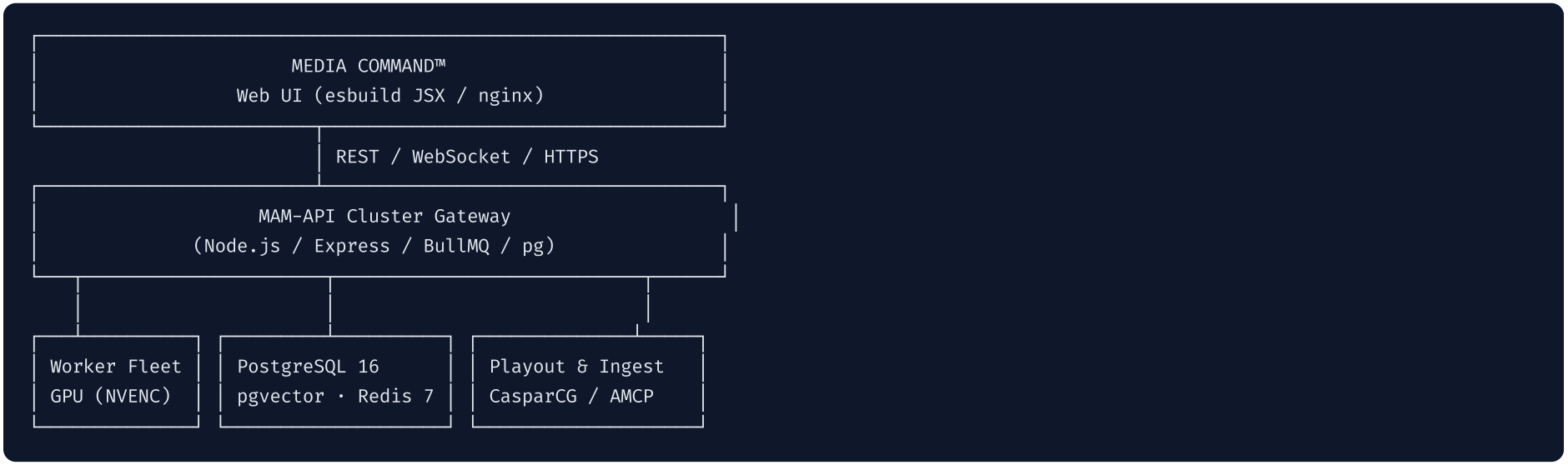
33. Media Command REMI

34. Dragon-ISO

1. System Overview

Media Command is a broadcast media asset management, live capture, and playout platform.

Architecture



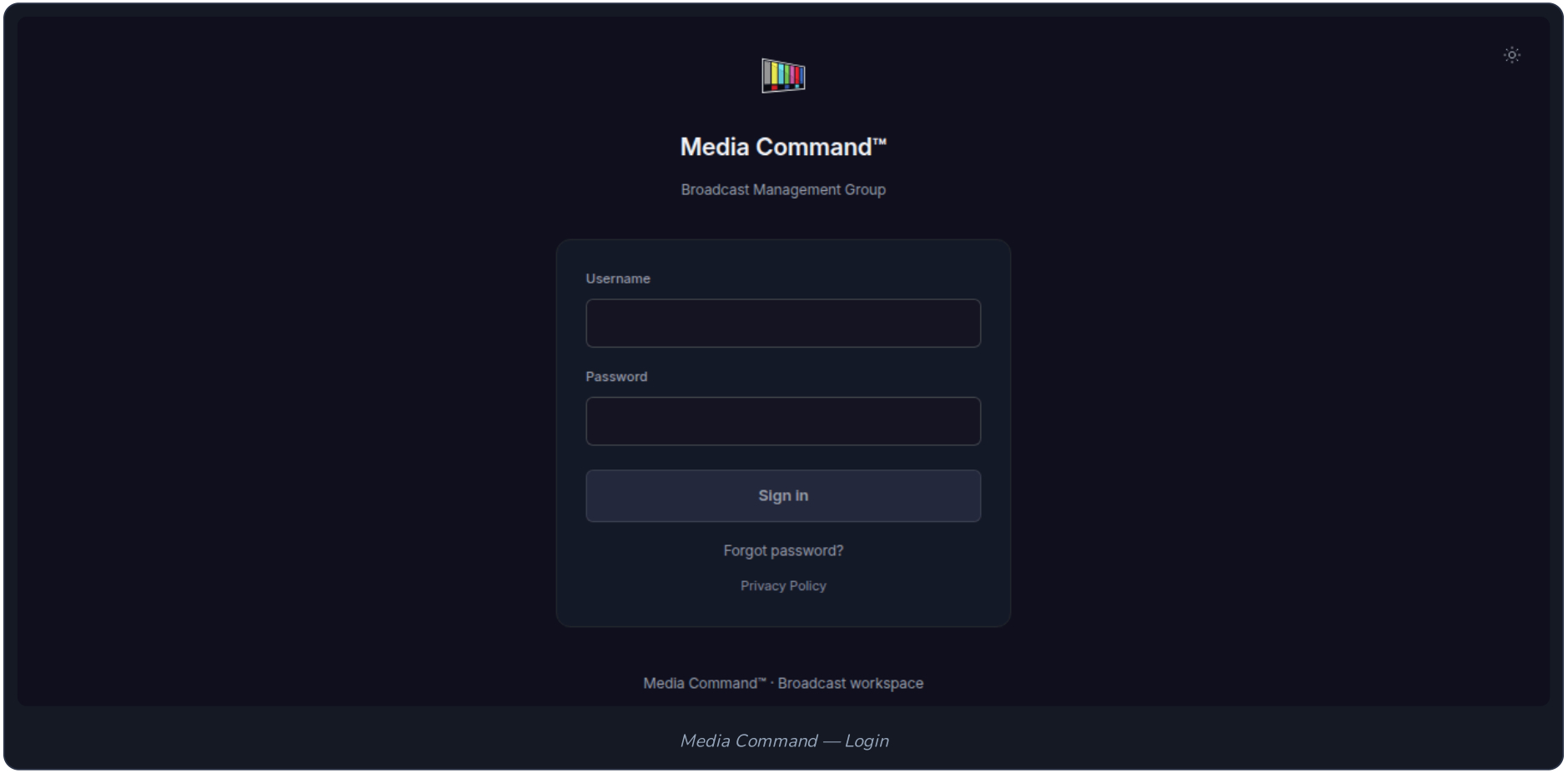
Technology Stack

- **Web UI:** JSX components bundled by esbuild, served by nginx. HLS.js for adaptive playback, WebRTC (WHEP) for sub-second monitoring.
- **API:** Node.js / Express (ESM), PostgreSQL 16 with pgvector, Redis 7, BullMQ job queues.
- **Workers:** GPU-accelerated transcoding (NVIDIA NVENC/NVDEC) across a distributed compute fleet.
- **Playout:** CasparCG sidecar containers driven over AMCP, with HTML graphics overlay layers.

TAMS fMP4 Master Flows

Media Command records into **fragmented MP4 (CMAF)** containers. Segments are written sequentially to NVMe, allowing editors to scrub up to the live record edge while capture is still in progress. H.264 and HEVC feeds are stream-copied directly — no transcode required.

2. Authentication & Access Control



Media Command — Login

Authentication Methods

- **Local credentials:** bcrypt-hashed passwords (cost 12).

- **SSO via Authentik:** OAuth2/OIDC brokering @broadcastmgmt.com (M365) and @bmgremi.com (Google Workspace).
- **MFA:** TOTP enforcement available for administrative accounts.

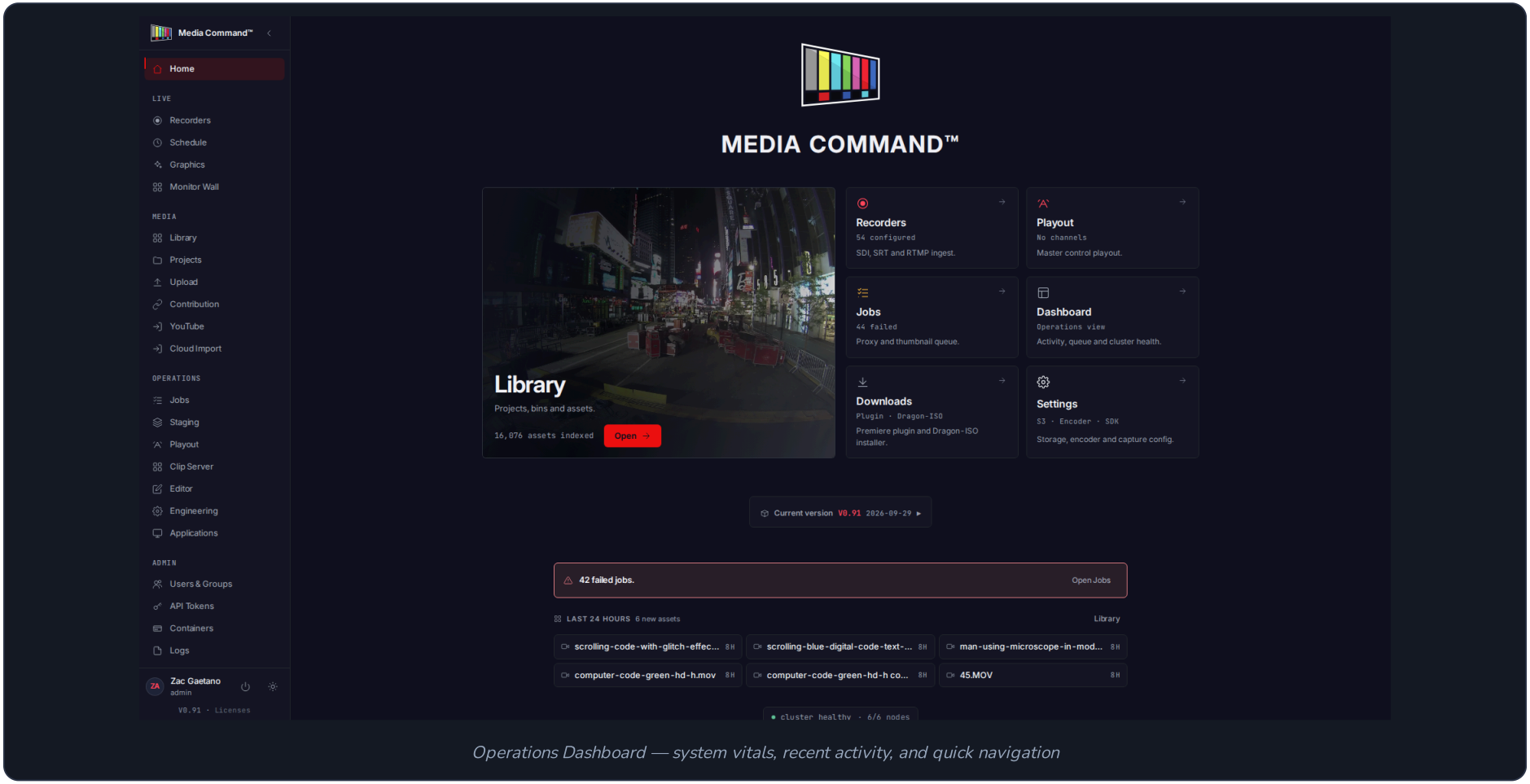
Session: `express-session` with `connect-pg-simple` store. Cookie: `dragonflight.sid`, httpOnly, 30-day lifetime.

Roles

Role	Scope
Admin (`platform_admin`)	Full cluster control, user/token provisioning, container management, storage configuration.
Operator	Recorder control, schedule automation, playout queue manipulation, graphics triggering.
Viewer	Read-only access to metadata and proxy streams. Default for new SSO users.

Per-project and per-organization permissions provide granular access beyond the global role.

3. Dashboard



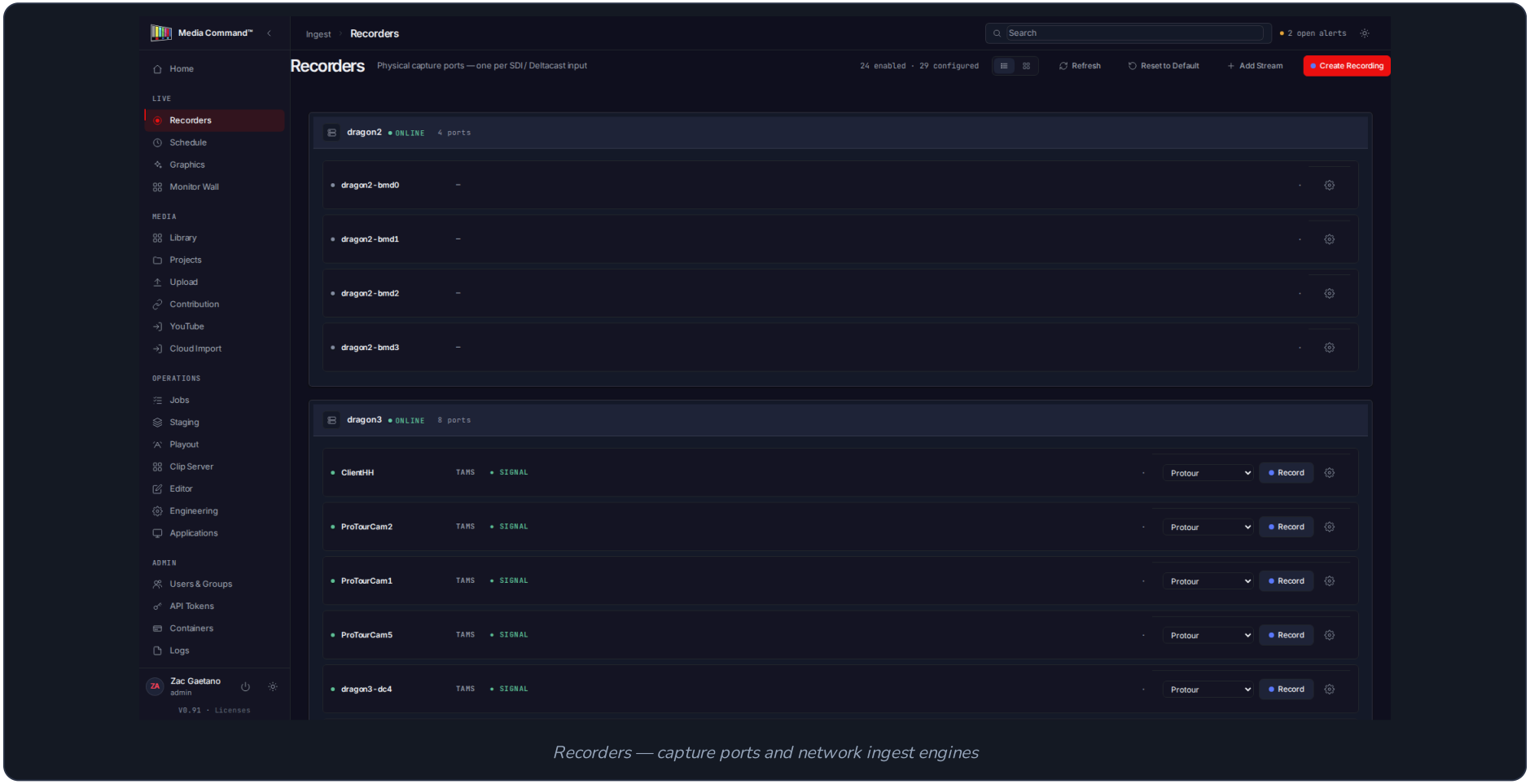
Operations Dashboard — system vitals, recent activity, and quick navigation

- **Asset count:** total indexed assets across all projects.
- **Queue status:** running and failed BullMQ worker tasks.
- **Recorder summary:** enabled and configured capture ports.

- **Recent activity:** files ingested in the last 24 hours.

Quick-access tiles link to Library, Recorders, Playout, Jobs, Downloads, and Settings.

4. Recorders

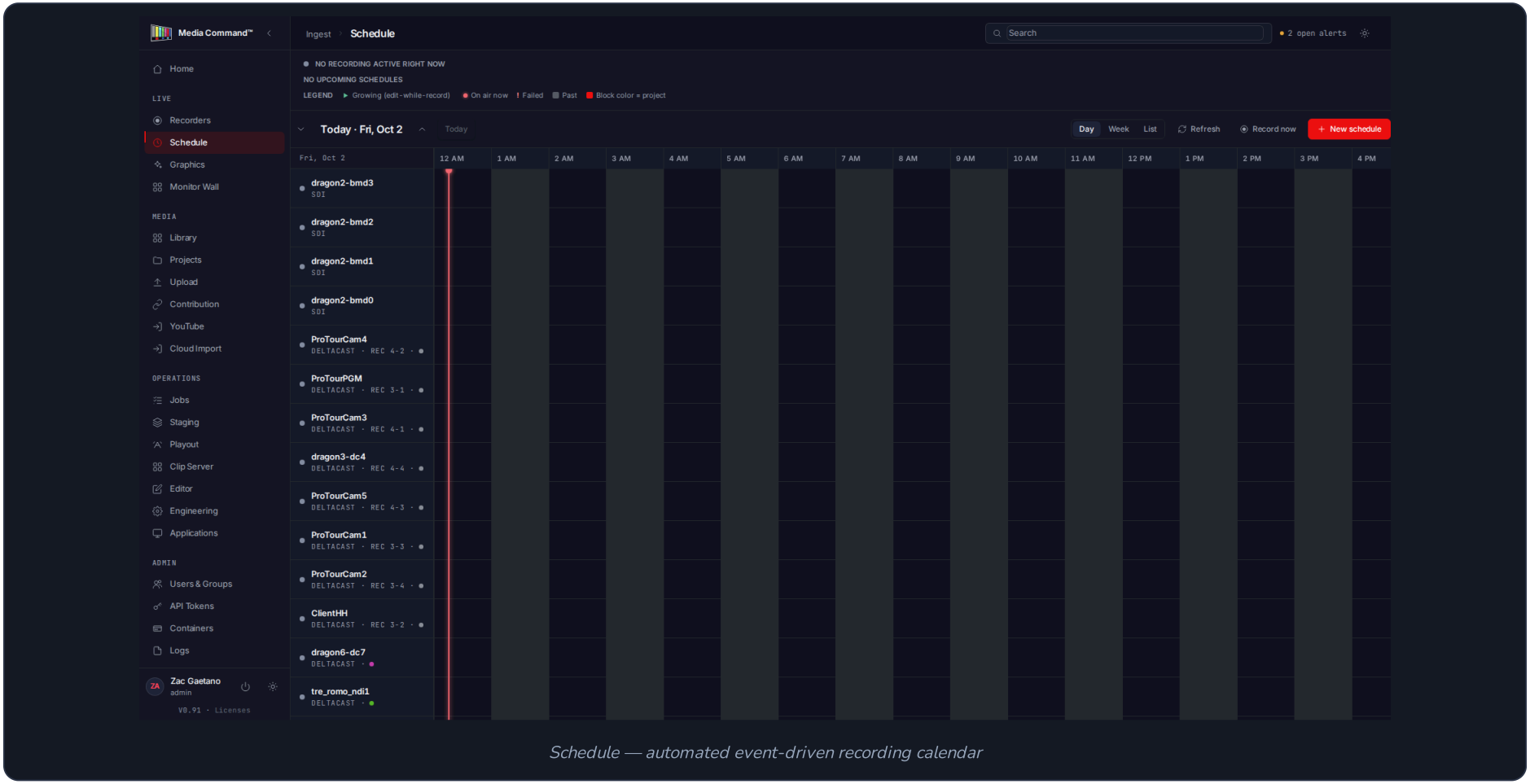


Recorders — capture ports and network ingest engines

- **Port cards:** each card represents a capture port (Blackmagic, AJA, or Deltacast).
- **Signal detection:** real-time input format (`1080i59.94` , `1080p29.97` , `2160p59.94`).
- **Codec selection:** H.264 intra (35/50/75/100 Mbps tiers) and HEVC intra. Per-port configuration.

- **Actions:** `Create Recording`, `Add Stream` (SRT/RTMP), `Reset to Default`.

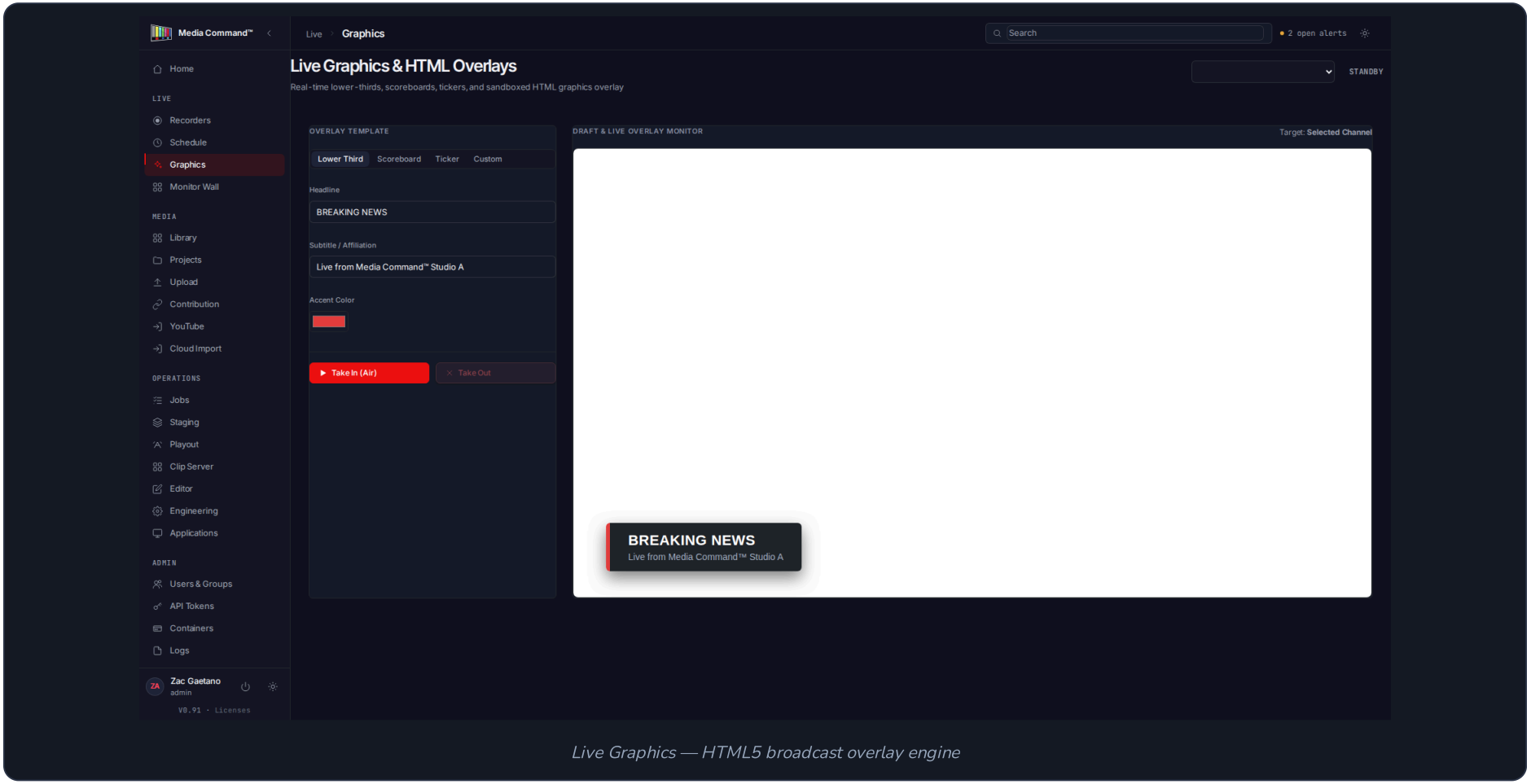
5. Schedule



Schedule — automated event-driven recording calendar

- Grid-based calendar with per-port timeline lanes.
- Traffic schedule and CSV run-sheet import.
- Configurable pre/post-roll padding.

6. Live Graphics



Live Graphics — HTML5 broadcast overlay engine

- Sandboxed Chromium offscreen rendering for lower-thirds, scoreboards, and bugs.
- DSK layer stacking over playout or recorder preview streams.

7. Monitor Wall

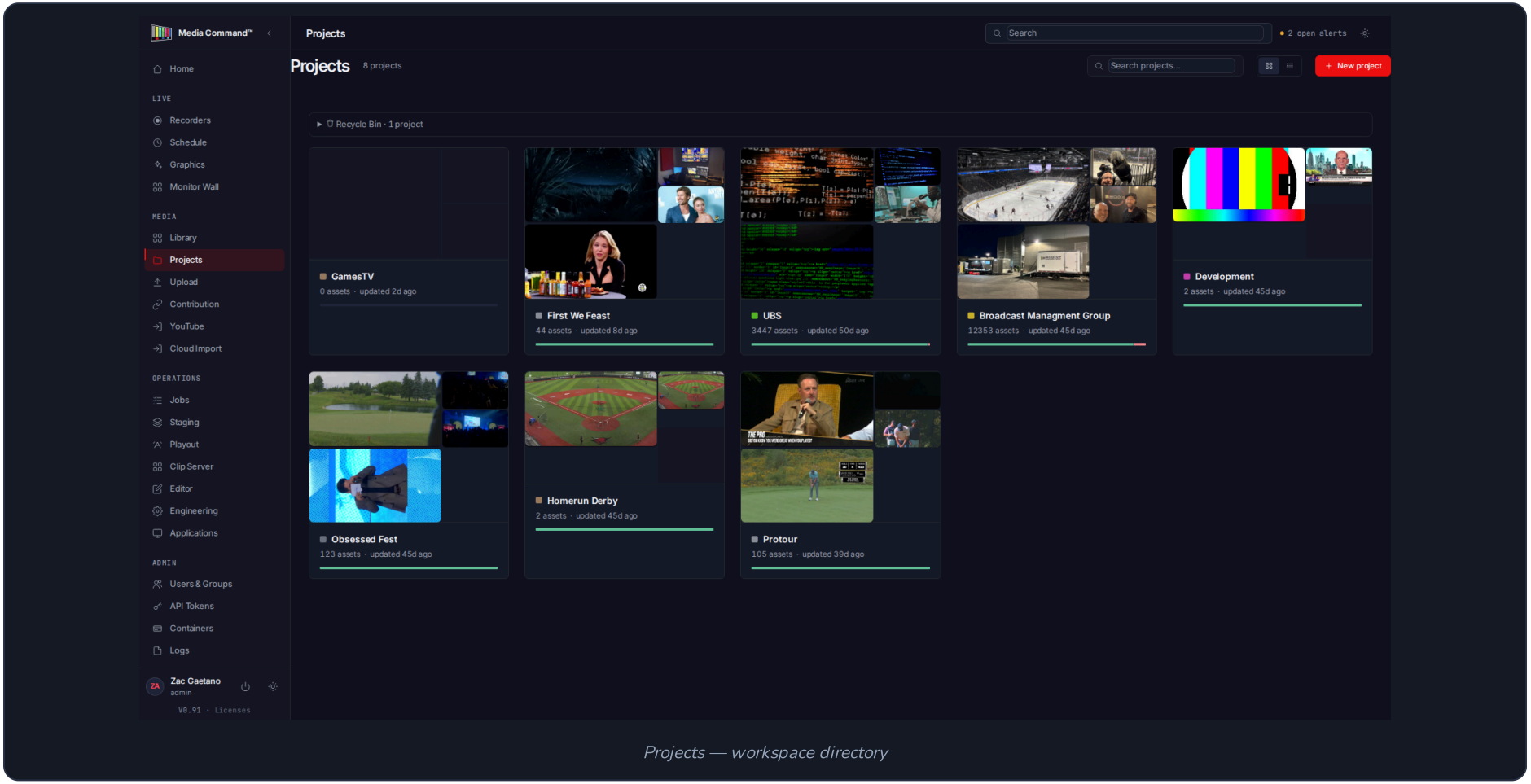


Monitor Wall — high-density WebRTC multiviewer

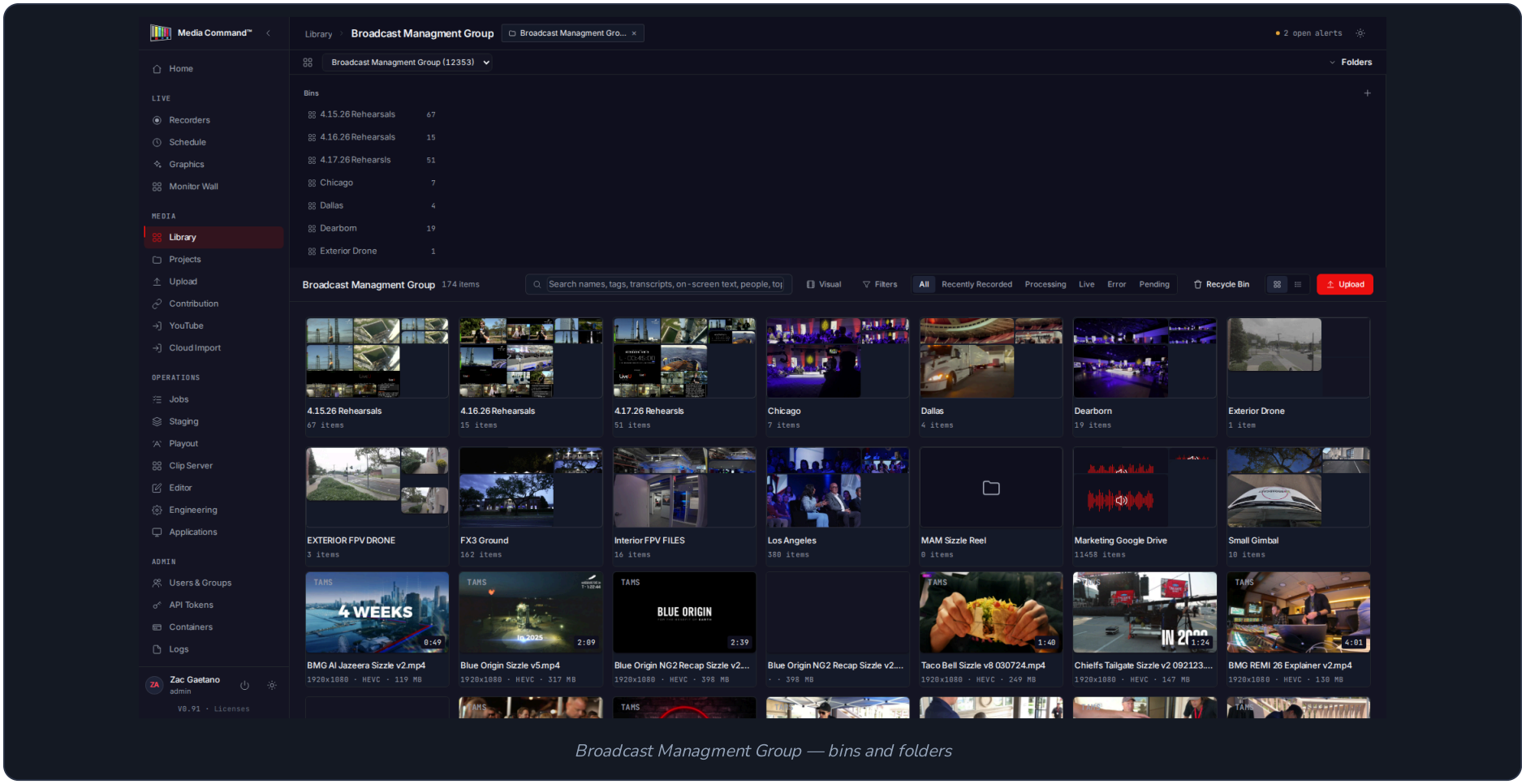
- Grid layouts: `Auto`, `2×2`, `3×3`, `4×4`, `6×6`.
- Feed filters: Recorders, WebRTC, Playout Channels.
- WHEP/WebRTC with sub-second latency.

- Multi-channel audio meters on active tiles.

8. Projects



Projects — workspace directory

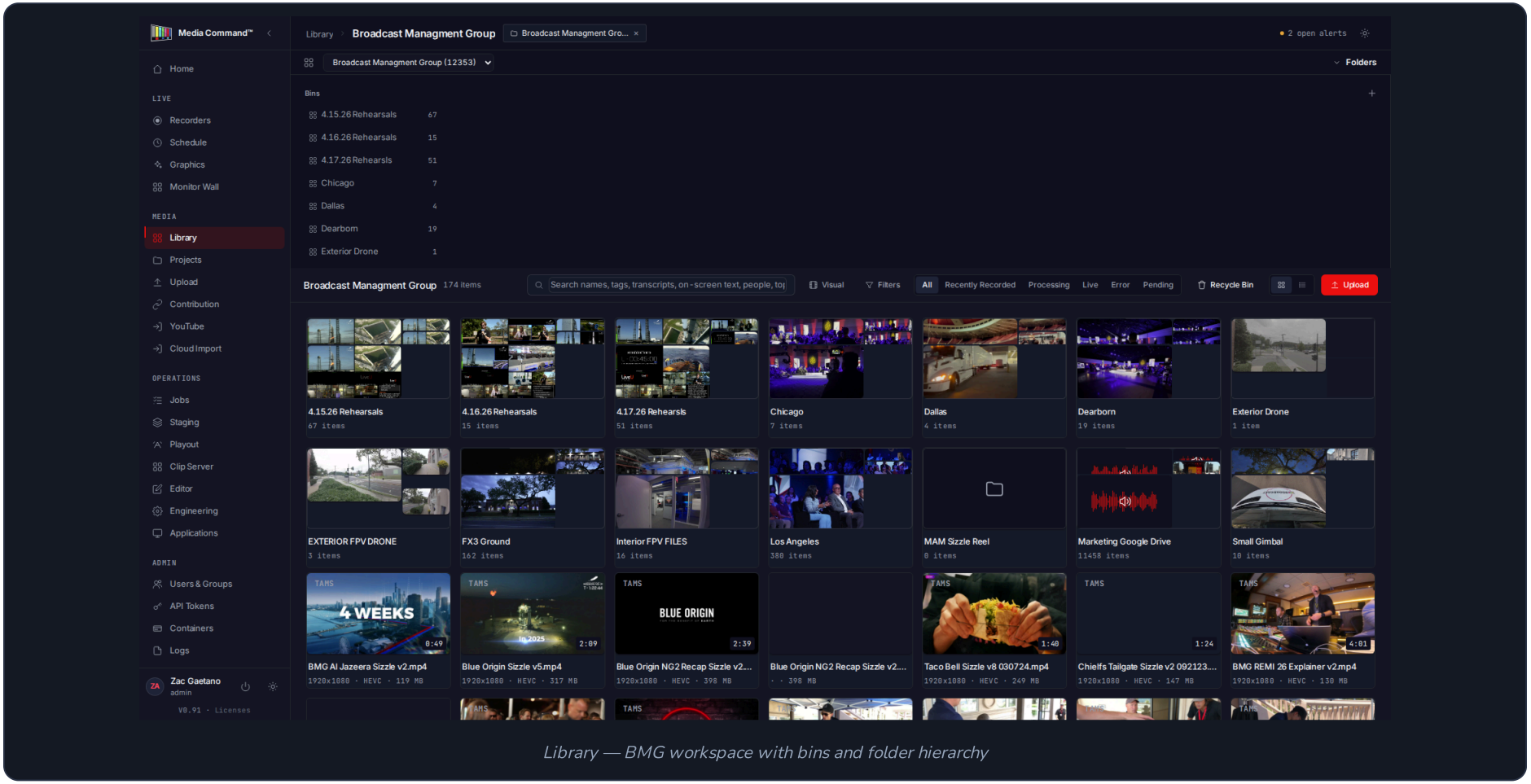


Broadcast Managment Group — bins and folders

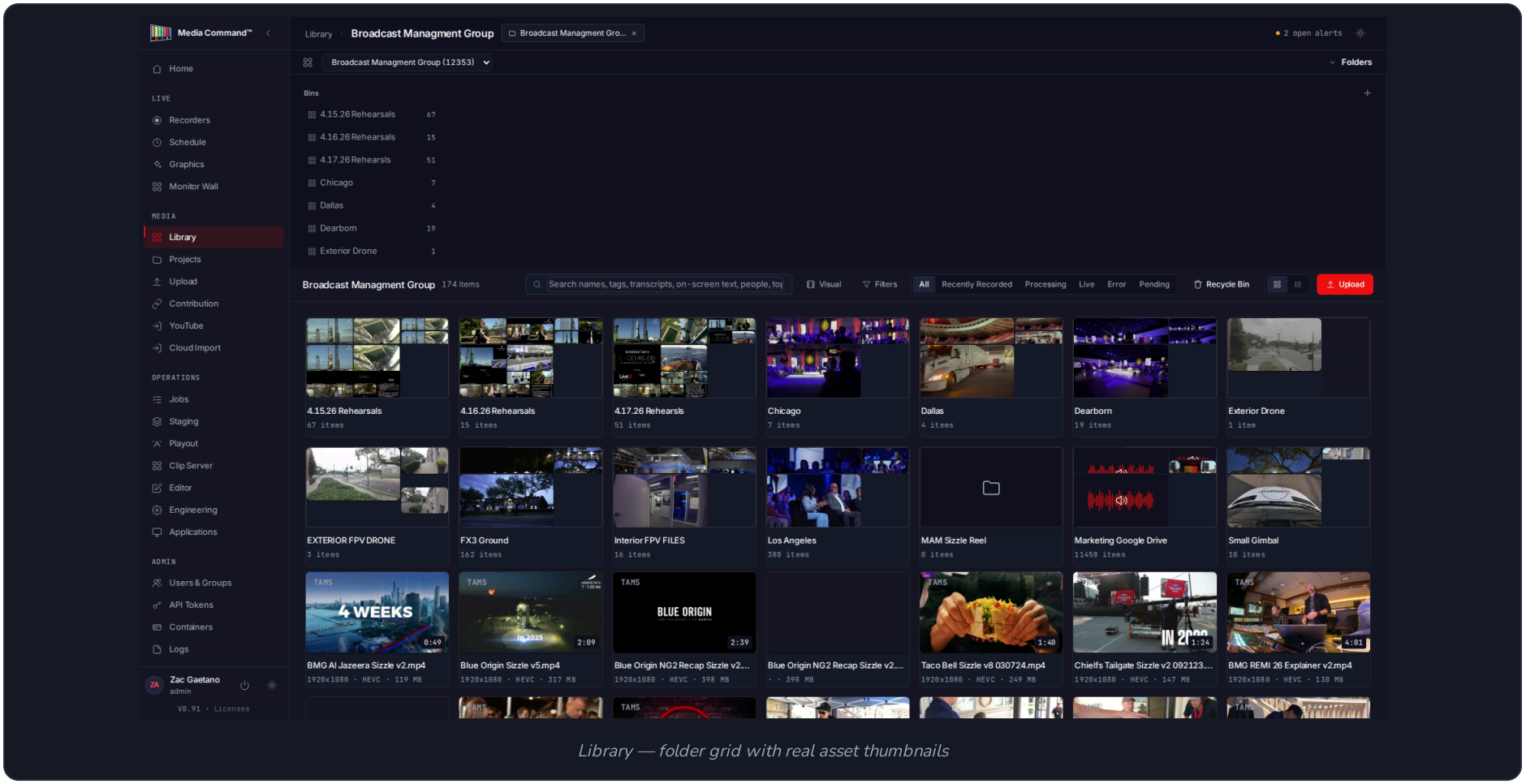
Projects isolate media, permissions, and bins. Active projects include Broadcast Management Group (12,353 assets), UBS, Protour, First We Feast, and others.

- **Project creation:** define name, storage allocation, and assigned user groups.
- **Recycle Bin:** deleted assets quarantine separately per project.

9. Library



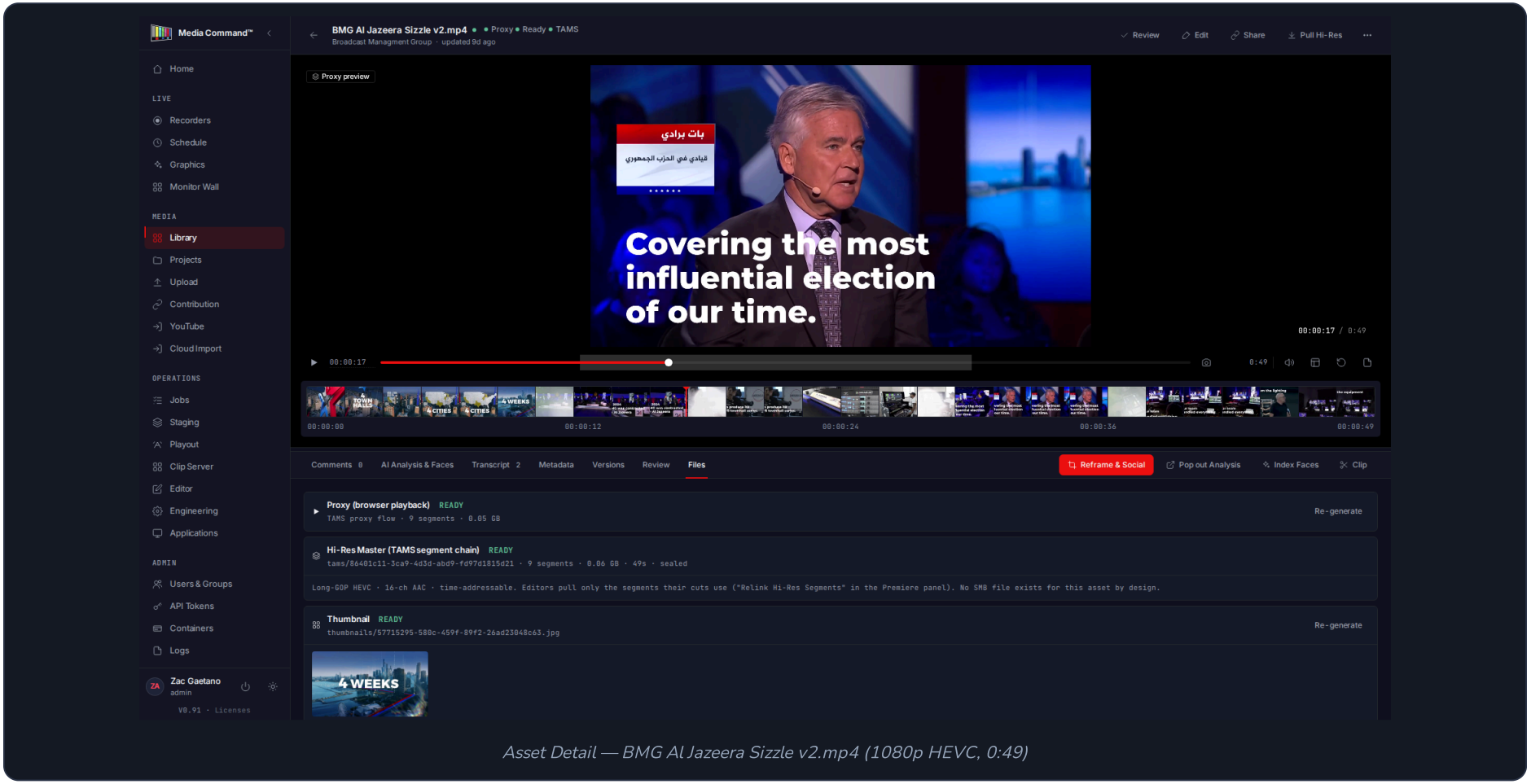
Library — BMG workspace with bins and folder hierarchy



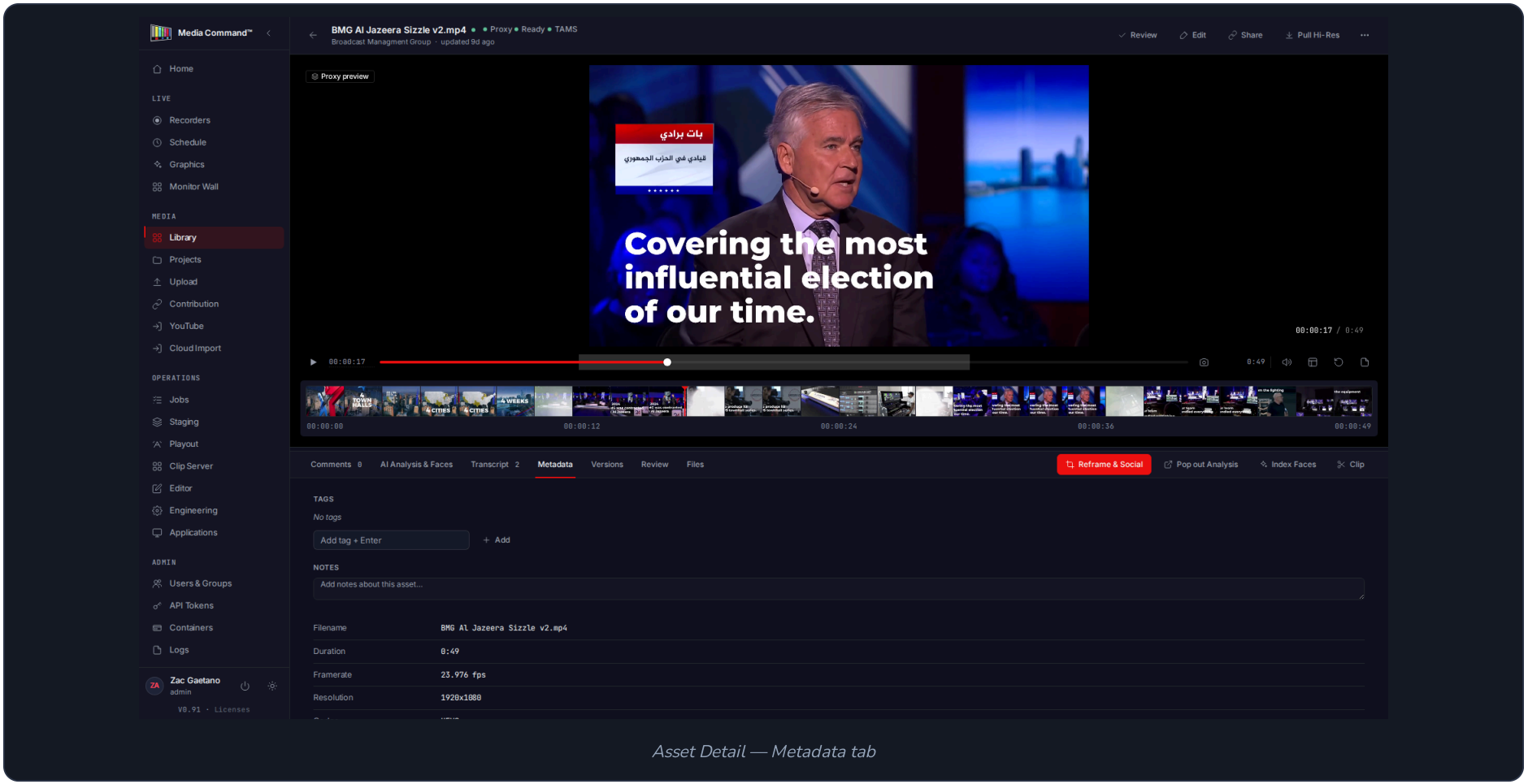
Library — folder grid with real asset thumbnails

- **Project switcher:** dropdown to switch between assigned projects or `★ All Projects (Admin View)`.
- **Search:** full-text across filenames, tags, and metadata.
- **Faceted filters:** file type, codec, resolution, date range.
- **Display modes:** list view and thumbnail grid.
- **Bins:** hierarchical folders. Saved searches provide per-user named filter presets.

10. Asset Detail & Player



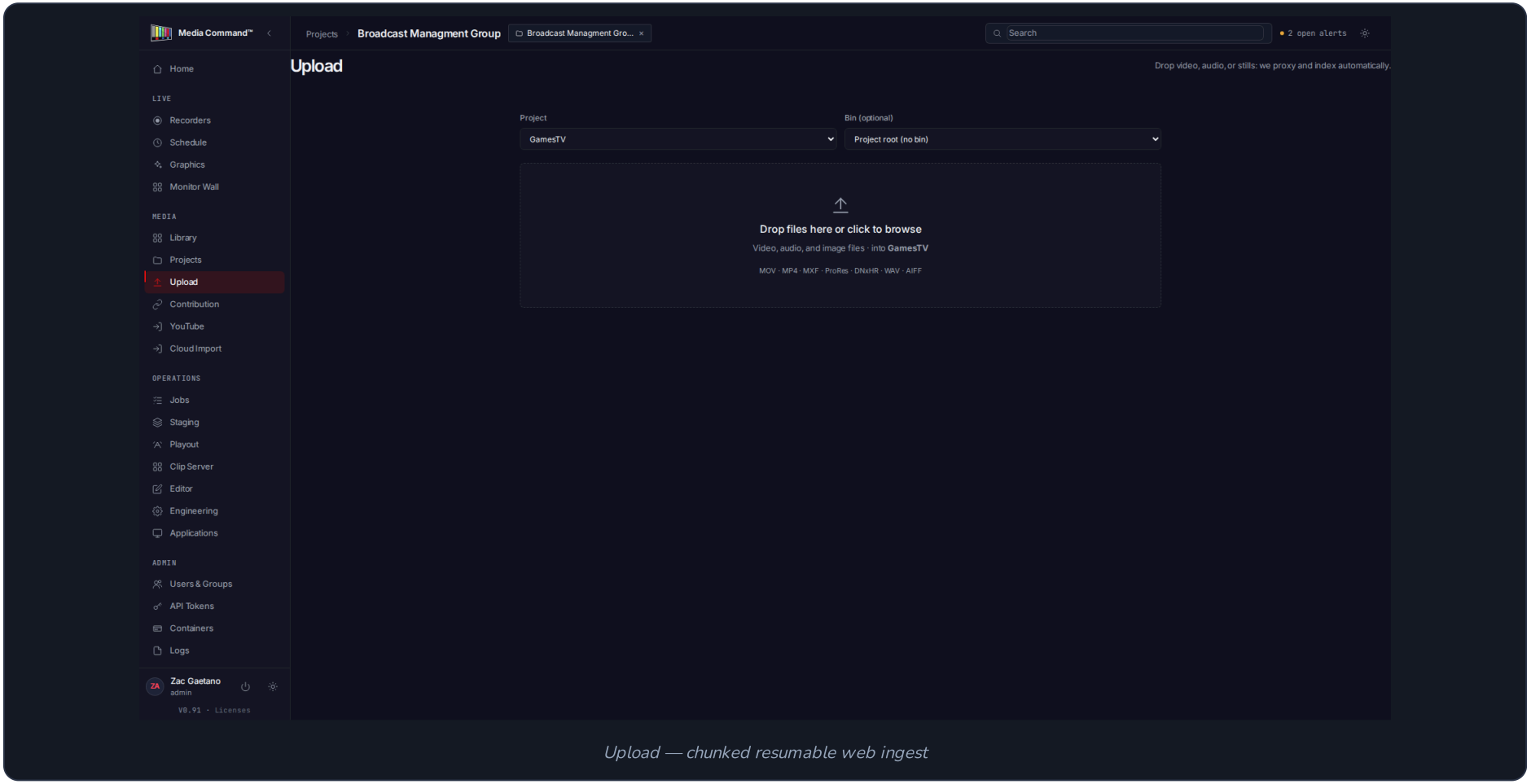
Asset Detail — BMG Al Jazeera Sizzle v2.mp4 (1080p HEVC, 0:49)



Asset Detail — Metadata tab

- **Video player:** proxy playback with timecode scrubbing, J-K-L shuttle, in/out points (`I` / `O`).
- **TAMS adaptive playback:** scrubbing works on multi-hour growing files.
- **Tabs:** Files, Metadata, Transcript, AI Analysis & Faces, Versions, Comments, Review.
- **Technical metadata:** container, codec, resolution, frame rate, bit rate, storage path, checksums.
- **Actions:** Review, Edit, Share, Pull Hi-Res, Reframe & Social, Clip.

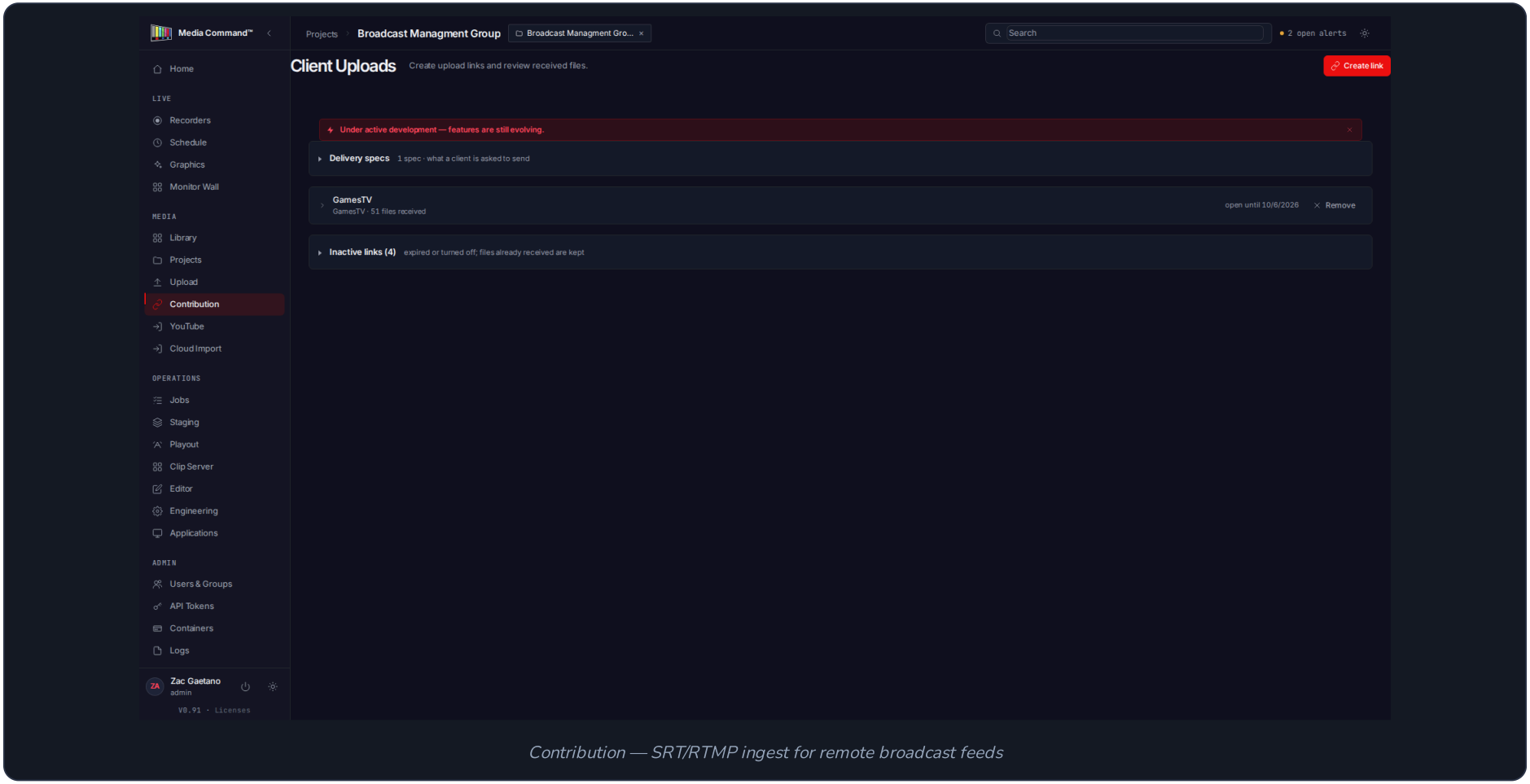
11. Upload



Upload — chunked resumable web ingest

Chunked resumable upload with target bin selection. Proxy, thumbnail, and waveform generation trigger automatically on completion.

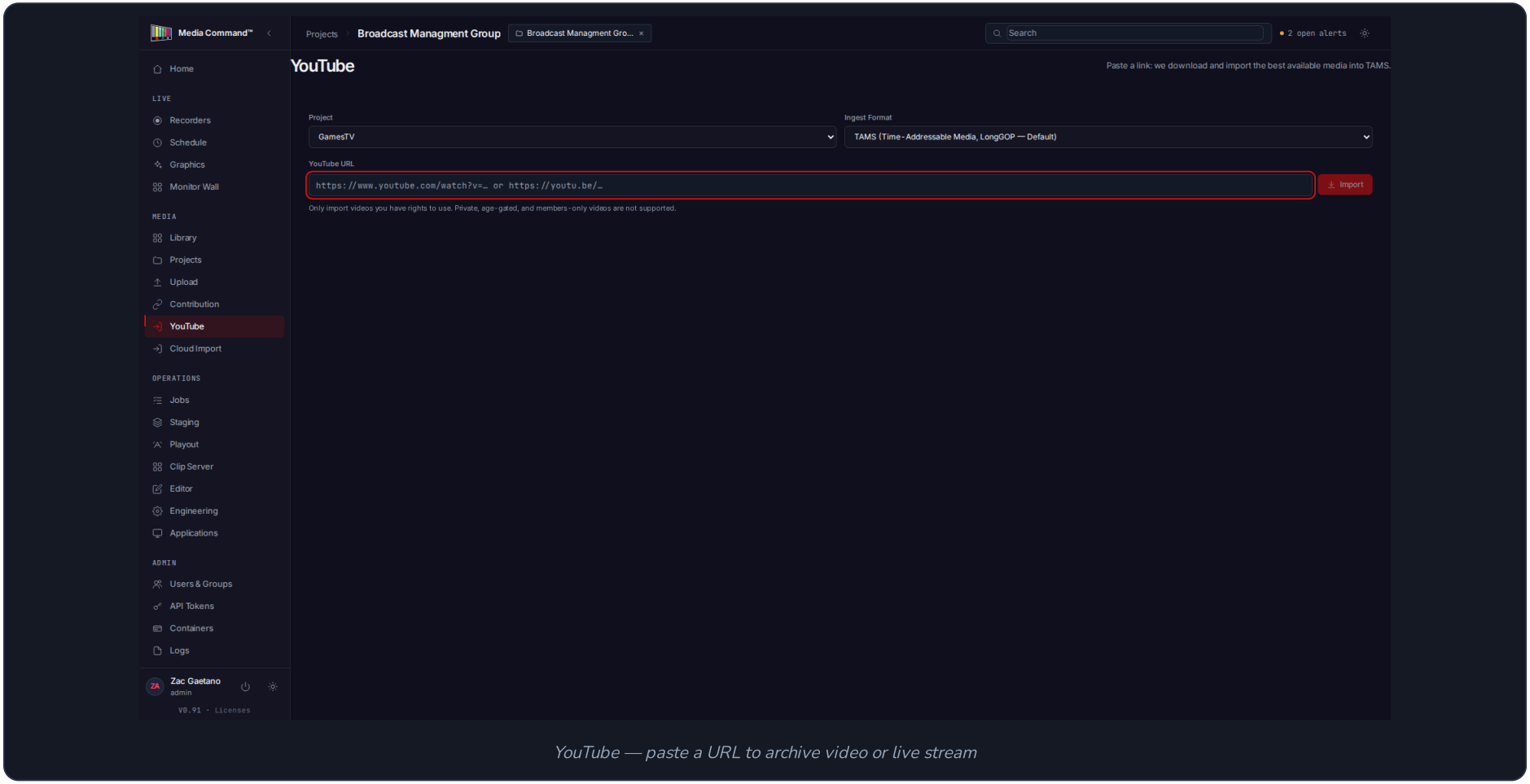
12. Contribution



Contribution — SRT/RTMP ingest for remote broadcast feeds

- **SRT:** caller/listener mode with passphrase and adjustable latency.
- **RTMP/RTMPS:** custom streaming keys for OBS, vMix, Wirecast.
- **Auto-recording:** starts a TAMS recording when a contribution stream connects.

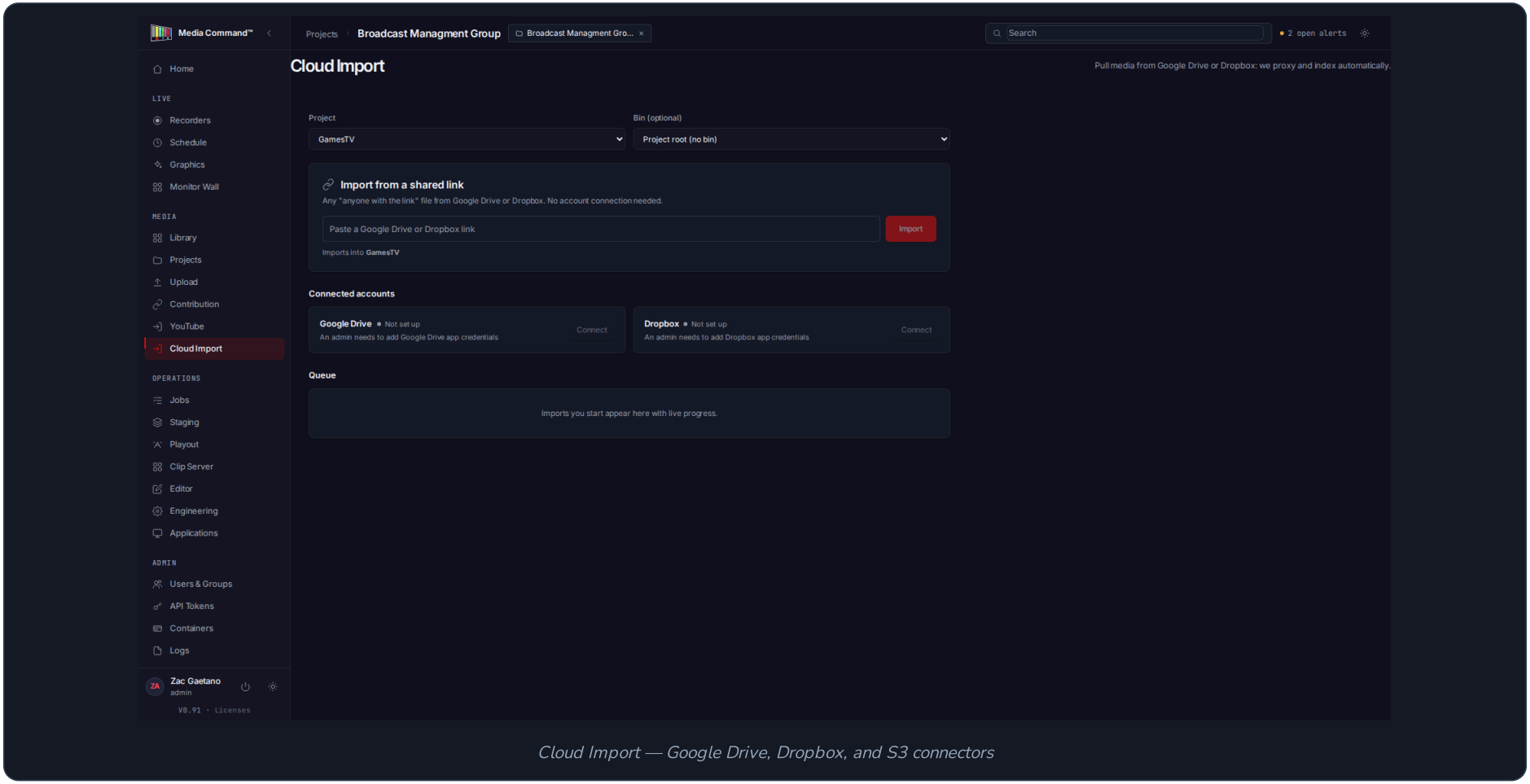
13. YouTube Ingest



YouTube — paste a URL to archive video or live stream

Paste any YouTube video or live stream URL for background download into the Library.

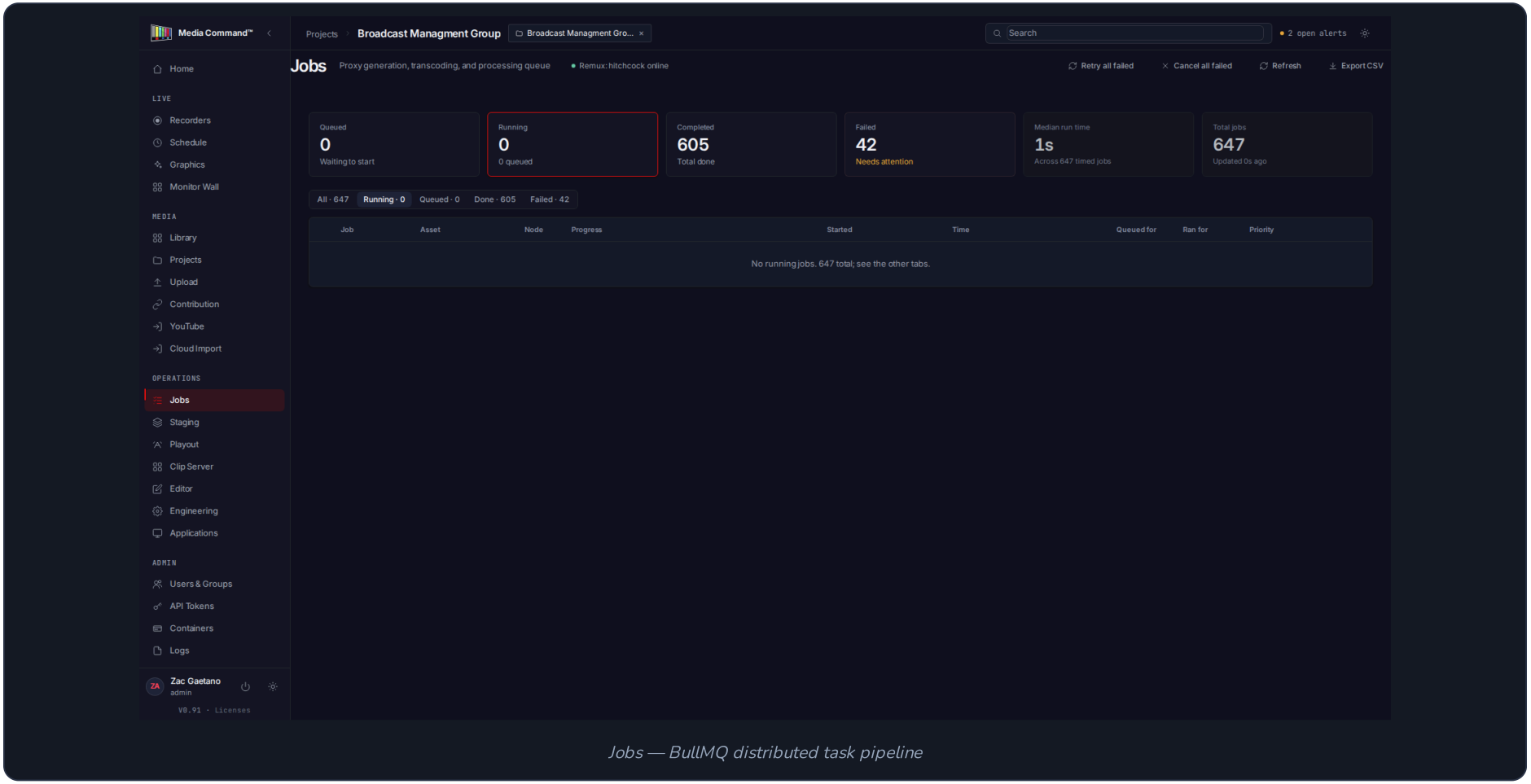
14. Cloud Import



Cloud Import — Google Drive, Dropbox, and S3 connectors

- **Google Drive** and **Dropbox** connectors.
- **S3-compatible storage:** Amazon S3, Wasabi, Backblaze B2, MinIO.

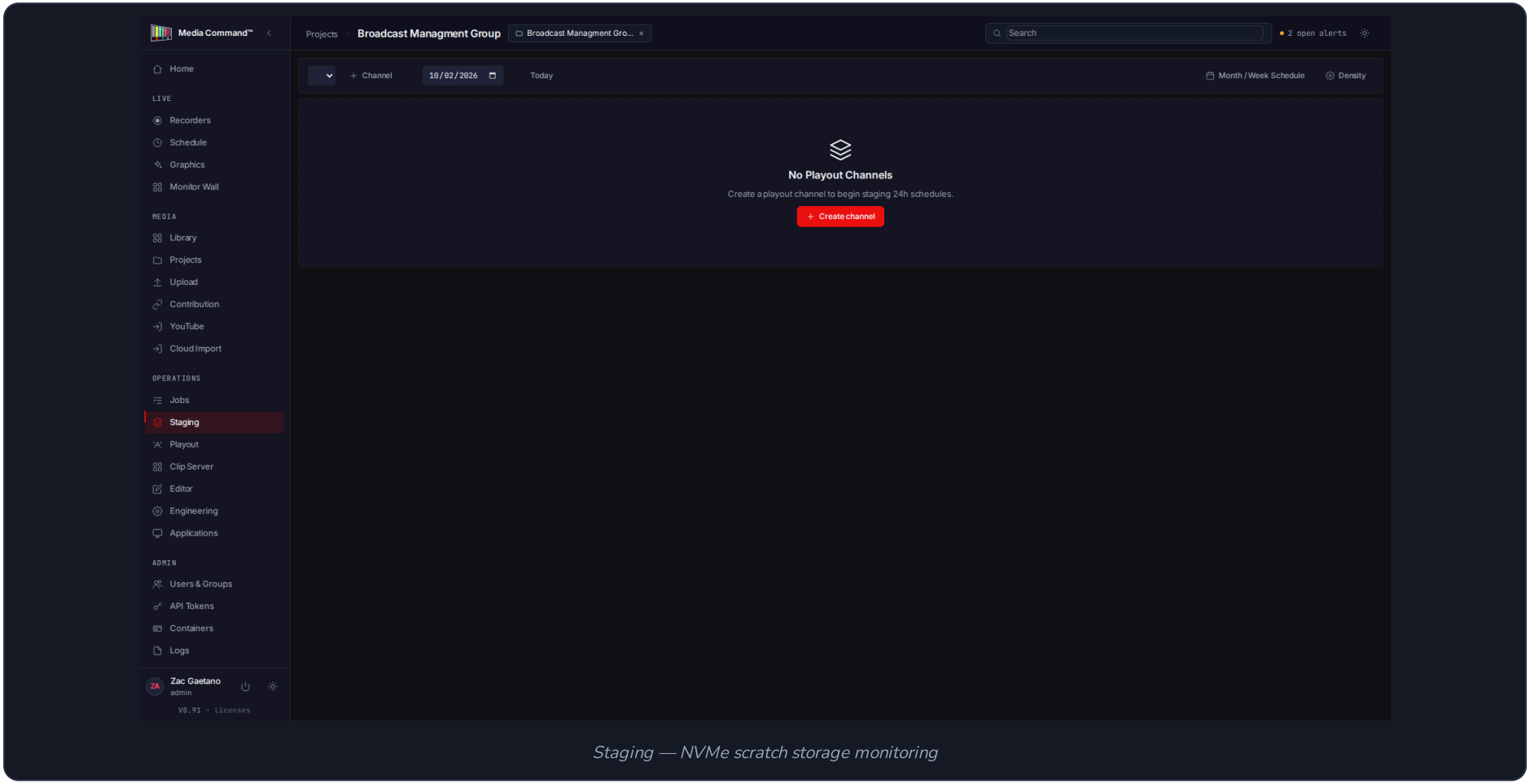
15. Jobs



Jobs — BullMQ distributed task pipeline

Queues cover transcoding, thumbnail/waveform generation, conform/export, and cloud sync. Per-job controls: progress, error log, retry, priority, flush.

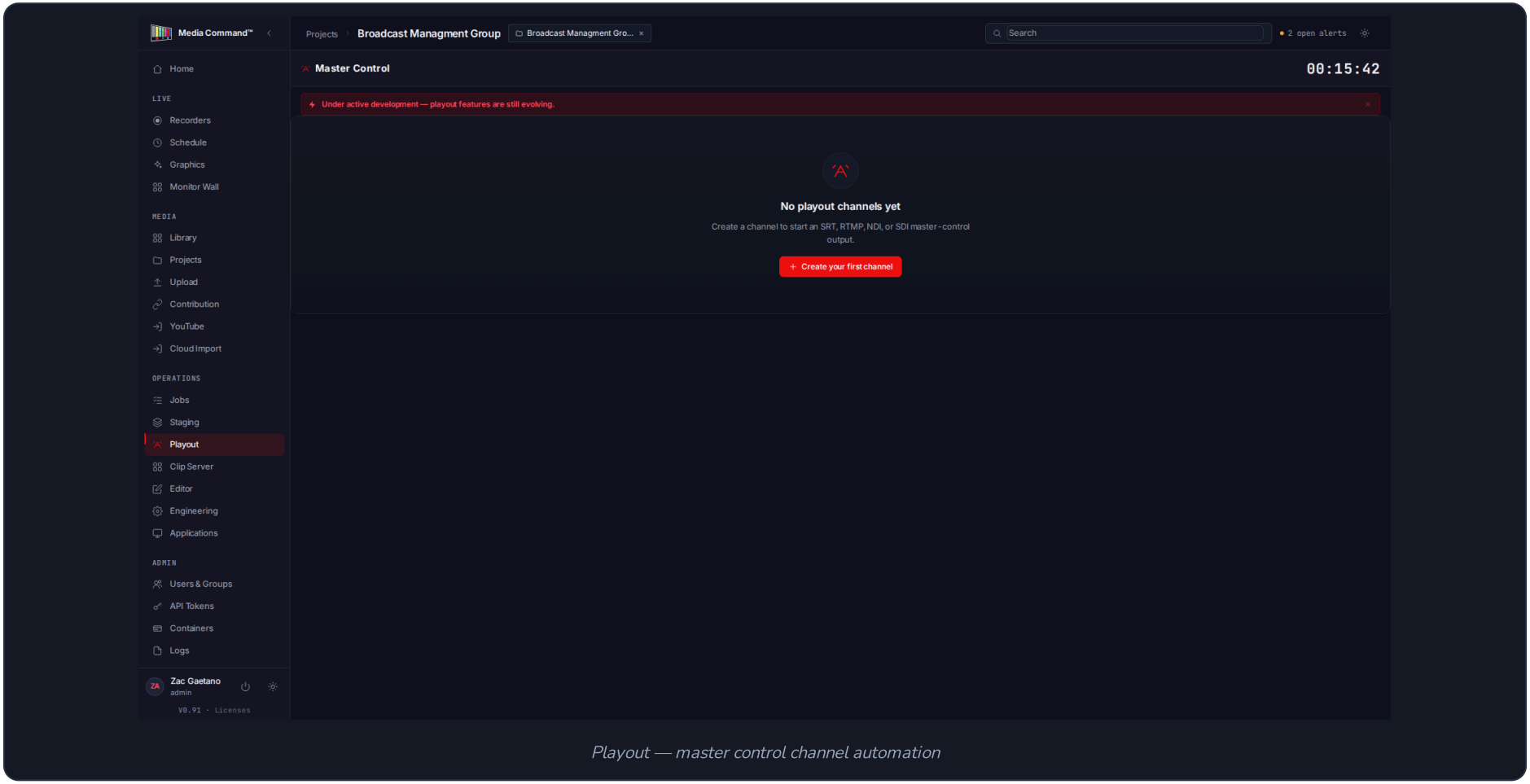
16. Staging



Staging — NVMe scratch storage monitoring

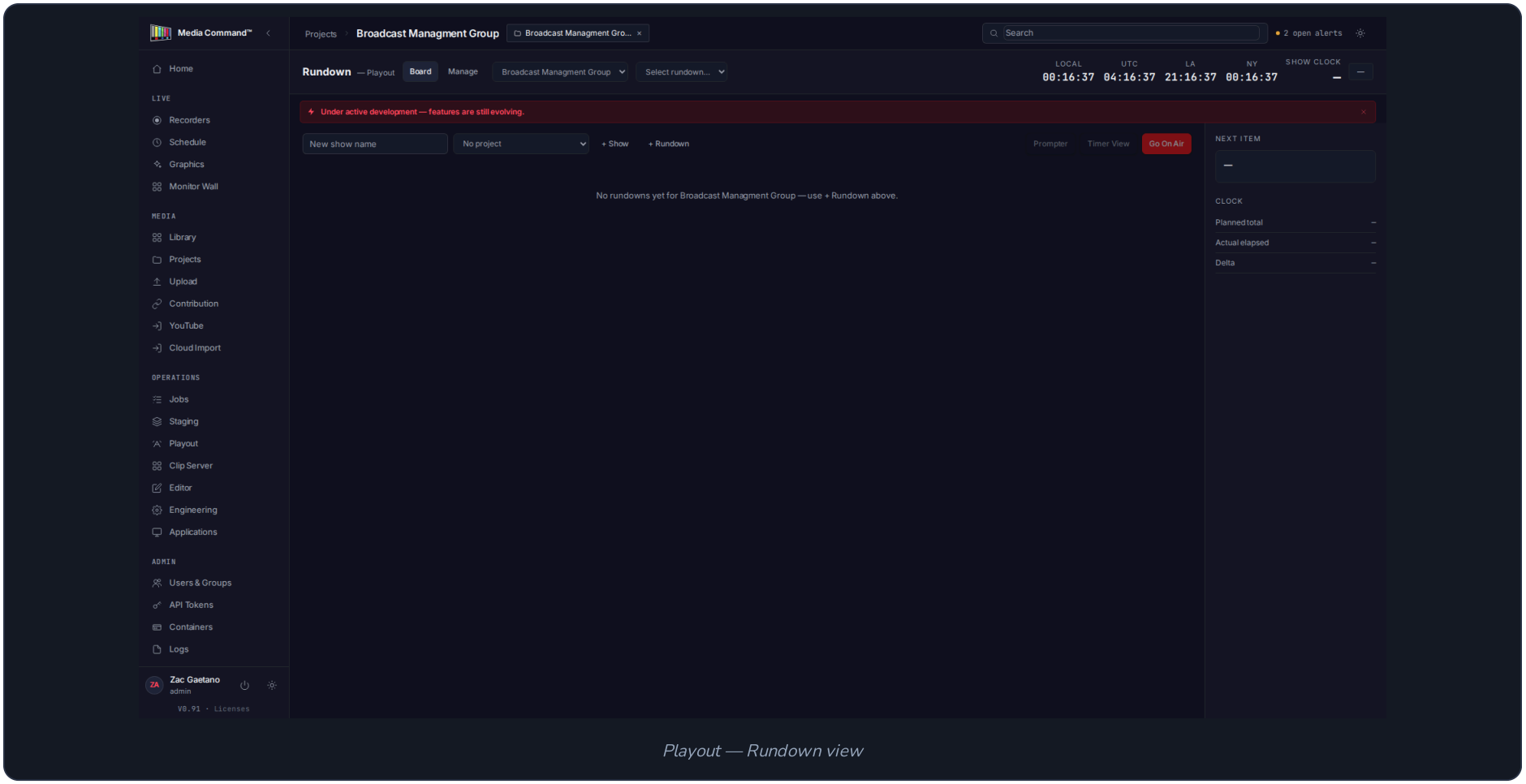
Tracks free space across cluster scratch disks and enforces retention policies.

17. Playout



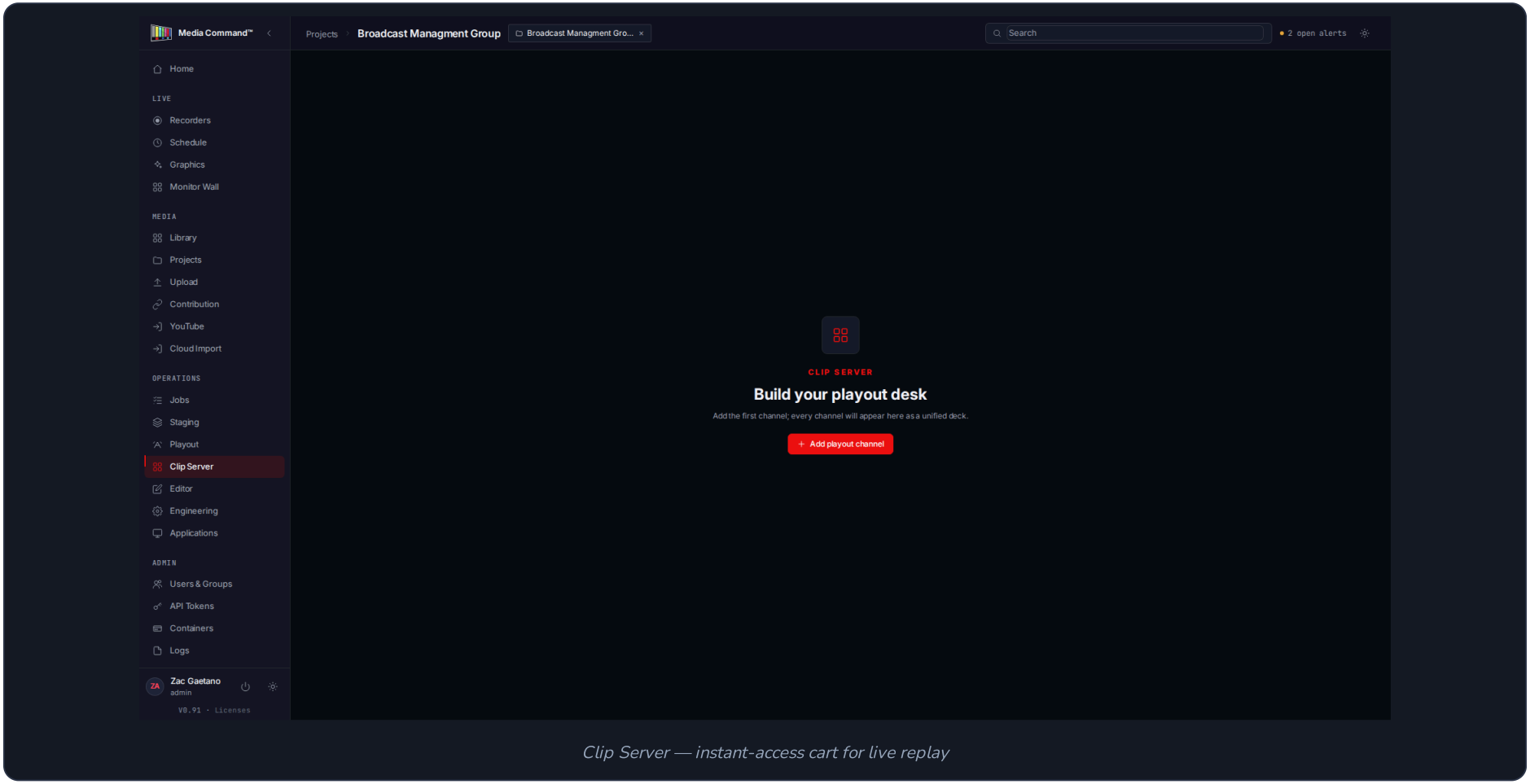
Playout — master control channel automation

- CasparCG sidecar containers driven over AMCP, one per channel.
- Drag-and-drop rundown builder with CUE, PLAY, PAUSE, STOP, LOOP.
- Program and preview confidence monitoring.



Playout — Rundown view

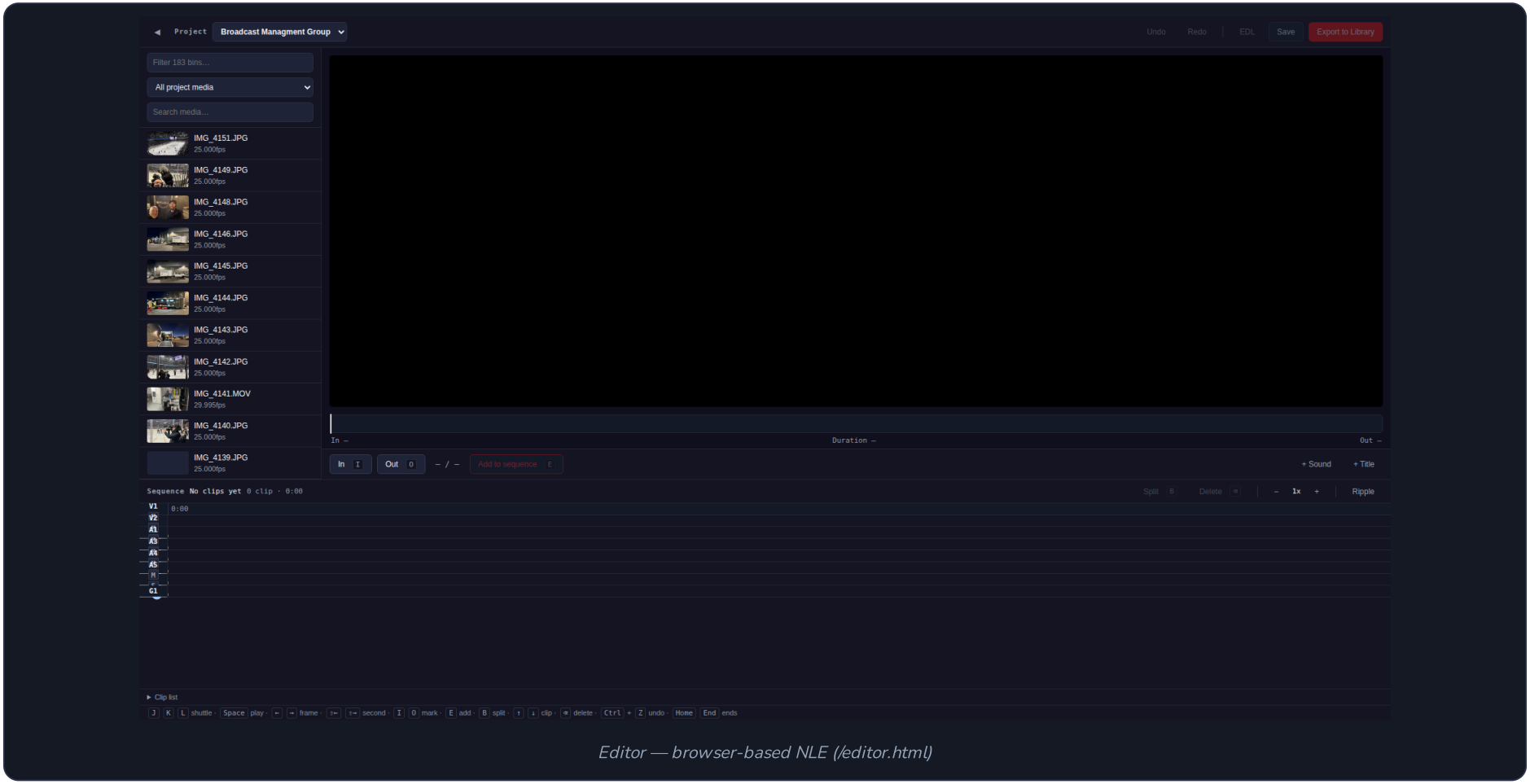
18. Clip Server



Clip Server — instant-access cart for live replay

Pre-loaded frames in shared memory (`/dev/shm`) for frame-accurate playback.

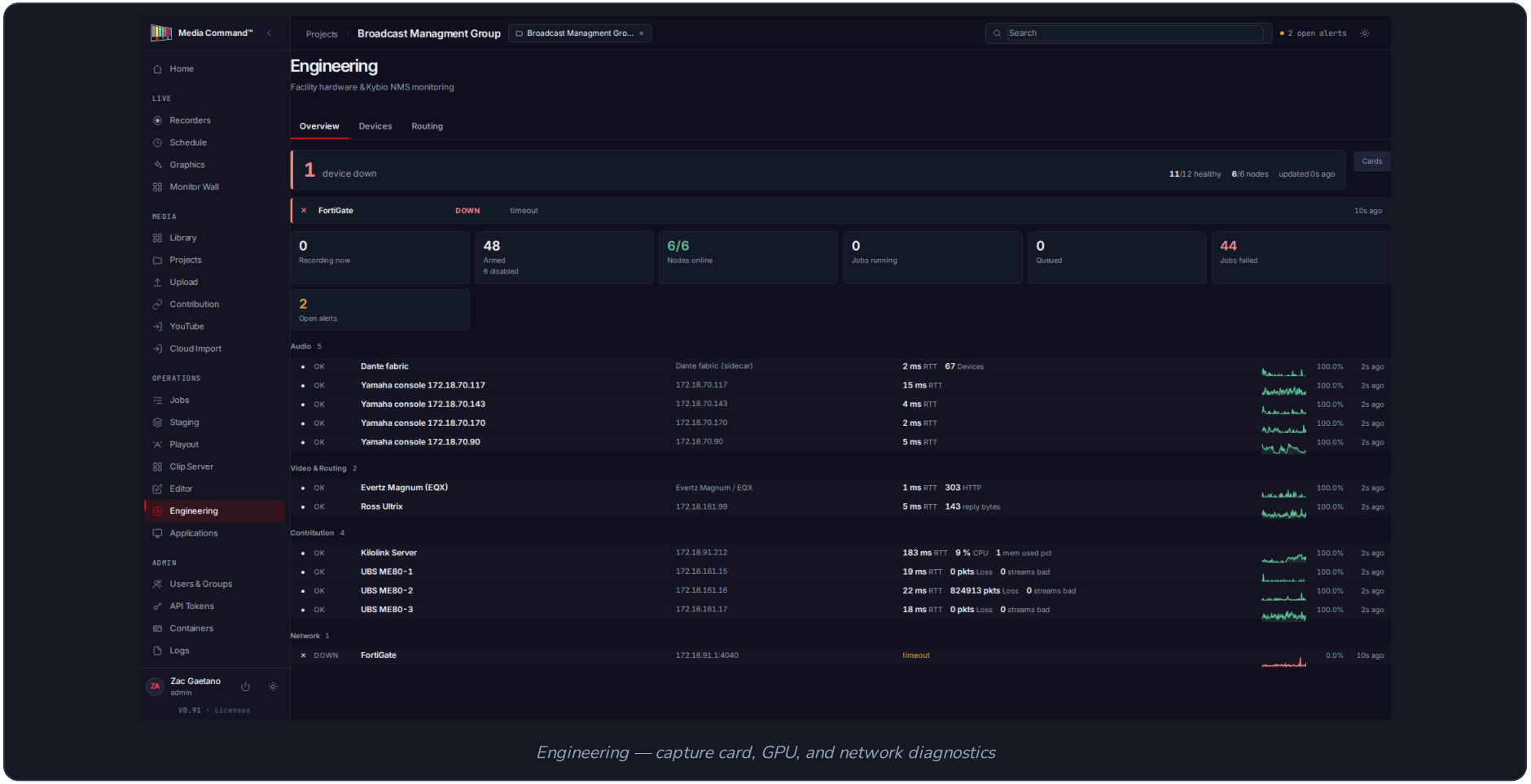
19. Editor



Editor — browser-based NLE (/editor.html)

- Multi-track timeline (V1, V2, A1–A5).
- In/out trimming on TAMS master flows.
- Export to Library with codec presets and crop-to-fill options.

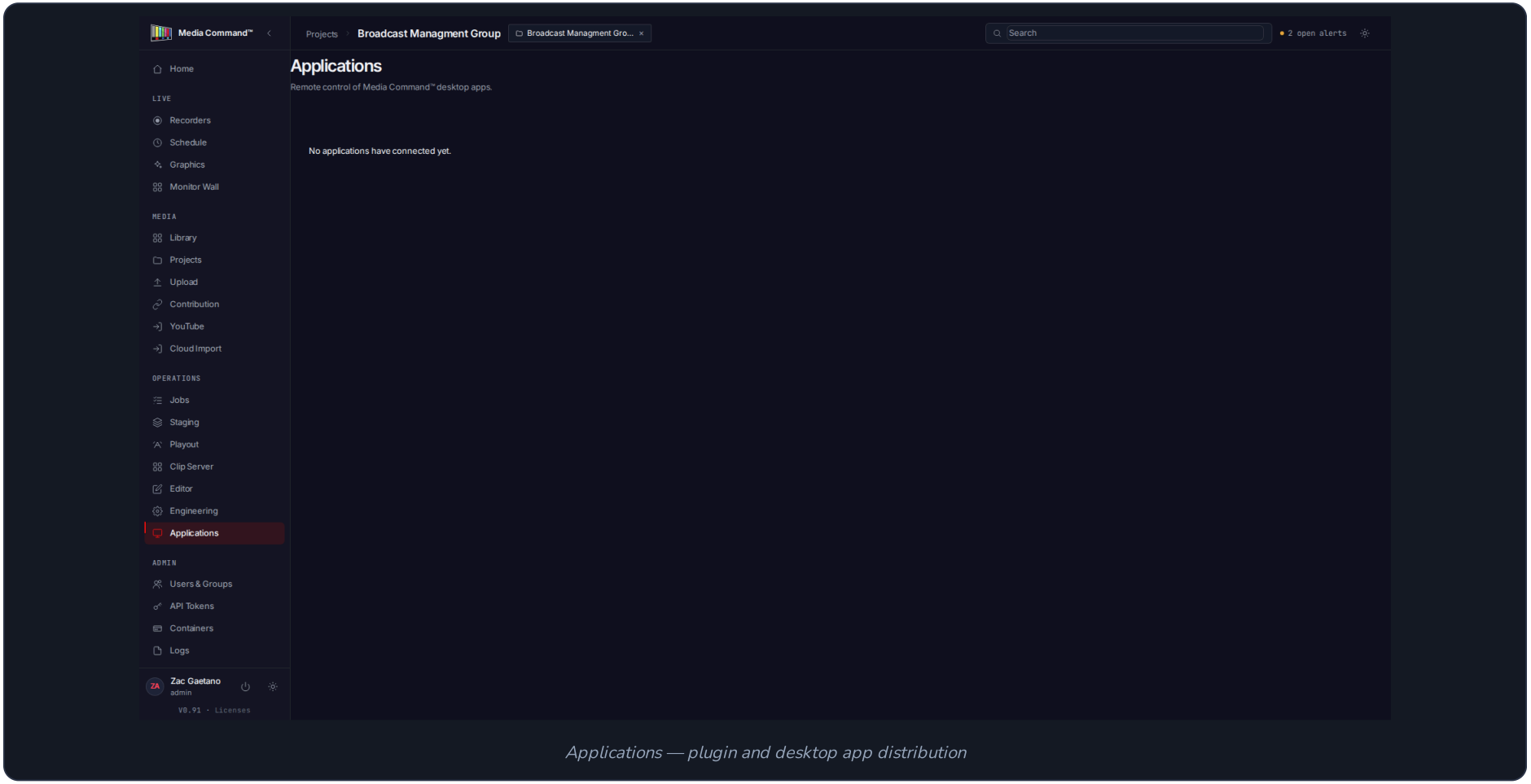
20. Engineering



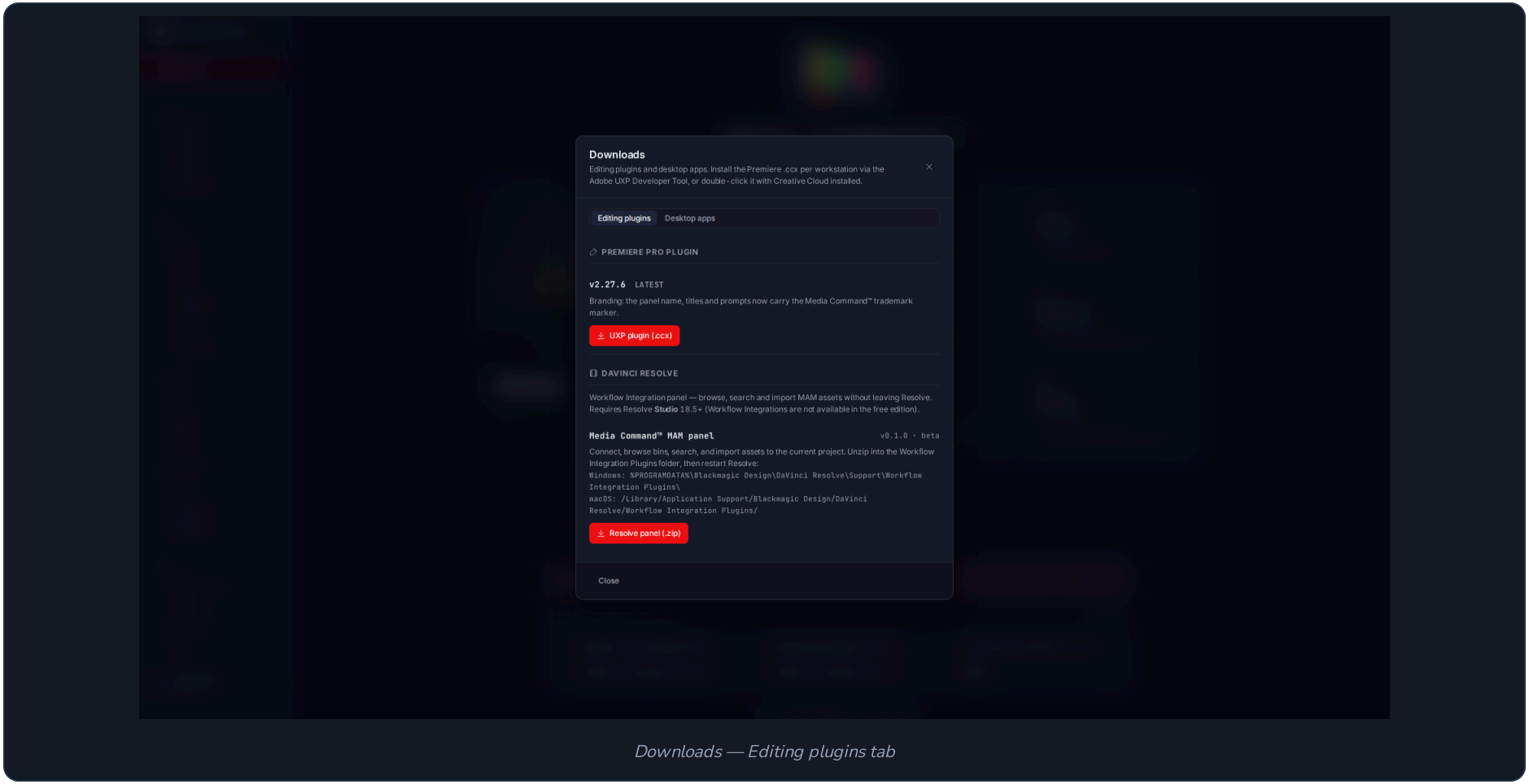
Engineering — capture card, GPU, and network diagnostics

Broadcast engineering diagnostics: capture card status, GPU acceleration metrics, and network interface statistics.

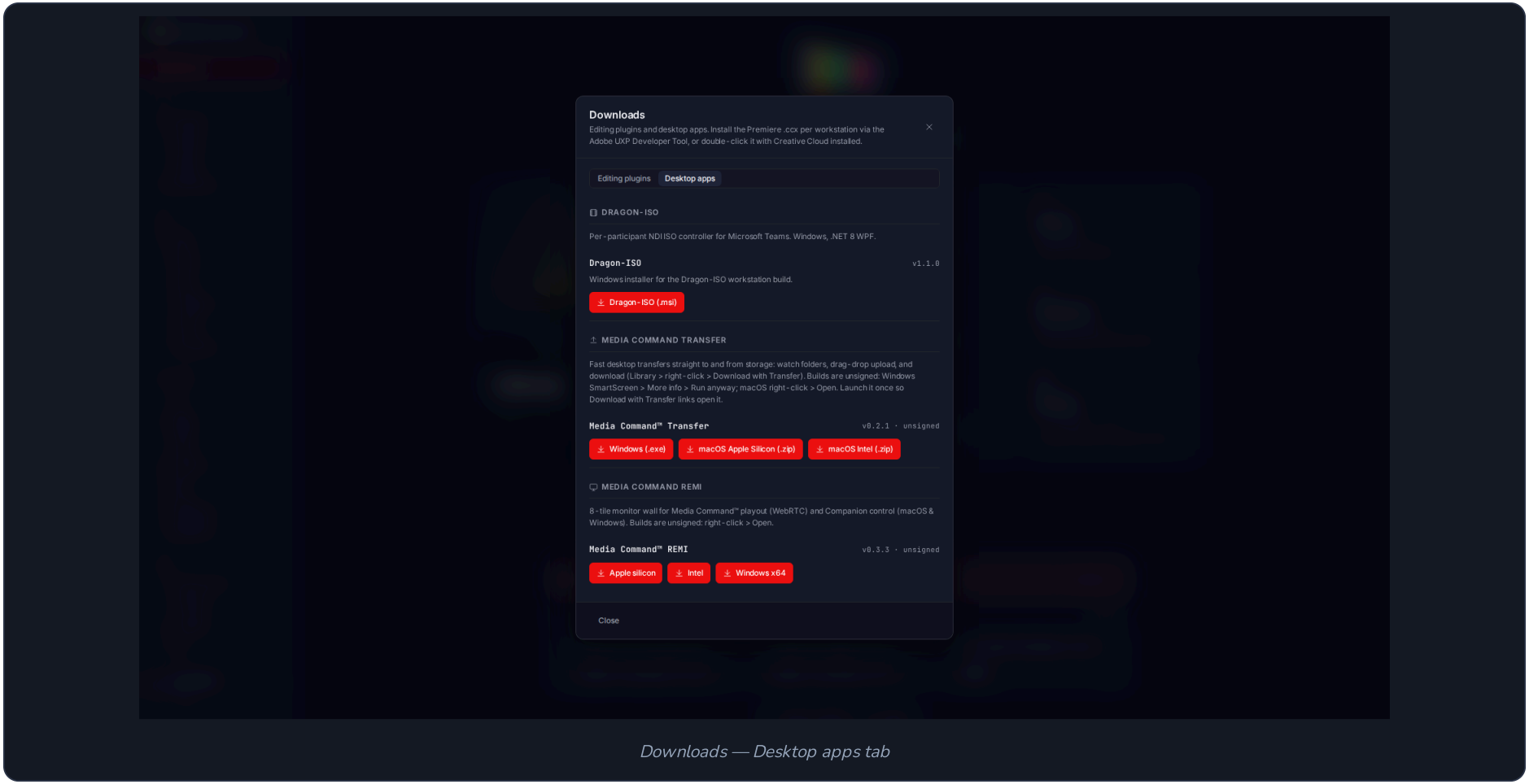
21. Applications & Downloads



Applications — plugin and desktop app distribution



Downloads — Editing plugins tab

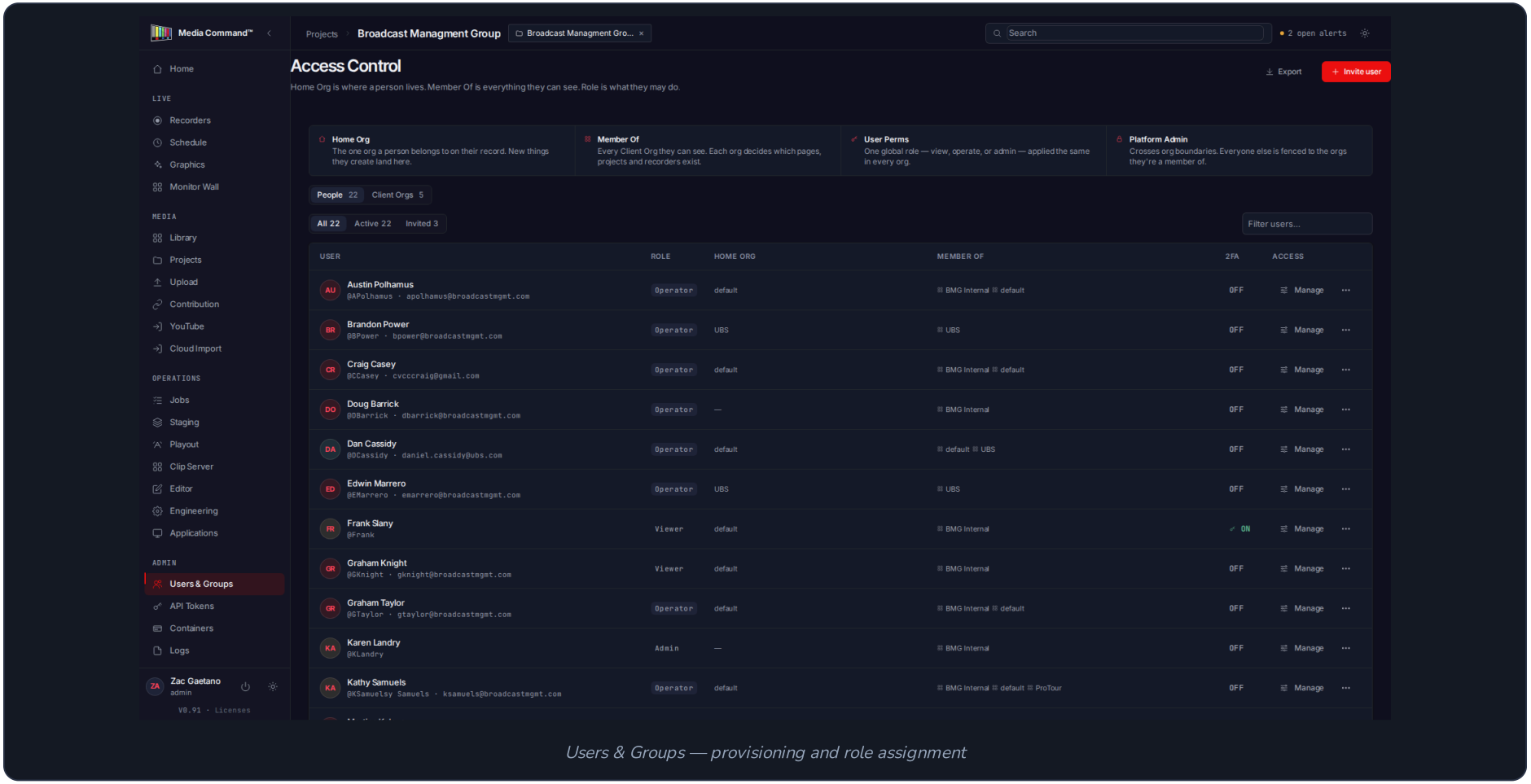


Downloads — Desktop apps tab

Application	Platform	Installer
Premiere Pro UXP Plugin	macOS / Windows	`dragonflight-mam-2.27.6.ccx`
DaVinci Resolve Plugin	macOS / Windows	`dragonflight-resolve-0.1.2.zip`
Media Command Transfer	macOS / Windows	`Media-Command-Transfer-0.2.1`
Media Command REMI	macOS / Windows	`Media-Command-REMI-0.3.3`

Dragon-ISO	Windows	`Dragon-ISO-Setup-1.1.0.msi`

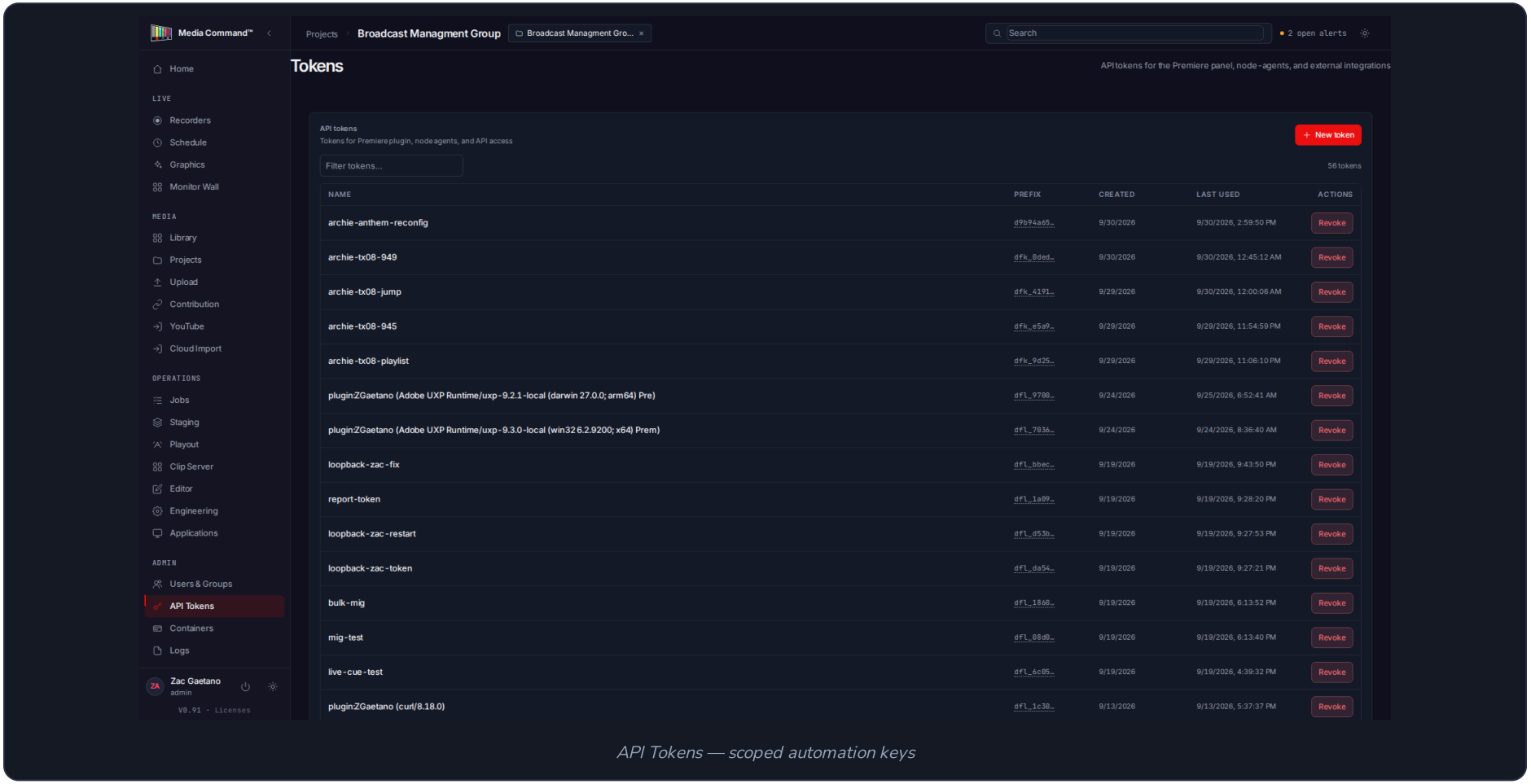
22. Users & Groups



Users & Groups — provisioning and role assignment

User provisioning, group management, and role assignment with per-project access boundaries.

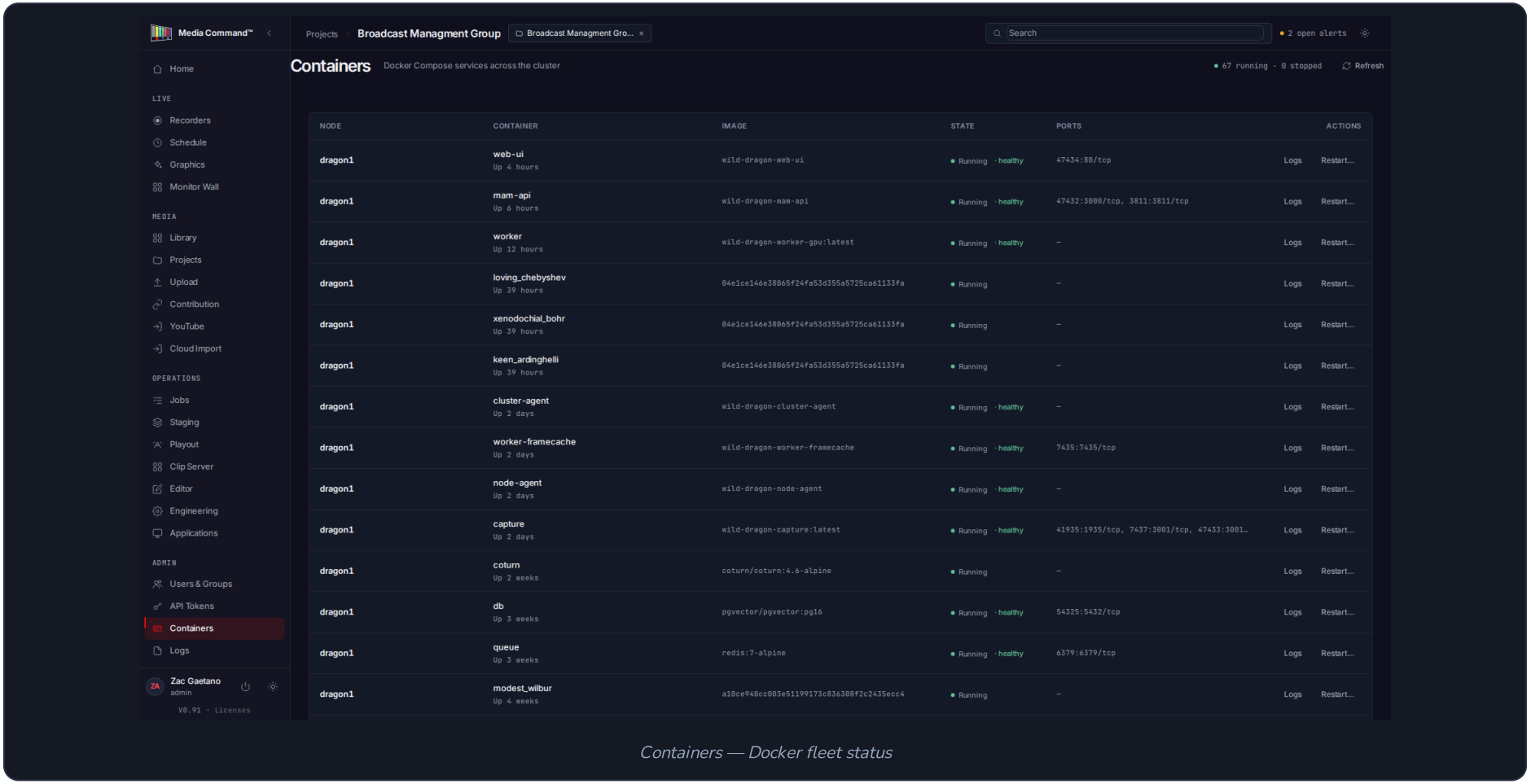
23. API Tokens



API Tokens — scoped automation keys

Scoped API keys for automation pipelines. Supports expiration and instant revocation.

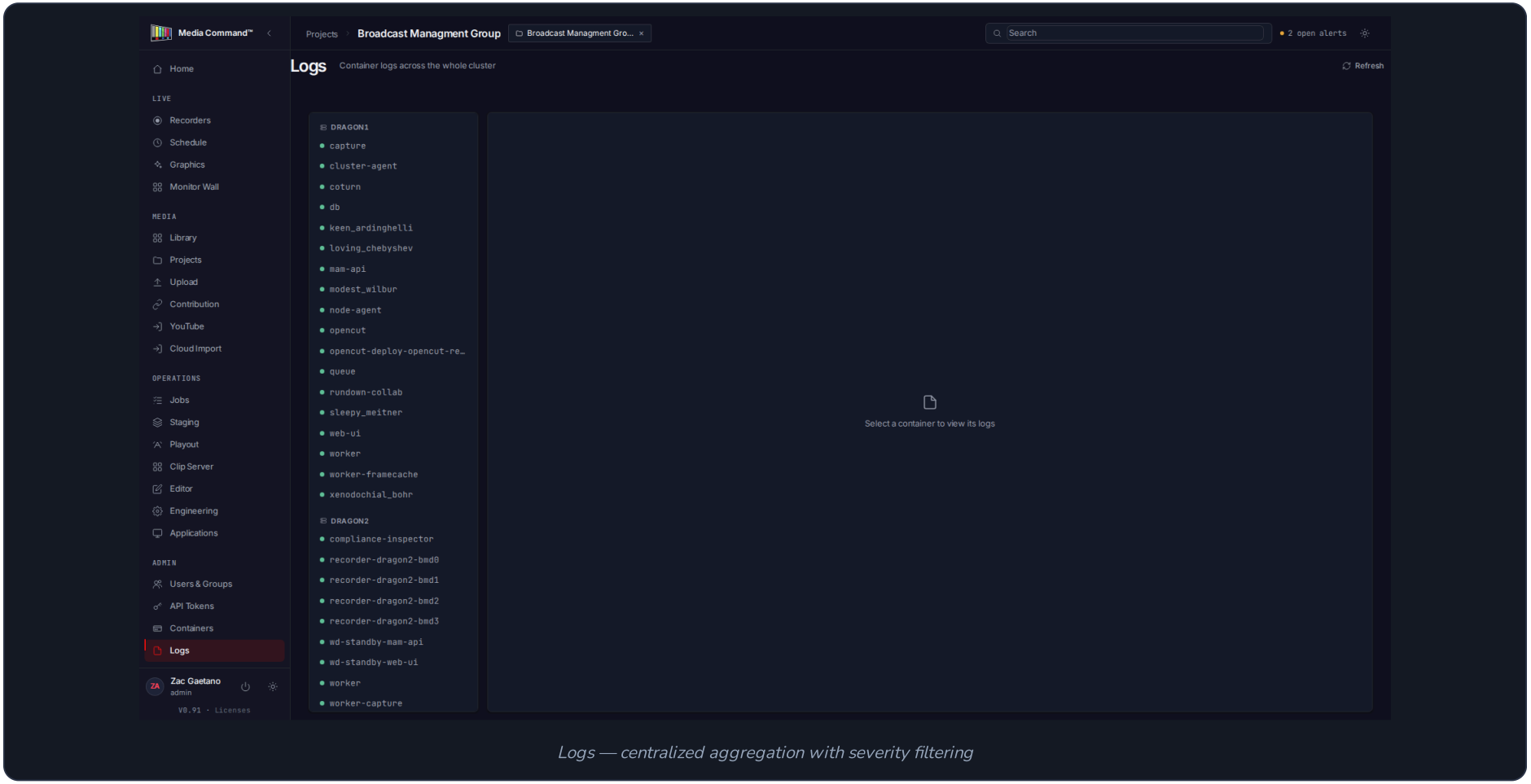
24. Containers



Containers — Docker fleet status

Docker container fleet status across all cluster nodes with resource metrics and lifecycle controls.

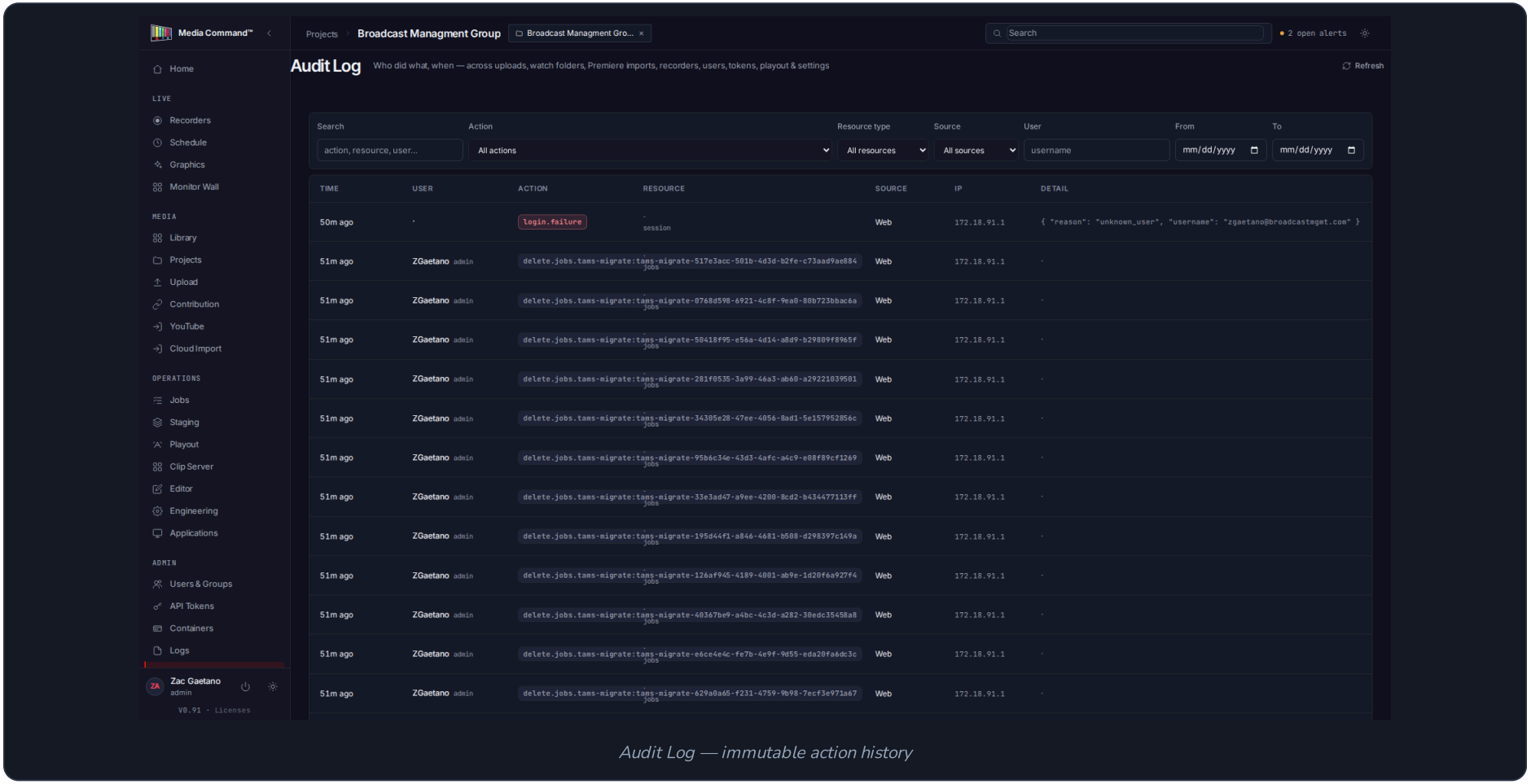
25. Logs



Logs — centralized aggregation with severity filtering

Centralized log aggregation from all nodes with severity filtering and regex search.

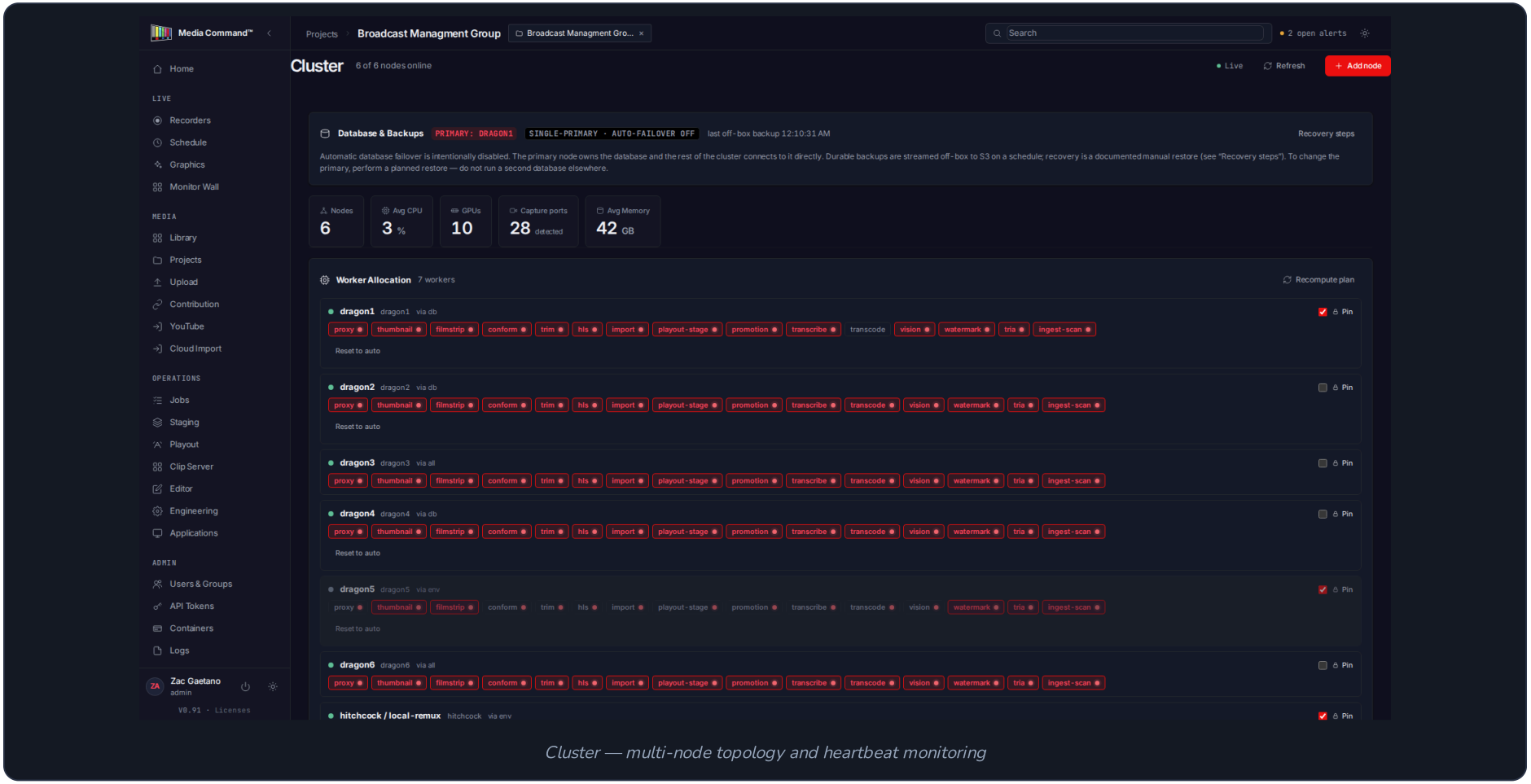
26. Audit Log



Audit Log — immutable action history

Immutable record of all user actions. Captures user ID, IP, timestamp, and state changes.

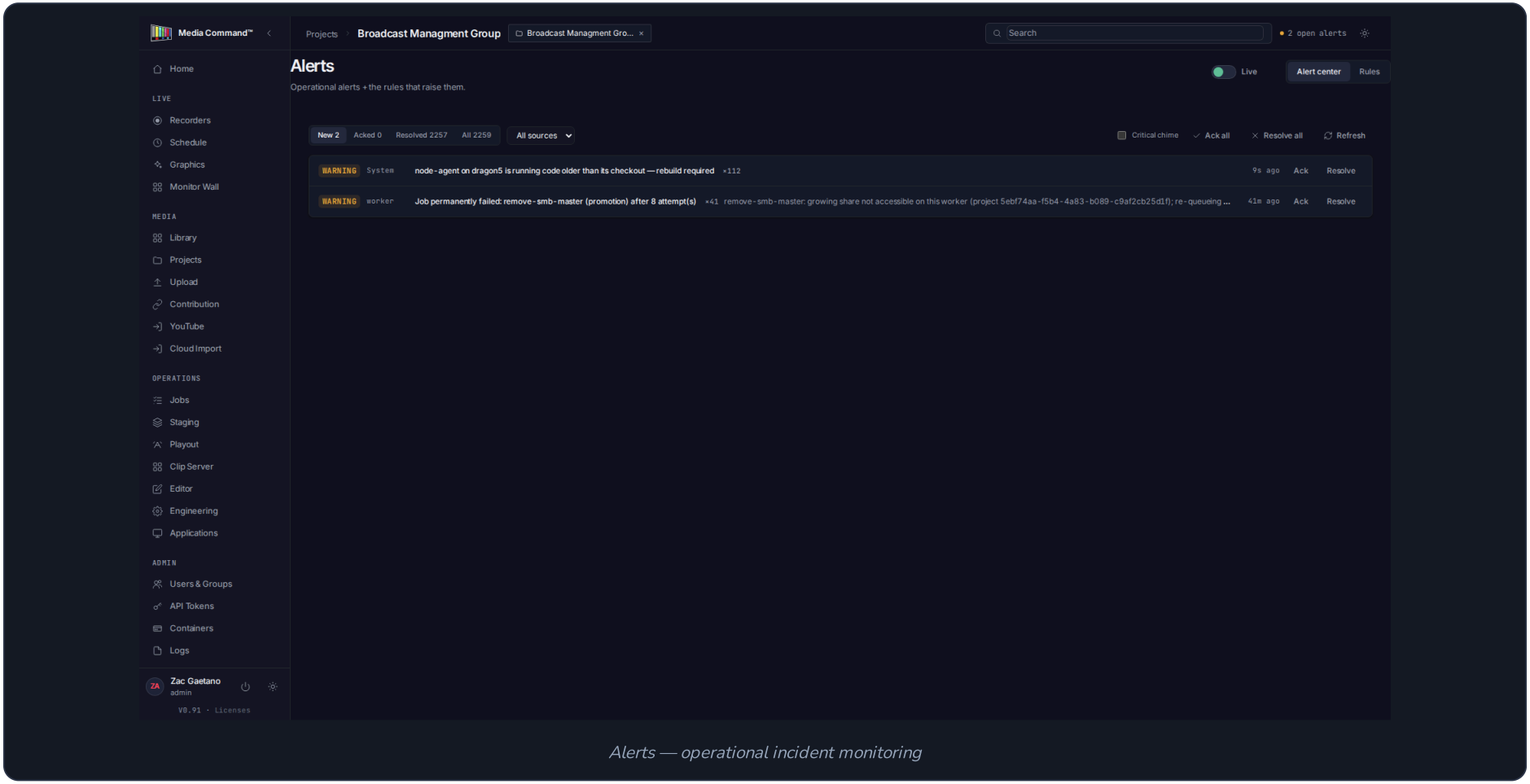
27. Cluster



Cluster — multi-node topology and heartbeat monitoring

Cluster topology visualizer with heartbeat and connectivity monitoring.

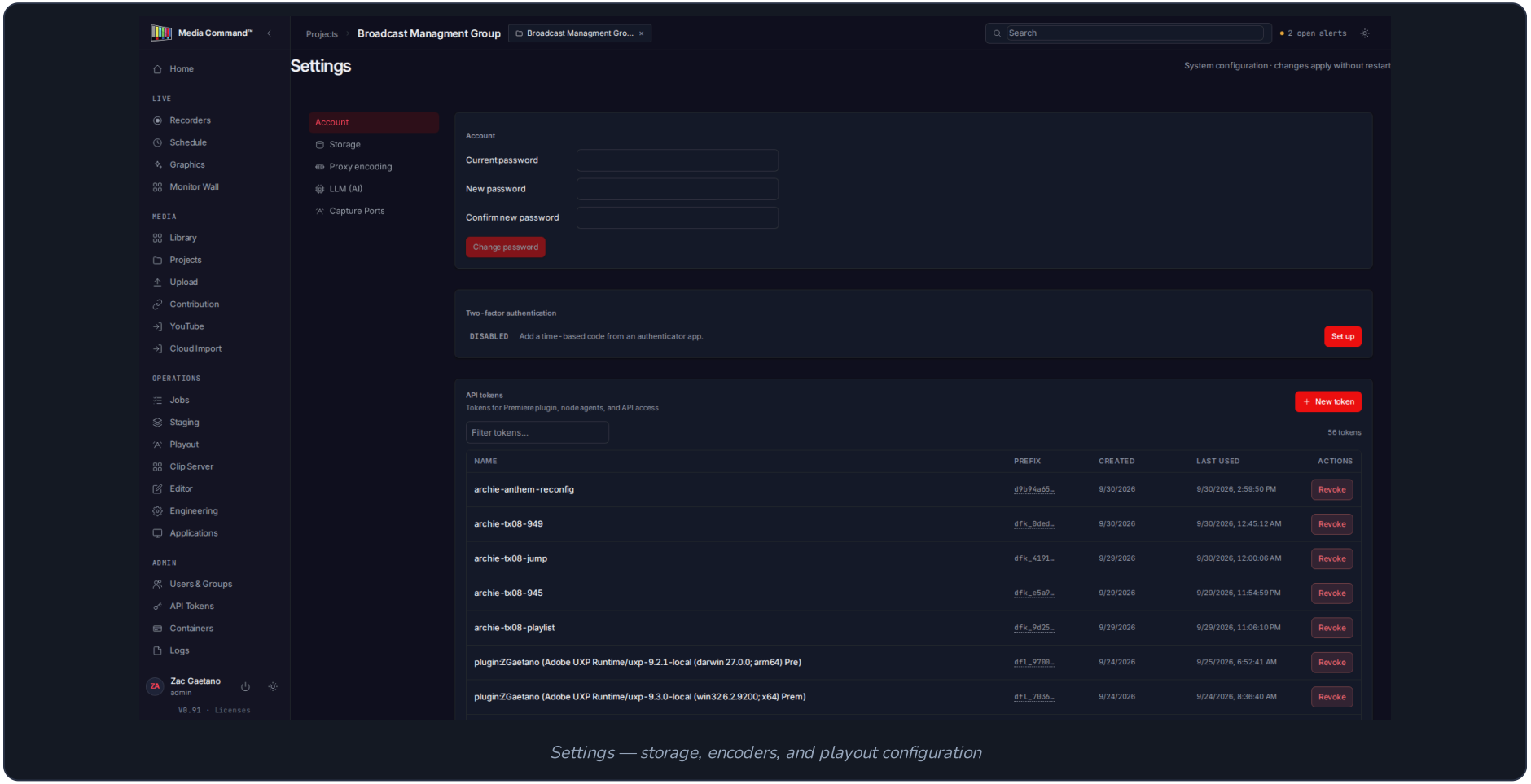
28. Alerts



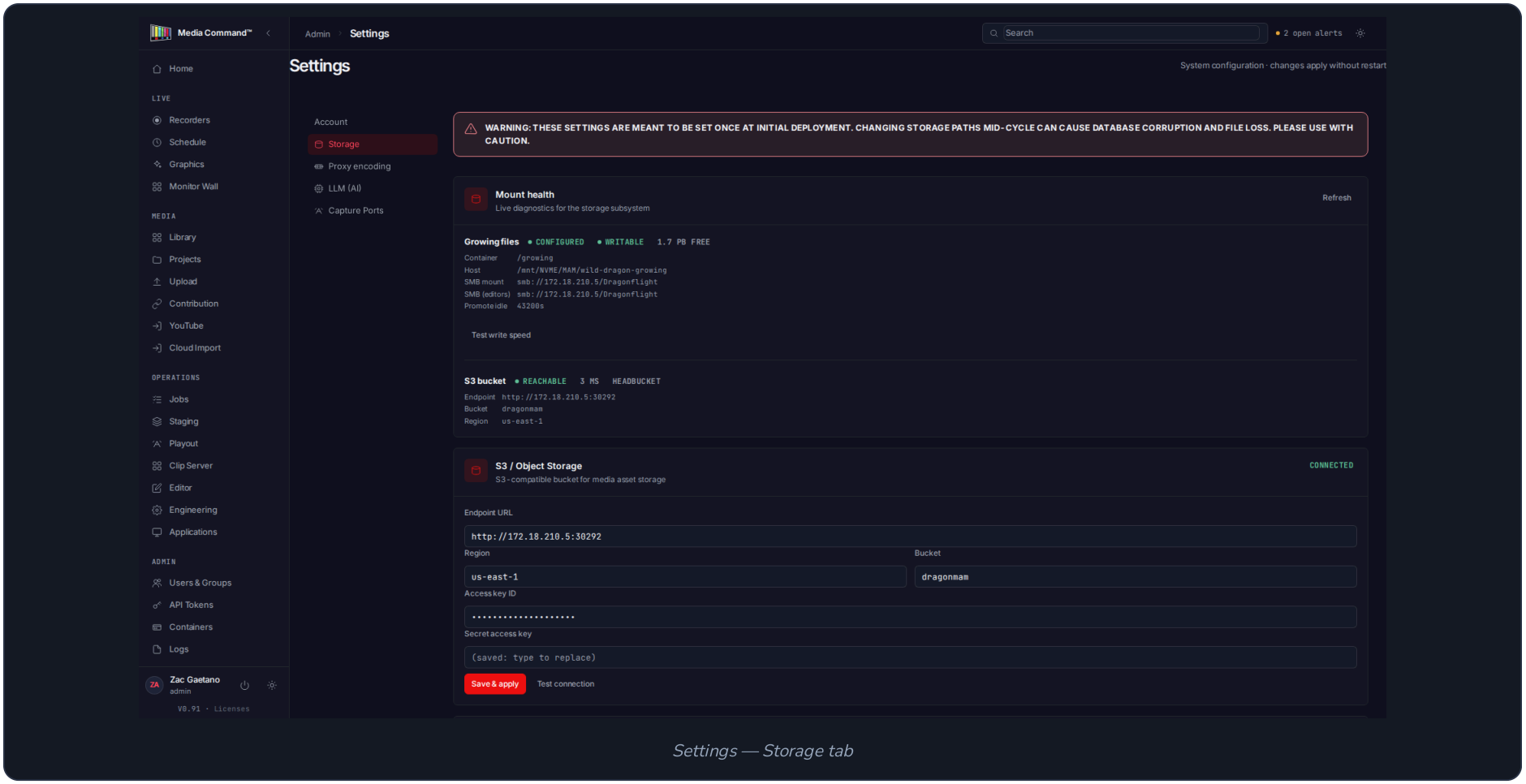
Alerts — operational incident monitoring

Active alerts (storage thresholds, signal loss, worker heartbeat drops). Webhook notifications to Discord, Slack, or email.

29. Settings



Settings — storage, encoders, and playout configuration



Settings — Storage tab

Central configuration for storage paths, S3 endpoints, transcoder profiles, and playout channel topologies.

30. Adobe Premiere Pro UXP Plugin

Package: `dragonflight-mam-2.27.6.ccx` · **Requires:** Premiere Pro 2026 (v26+)

Installation

1. Download the `.ccx` from the Downloads menu.
2. Double-click to install via Creative Cloud, or use the UXP Developer Tool.
3. In Premiere: **Window → Extensions → Media Command™**.

Capabilities

- Browse the MAM library, search assets, import proxy or hi-res renditions.
- Mount live growing TAMS capture streams for edit-while-record.
- Relink proxy edits to full-resolution masters.
- Export sequences directly to MAM project bins.

31. DaVinci Resolve Studio Plugin

Package: `dragonflight-resolve-0.1.2.zip` · **Requires:** Resolve Studio 18.5+

Installation

1. Download and extract to the Workflow Integration Plugins directory.
2. In Resolve Studio: **Workspace** → **Workflow Integrations** → **Media Command™ MAM**.

Capabilities

- Browse and search the MAM catalog.
- Import assets directly into the Resolve Media Pool.

32. Media Command Transfer

Platform	File
macOS Apple Silicon	`Media-Command-Transfer-0.2.1-mac-arm64.zip`
macOS Intel	`Media-Command-Transfer-0.2.1-mac-x64.zip`
Windows x64	`Media-Command-Transfer-0.2.1-win-x64.exe`

High-speed desktop uploader with watch folder automation, drag-and-drop upload, and `mediacommand://` deep-link protocol for browser-initiated downloads. Builds are unsigned.

33. Media Command REMI

Platform	File
macOS Apple Silicon	`Media-Command-REMI-0.3.3-mac-arm64.zip`
macOS Intel	`Media-Command-REMI-0.3.3-mac-x64.zip`
Windows x64	`Media-Command-REMI-0.3.3-win-x64.exe`

- Up to 8 tiles per window with configurable grid layouts.
- Proxy / QC mode toggle for full-quality NVENC streams.
- Audio metering with channel pair selection, solo, and mute.
- Broadcast OSD overlays (tally, timecode, safe area, crosshairs).
- Multi-window, multi-display support.
- HTTP REST API and WebSocket for Bitfocus Companion / Stream Deck.
- Builds are unsigned.

34. Dragon-ISO

Package: `Dragon-ISO-Setup-1.1.0.msi` · **Platform:** Windows 10/11

Microsoft Teams NDI ISO controller. Extracts individual participant streams, normalizes to broadcast standards, and re-emits as clean NDI sources with optional disk recording.

- REST & WebSocket on `127.0.0.1:9755`.
- OSC server on UDP `127.0.0.1:9000` for Companion and TouchOSC.
- Mobile web controller at `http://localhost:9755/ui`.

35. Safety & Runbooks

> **Media Deletion Protocol:** Deleting an asset moves it to the project's Recycle Bin. Permanent purge requires admin credentials and confirmation dialogs.

Live Growing File Editing

1. In **Recorders**, select the target port and set codec to H.264 intra or HEVC intra.
2. Click **Create Recording**.
3. In the **Premiere Pro plugin**, locate the active recording (red `LIVE` badge) and click **Mount Growing File**.
4. Edit immediately — new segments are recognized dynamically.