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Cloudfirst Future Proofs 100 Years of NHL Hockey History with a Zero Impact Archive Strategy

Preserving a century of Hockey while enabling cloud scale innovation

For more than a century, the NHL has captured and preserved the defining moments of professional hockey. This archive, spanning historic games, legendary players, iconic venues, and cultural milestones, represents one of the most valuable sports media collections in the world.

By the time this transformation began, the NHL was managing approximately 15 petabytes of archived content held on an on-premises proprietary tape based legacy archive tightly integrated with an aging MAM system. While still supporting daily production, the aging and proprietary platform introduced growing operational risk, long term sustainability concerns, and limited flexibility for future innovation.

The NHL required a strategy that would modernize its archive without disrupting live production or editorial workflows, while guaranteeing preservation grade integrity and enabling long term accessibility. Cloudfirst was selected to design and deliver an archive transformation strategy that would protect current operations and ensure the archive remains accessible for generations to come.

The Challenge

The archive underpins every aspect of NHL content production, from acquisition and editing to restoration and reuse. Any disruption would directly impact live operations. The NHL also relied on highly specific capabilities within its legacy archive environment, including timecode accurate partial restores, which had to be preserved across both old and new systems.

At the same time, the league needed to begin transitioning away from proprietary, tape-based infrastructure, reduce vendor lock-in, and create a scalable, hybrid architecture that could support both on-premises production and cloud-based resilience. The transformation had to occur transparently, allowing legacy systems to remain operational for as long as necessary while a new archive foundation was established in parallel.

Cloudfirst's data driven archive modernization

Cloudfirst began the engagement with its Legacy Archive Audit and Modeling Service, deploying a team of data scientists and archive engineers to analyze more than a decade of archive growth, usage patterns, and performance characteristics.

This forensic analysis produced a detailed and insightful report containing visualizations, key performance indicators, and forward looking cost and capacity models. These insights provided the NHL with the clarity required to build a robust internal business case for archive modernization, balancing technical requirements with long-term financial sustainability.

Cloudfirst also worked closely with the client to develop multiple five-year Total Cost of Ownership (TCO) scenarios, comparing the continued operation of the existing environment with disaster-recovery-only models and a hybrid, active archive architecture in the cloud. These scenarios examined various cloud storage options, ensuring that each asset would be stored in the correct storage class, finding the careful balance between storage and access SLAs and cost. This enabled the NHL to identify the most efficient, cost-effective, and flexible transformation path across its entire archive, with a full five-year view into the future.

With a clear, data driven roadmap in place, the NHL approved the transition and selected Cloudfirst's Archive Migration as a Service (AMaaS) to manage and execute the end-to-end migration as a fully managed service.

A hybrid archive designed for zero Impact

The NHL's target architecture was intentionally hybrid. High performance on-premises VAST storage continues to support content acquisition, editing, and active production workflows, while AWS provides a geographically independent archive tier for disaster recovery, business continuity, and long-term preservation.

Throughout the migration, Cloudfirst ensured that assets never left the NHL's control. All proprietary wrappers and unnecessary dependencies were removed, delivering clean, open copies of every media asset outside of the legacy archive system. This approach eliminates vendor lock-in while allowing the NHL to maintain the legacy archive for as long as operationally required, with a clear path to eventual decommissioning this costly and aging infrastructure once migration is complete.

The migration process is preservation grade, imperative to NHL, guaranteeing exact replication of content to the chosen storage platforms and ensuring long term authenticity and integrity.

Decoupling applications to reduce risk

A critical complexity in the NHL environment was the legacy MAM system, which was unable to directly orchestrate across multiple modern storage platforms and cloud services. Replacing or upgrading this system prior to migration would have introduced significant operational risk.

To solve this, Cloudfirst deployed its API Emulator (API-E) abstraction platform. API-E intercepts all communications between user-facing systems and the legacy archive, transparently routing commands across the legacy archive, on-premises VAST storage, and AWS. From the perspective of the MAM and other production or homegrown systems, nothing changes, they continue to operate as if connected to a single archive platform while being able to immediately leverage the benefits of cloud migrated assets to support sustaining operations.

API-E fully supports timecode spaced partial restores from Vast and AWS in addition to all existing archive workflows, ensuring seamless operation across both old and new environments. Importantly, API-E introduces no proprietary wrappers or interfaces. Once a new enterprise MAM system is deployed and able to intelligently orchestrate over these various old and new storage systems and services, the NHL can discontinue API-E without penalty. This allows the legacy archive system to gracefully age out of the environment with zero operational risk.

All new content is automatically replicated to the legacy archive, on-premises Vast storage, and AWS, minimizing future migration requirements and ensuring continuous protection of newly created assets and no need to subsequently remigrate newly created or acquired assets.

Metadata driven intelligence

In parallel with media migration, Cloudfirst migrated and preserved all legacy MAM metadata while extracting and normalizing additional metadata during the process. Assets are dynamically reorganized using program, player, team, and venue intelligence, enabling richer discovery and future automation. Further, this invaluable metadata is also used to add immutable metadata tags to each asset in Vast and AWS allowing future MAM-independent and metadata aware search, retrieval, and automation workflows to be created.

This important metadata is stored as JSON sidecar files for long-term reference and can be automatically integrated into future MAM, media supply chain, and automation systems directly. These valuable metadata manifests, containing asset and technical metadata, can help enable a seamless enterprise MAM transformation in the future.

The Outcome

- Zero impact migration of 15PB of historic NHL content
- Full preservation of over 100 years of professional hockey history
- Seamless parallel operation of legacy and next generation archive platforms
- Elimination of proprietary wrappers and long-term vendor lock-in
- Hybrid archive supporting live production, disaster recovery, and business continuity
- A future-proof foundation for AI, ML, and automated content workflows
- A framework for a seamless future enterprise MAM transformation