

Orchestrating Complex Camera Card, AI-Enhanced & Post-Production Workflows at Scale

EMBRACE POST-PRODUCTION SOLUTION BRIEF

EMBRACE

Business Impact



Accelerates creative workflows and editorial iteration



Enables intuitive, AI-powered content discovery



Maximizes value of existing post-production tools



Reduces manual hand-offs and engineering overhead



Supports hybrid on-prem and cloud operations at scale

Overview

Camera card ingest and post-production workflows are no longer linear hand-offs between systems. Modern studios, broadcasters, and content owners must ingest high volumes of heterogeneous media, enrich it with AI, prepare it for editorial, and accelerate creative iteration—often across multiple sites and hybrid infrastructures.

Embrace Pulse-IT provides an intelligent orchestration layer purpose-built to automate, govern, and connect complex post-production workflows. It coordinates industry-standard tools and AI services—rather than replacing them—into a unified, adaptive system that dramatically accelerates creative processes and enables fast, intuitive editing.

Pulse-IT orchestrates tools such as **Colorfront Transkoder**, **MedialInfo**, **FFmpeg**, **Adobe Media Encoder (AME)**, **Telestream Vantage**, **HiScale FLICS**, **Blackmagic Resolve**, **Avid Media Central Production Management**, multiple MAM/PAM systems, as well as on-prem or cloud-based AI video enhancement and AI-powered content search services.

The Challenge

Organizations managing long-form, episodic, and high-value content face converging pressures:

Extreme media diversity

Camera cards, raw formats, mezzanine files, graphics, and audio assets arrive with varying codecs, wrappers, resolutions, frame rates, and audio layouts.

ABOUT EMBRACE

Embrace excels in the market with its powerful specialized business process management technology for media workflow orchestration.

Embrace emphasizes low-code, human integrations, scalability, and sovereignty, making it a trusted solution for the media and entertainment industries. Its widespread adoption highlights its ability to empower all teams to handle complex mission-critical demands effectively.

Learn more at embrace.fr

Fragmented toolchains

Transcoding, color, AI analysis, search, QC, audio processing and editorial tools exist—but rarely operate as a coordinated system.

Time-to-edit pressure

Editors need media to arrive editorial-ready, enriched, searchable, and immediately usable.

Distributed & hybrid operations

Post-production spans on-prem facilities, cloud resources, and remote teams.

Operational rigidity

Legacy ingest engines and manual hand-offs slow down iteration and require constant engineering support.

The Embrace Approach

Pulse-IT provides a **policy-driven orchestration layer** that separates workflow logic from tool execution.

Instead of embedding intelligence inside individual systems, Pulse-IT:

- **Orchestrates best-of-breed tools & AI services centrally**
- **Applies conditional logic consistently across workflows**
- **Automates hand-offs between ingest, AI enrichment, creative processing, and editorial**
- **Provides a single pane of glass to accurately monitor and manage workflows spanning multiple products, departments and stages**

This creates a **single, adaptive post-production framework** that responds dynamically to:

- **what media arrives**
- **where it is processed**
- **which tools and AI services should be invoked**
- **how assets are prepared, enriched, and delivered for creative use**

Technical Architecture Highlights

1. Event-Driven & Scheduled Ingest Detection

Watch folders and ingest sources are registered dynamically via data tables. Media is detected through frequent scans or event triggers. Pulse-IT identifies intact camera card structures, loose media files, and growing or incomplete transfers.

Ingest only begins once media is confirmed complete and stable.



2. Camera Card & Source Intelligence

Native recognition of camera card directory structures across major manufacturers. Automatic classification determines camera card vs loose media, supported format family, and appropriate processing path. Camera cards are treated as atomic units before downstream processing with tools offered by **Colorfront**, **Telestream**, **HiScale** or equivalent camera-aware engines.

3. Media Analysis & AI-Driven Enrichment

Pulse-IT orchestrates both traditional media analysis and AI services to extract and enrich metadata: codec, wrapper, raster, frame rate, and timecode; audio channel configuration; AI-generated metadata such as speech-to-text and transcripts, object, face, or logo detection, scene and shot segmentation, and semantic video embeddings for search.

AI services may run on-prem or in the cloud and are invoked conditionally based on workflow policies.

4. Conditional Ingest, Enhancement & Processing Paths

Based on media characteristics and business rules, Pulse-IT dynamically orchestrates same-as-source ingest; **rewrapping using FFmpeg- or BMX Avid-based tools**; **transcoding via e.g. Colorfront, Adobe Media Encoder (AME), or Telestream Vantage**; **color, finishing, or creative processing in Blackmagic Resolve**; **audio processing via Blackmagic Fairlight or Emotion Systems**; ingest into MAM and/or PAM; and AI-based enhancement, restoration, upscaling, or analysis.

Each step is selected automatically, ensuring consistency and repeatability.

5. Creative Acceleration with Resolve

Pulse-IT integrates with Blackmagic Resolve to orchestrate creative and finishing workflows: automated hand-off of editorial-ready media via XML, metadata via CSV; assign color grading, finishing, or conform tasks; conditional Resolve workflows based on format, resolution, or project context.

This removes manual coordination between ingest, engineering, and creative teams enabling faster, more intuitive editing and iteration.

6. Editorial-Ready Delivery & Content Discovery

For editorial systems such as Avid Media Central Production Management, Pulse-IT ensures precise format signalling and media flags; correct audio and video mapping; automatic thumbnail generation; and ingest of AI-enriched metadata for fast, intuitive content search.

Ideal Use Cases



Studio and long-form post-production

Broadcaster and streaming workflows



AI-augmented editing and content discovery

Orchestration of best of breed transcoding, processing, finishing, asset management and AI tools



Modernization or replacement of legacy ingest engines

Editors can search, preview, and assemble content using both technical metadata and AI-derived insights.

7. Resource Pool Abstraction & Hybrid Execution

Pulse-IT abstracts processing tools and AI services into logical resource pools, **including AME and Vantage nodes; Colorfront engines; Resolve workstations; AI inference services** (on-prem or cloud); and other tools such as watermarking, advanced scaling, accelerated file transfer etc.

Jobs are routed dynamically using locking and queuing policies, enabling load balancing across sites, controlled concurrency, and seamless hybrid execution.

8. Scriptable Orchestration Across the Stack

Pulse-IT coordinates the full post-production toolchain, including media analysis (Colorfront, MediaInfo, ffProbe, Vantage); transcoding & rewrapping (Colorfront, AME, FFmpeg, BMX, Vantage, HiScale); creative finishing (Resolve); AI enrichment and semantic indexing; and editorial check-in (Avid Media Central Production Management).

Scriptable logic handles edge cases, fallbacks, and complex decisioning that fixed pipelines cannot support.

9. Governance, Autonomy & Observability

Structured data tables act as **configuration layers** (sources, destinations, policies) and **operational memory** (processed assets, deduplication, workflow state).

Dashboards give operators and creatives self-service configuration, real-time visibility, and actionable error reporting.

Engineering retains control without becoming a bottleneck.

EMBRACE

Since 2015, Embrace has been transforming content creation at scale by connecting people, systems, and processes. The company develops advanced automation, orchestration and collaboration solutions for the Media & Entertainment industry and global brands. Embrace aims to unleash creativity and improve performance around video and graphics supply chains.

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