Migration & Deployment Proposal

FC Test United x ScorePlay

Transitioning from Legacy NAS to AI-Enriched Cloud Workflows

> This document outlines a recommended migration and deployment approach for FC Test United to transition from a legacy NAS-based video archive to the ScorePlay platform, while enabling automated ingestion of new content via a watchfolder.
>
> The proposed approach is based on the information provided during the discovery phase and is designed to modernize asset discovery and metadata searchability without disrupting ongoing broadcast operations.

Context & Key Assumptions

FC Test United stores historical and newly generated video assets as MXF files on a legacy NAS. Files follow a structured naming convention:

```
{match_id}_{player_id}_{timestamp}.mxf
```

Example:

```
M1234_P5678_20240420T153000.mxf
```

Some video files are accompanied by an optional XML sidecar (same basename) containing additional contextual metadata.

Key assumptions:

- Filename structure is consistent for the majority of the archive
- XML sidecars are additive and not required for successful ingest
- No media transformation or re-encoding is required as part of the migration

Technical Architecture

Infrastructure: The ScorePlay Intelligent Agent

The Agent acts as a high-performance pass-through buffer between legacy infrastructure and ScorePlay cloud platform. No data is permanently stored on this machine, it exists solely as an intelligent conduit.

Requirements:

Component	Specification
Operating System	Ubuntu, Centos (Recommended) or Windows Server
CPU	4 vCPU
RAM	16GB
System Disk	100GB SSD
Storage Access	SMB/NFS Read/Write to legacy NAS & Live Watchfolders

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Network & Security Architecture

"Outbound-Only" connectivity minimizes attack surface while maintaining seamless data flow:

No Inbound Access
Zero port forwarding or VPN requirements. Firewall remains fully closed to external traffic.

Outbound Protocol
Port 443 (HTTPS/TLS) only

Whitelisted Endpoints
api.scoreplay.io (Command & Control) and *.s3.amazonaws.com (Data Transport Layer)

Triple-Layer Metadata Strategy

Comprehensive metadata enrichment ensures 100% searchability from Day 1:

01

Structural (Filename Parsing)

Extracts {match_id}, {player_id}, {timestamp} from filenames, linking assets to Match Objects and primary players.

02

Contextual (Dalet connecter XML Sidecars)

Custom connector extracts Competition, Season, and time-coded event markers (ex: Goals, Red Cards, Substitutions).

03

Visual (AI Analysis)

ScorePlay Computer Vision detects additional players, performs OCR, and identifies scoreboard graphics for invisible metadata.

Bandwidth & QoS Strategy

Sophisticated Quality of Service scheduling protects business continuity:

Office Hours (09:00–18:00)
Bandwidth capped at 200Mbps to preserve network capacity for critical operations and live broadcasts.

Off-Peak (18:00–09:00)
Unthrottled transfer for maximum ingest speed.

Data Integrity
100% of transfers verified via MD5 Checksums ensuring zero data loss or corruption.

Critical Path for Kick-off

To maintain the 5-week timeline, the following must be provisioned by FC Test United IT prior to the Day 1 Discovery Phase:

Infrastructure Approval

Final sign-off on VM specs and OS environment (Ubuntu/Windows).

Network Whitelisting

Confirmation that outbound Port 443 access to api.scoreplay.io and AWS S3 endpoints is active.

NAS Access

Read/Write permissions granted to the VM for both legacy archive paths and the designated Live Watchfolder.

Sample Data

Provision of 10-20 "Golden Samples" (MXF + corresponding Dalet XML) for parser validation.

Architecture: Core vs. Custom

Defining the ScorePlay Service Boundary

It is vital to distinguish between standard platform features and the custom engineering work tailored for FC Test United.

Core ScorePlay Product (Standard)

- Computer Vision (CV): Automated player tagging and OCR.
- Filename Parsing: Core logic for structural metadata extraction.
- Agent Binary: The standard intelligent ingest engine.
- Cloud Storage/CDN: The underlying Pulse infrastructure.

One-off Custom

- Dalet XML Connectors: Bespoke scripts developed to parse your specific video.xml schema.
- QoS Scheduling: Custom configuration of bandwidth windows for your specific network topology.
- Legacy Manifesting: Scripted indexing of the existing NAS archive to identify "Orphan" files.

Note: No changes to the ScorePlay core ingestion pipeline or data model are required for this deployment.

Risk Assessment & Mitigation

Engineering for Resilience

Risk Factor	Impact	Mitigation Strategy
NAS Hardware Failure	Data Loss	ScorePlay performs MD5 Checksum verification before ingest to confirm file health.
Network Instability	Incomplete Uploads	The Agent supports checkpoint-restart; uploads resume from the last successful byte.
XML Schema Drift	Metadata Mismatch	Custom parsing scripts include "Exception Handling" to flag non-standard XMLs for manual review.
Resource Contention	System Lag	QoS Bandwidth capping (200Mbps) ensures broadcast operations take priority over migration.

Implementation & Live Ingest Strategy

5-Week Implementation Timeline

Week 1: Discovery

1

Deploy Agent in "Scanner Mode" to generate a complete manifest of .mxf and .xml files. Identify orphan or corrupt assets requiring attention before migration.

Week 2: Pilot

2

Ingest 50 representative assets to validate XML parsing accuracy and metadata mapping in the ScorePlay UI. Fine-tune configurations based on results.

Week 3-4: Bulk Transfer

3

Execute multi-threaded upload of the complete historical archive. Progress monitoring dashboards provide real-time visibility into transfer status.

Week 5: Cutover

4

Activate Live Watchfolders for automated ingest and decommission legacy manual workflows. Full transition to intelligent cloud operations.

Live Ingest Strategy

Handling "Growing Files" in Broadcast

Broadcast encoders write files incrementally as content is captured. Our Agent uses a sophisticated algorithm to prevent data corruption and ensure bit-perfect ingest:

Monitoring:

The Agent continuously tracks file size and system Lock Status in real-time.

Safety Trigger:

Upload initiates only after the file size has remained static for 5 seconds and the OS releases the file lock.

Result:

Stable, bit-perfect ingest of live broadcast streams with zero frame loss or corruption.

Metadata Synchronization: Preventing Race Conditions

Video files and their XML sidecars often arrive at different times due to encoder timing and network latency. To ensure assets are fully enriched upon arrival:

Waiting State:

Upon detecting an .mxf file, the Agent pauses for up to 60 seconds to allow the corresponding sidecar to arrive.

Pairing:

The system searches for the corresponding .xml Dalet sidecar using filename matching logic.

Ingest:

Once both files are present, they are bundled and uploaded as a single, metadata-rich asset.

Handover & Success Criteria

Definitive Project Completion

The project is considered "Live" and transitioned to Support and Customer Success team when:

Data Integrity

100% of valid archive files verified via MD5 Checksum with zero corruption or loss.

Stability

Live Watchfolder ingest operates for 5 consecutive days with zero critical errors.

Searchability

Media Team confirms successful retrieval of assets via Match ID or Player Name search.

Transition

Formal hand-off from FDE (Thomas Chauvel) to the ScorePlay Account Management and Support teams. Success is validated jointly with the FC Test United media operations team.

Project Contact: Thomas Chauvel, Forward Deployed Engineer

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