

Building a Unified Production Platform for Large-Scale Live Delivery



Warner Bros. Discovery standardizes live sports production across Olympic and year-round workflows using Grass Valley® AMPP®, Framelight X and Payout X.

Delivering Olympic coverage across Europe requires production teams to manage hundreds of feeds, multiple editorial groups and simultaneous live events. For Warner Bros. Discovery, the Olympic Winter Games Milano Cortina 2026 formed part of a longer-term shift towards a unified production platform designed to support both large-scale events and daily output.

“Milano Cortina was my seventh Olympics working with Eurosport and Warner Bros. Discovery,” says Emmanuel Jacky, Senior Director, Engineering, MAM, Post-Production & Payout, Warner Bros. Discovery Sports. “Each Games brings different operational challenges, but this one highlighted how much our production infrastructure has evolved in recent years.”

A platform built for continuity

That evolution has taken place over several Games cycles. Earlier workflows were typically structured around individual events or teams, with infrastructure distributed across multiple locations. While effective in isolation, that model introduced duplication and limited flexibility when scaling operations.

“Over several Olympics we have moved towards a shared production platform connecting engineers, operators and editorial teams across our operations,” Jacky explains. “The aim has been to support both major live events and day-to-day sports production through the same infrastructure.”

Built on Grass Valley’s AMPP and underpinned by Framelight X and Payout X, the unified platform supports Warner Bros. Discovery’s Olympic coverage alongside its regular sports output while adding capacity for new channels and services.

“Today, through Grass Valley’s Framelight X, teams can access the same production environment from multiple locations. During the Milano Cortina Games we saw an average of more than 600 users per day across Europe and the US and around 680 concurrent users working on the platform at peak.”

At the core of the system is a microservices-based architecture, allowing individual components to be updated independently.

“Supporting that level of collaboration requires infrastructure that can evolve without interrupting live production,” he says. “The core AMPP-powered platform operates on a microservices architecture, with the Framelight X workflow engine connecting ingest, content management, central LiveTouch X replay management, payout (Payout X) as well as post production. This allowed engineers to update individual components without affecting the wider system.”



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It also changed how the team approaches system updates and expansion. “In the past, system upgrades were often lengthy processes requiring updates to each individual user’s computer, but changes can now be introduced gradually while production continues.”

For Milano Cortina, the platform was reconfigured in software rather than rebuilt for the event, with the Warner Bros. Discovery and Grass Valley teams working together to reconfigure the core AMPP platform through software-defined production for the event. “Doing it this way instead of rebuilding it as a one-off workflow also changed how we introduced new services, by extending existing resources rather than deploying new infrastructure.” Jacky’s team were able to launch additional pop-up channels alongside core services, without disrupting existing operations.

Central to this model is Framelight X as a story-centric, continuous media production environment. “Framelight X federated all of our content into a single system, giving us streamlined

access to everything we needed — from ingest through to editing and publishing — from any location,” Jacky explains.

Managing scale across ingest and content workflows

The Winter Games run alongside a full international sports calendar, increasing the demands on ingest and content management. “In addition to our Olympics coverage, we were also delivering our regular sports output across Eurosport and TNT Sports, which meant managing multiple events simultaneously,” says Jacky. “That complexity is added to by the Winter Games being more susceptible to weather delays and last minute rescheduling,” as experienced by Jacky’s team at Milano Cortina as events were moved at short notice due to snow delays.

To address this, Warner Bros. Discovery focused on expanding recording capacity and modernizing ingest workflows. “We worked closely with the Grass Valley team on a migration project that modernized our ingest workflow and expanded recording capacity,” he explains, describing a move away from legacy

GV I/O recording workflows using CMF formats towards an architecture based on MXF and Elastic Record X, allowing ingest to remain local while processing resources scaled across distributed infrastructure.

“At the same time, the platform operates as a single production environment, with media asset management, playout, production tools and post-production capabilities all connected to the same core storage. Content doesn’t need to be moved between systems, and is accessible from any tool, even during ingest, across 22 supported languages.”

Across the Games, the platform handled more than 62,000 hours of recorded content, with peaks exceeding 4,000 recording tasks in a single day. To support this, additional recording ports were introduced to manage peak demand.

“As well as simplifying operations and support while ensuring content is immediately available to editorial teams, it also reduces duplication across systems and helps teams deliver more content, more efficiently.”

Asset discoverability was also addressed following earlier events. “When hundreds of feeds are recorded simultaneously, search and discovery become critical parts of the workflow,” he notes. “We focused on improving Framelight X’s search capabilities and metadata handling with the Grass Valley team, and the difference was stark. Operators were able to locate relevant material much faster.”

This had a direct impact on editorial output, reducing the time required to locate, edit and publish content across both linear and digital platforms.

Flexible playout and regionalization

Alongside ingest, playout workflows were adapted to better support live production. “We developed dedicated user interfaces within Playout X to support live operations and simplify how commercial breaks are managed,” says Jacky. One of these is the Sports UI, designed for use within the production control room.

“Operators in the PCR gallery are now able to manage commercial breaks directly during live production, without needing to be connected to the central playout system. It gives production teams more flexibility during live events while allowing central teams to remain focused on international and master playlists.”

Regionalization was also extended through the same platform. “Alongside a primary international feed, we operate multiple regional channels that can either follow the main feed and replace breaks with local content, or opt out entirely to deliver rights-specific programming,” he says. “We can then maintain a single master playlist while supporting multiple localized outputs in a more efficient and scalable way.”

The team is now able to fully scale channel output without duplicating core workflows, maintaining consistency while adapting content for different markets.

Across the Games, the system supported 42 linear channels in 22 languages, alongside more than 100 digital channels and more than 4,000 live events across linear and digital platforms.

Resilience and distributed production

Operational resilience was built into the platform across two primary production centers in Paris and London. “The system is designed so that either location can assume control if required,” Jacky explains. “Rather than relying on disaster recovery processes that activate only during emergencies, the platform operates in a balanced mode where redundancy is already built into day-to-day operations.”

As both locations operate within the same environment, the approach ensures continuity without requiring a separate failover process.

The same infrastructure supports a distributed production model, reducing the need to position large teams and equipment on site. “For some workflows it is no longer necessary to move large numbers of people or equipment to every event location. Infrastructure can remain in central data centers, cloud or any hybrid environments, while production teams connect remotely.”

For Milano Cortina, that model was applied in practice. “I was based in Paris rather than being onsite in Italy,” Jacky notes. “From a production perspective this allows us to coordinate resources more efficiently across multiple events.”

The Scale of Milano Cortina Production

Core Platform

- *AMPP-powered unified production environment*
- *+103% growth in viewing hours vs Beijing 2022*

Media Asset Management (Framelight X)

- *610 average daily users*
- *680 peak concurrent users*
- *62,000 hours recorded*
- *4,383 peak daily recording tasks*

Playout (Playout X)

- *42 linear channels*
- *110 digital channels*
- *22 languages*
- *4,035 live events (linear)*
- *974 live events (digital)*

Post-production

- *1,000 average daily render jobs*
- *18,500 total render jobs*
- *1,785 projects delivered*



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Emmanuel Jacky, Senior Director, Engineering, MAM, Post-Production & Playout, Warner Bros. Discovery Sports

Outcome

The Olympic Winter Games Milano Cortina 2026 formed part of an ongoing process of refining a unified production platform that supports both peak event delivery on an Olympic scale, and continuous high-volume, high-quality live sports output.

“Each event adds experience that feeds into the next stage of development,” Jacky concludes. “The AMPP-powered platform – driven by Framelight X and Playout X – continues to evolve alongside the production requirements it supports, and gives us the freedom and flexibility to evolve our production capabilities along with it.”

That process now extends into upcoming productions such as the French Open Tennis Championships at Roland Garros, alongside further development of the platform across the Warner Bros. Discovery portfolio, including additional media platforms for other channel groups.

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CS-PUB-3-1104A-EN

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