

SMPTE DC • BITS BY THE BAY 2026



# THE LIFECYCLE LIE

What the last Decade with an NFL Franchise Taught Us  
About How Quickly Media Systems Actually Age

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**Jason Paquin** | CEO, Chesapeake Systems

# CHESA

EIGHT YEARS AGO:

*"I stood on this stage and showed you  
a system we were proud of."*

It was modular, battle-tested through a Super Bowl run, and purpose-built to last.  
One of the best system we had ever built.

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**That system has been completely replaced.**

# The 2018 System: By the Numbers

*NFC Championship Game Week — the system under maximum load*

**10,000+**

Workflows during NFC  
Championship Game week

**7,500**

New assets ingested  
in a single week

**865**

Photos checked out, modified  
& redistributed — in one game

**<3 min**

Play-to-editor time  
(down from 1-2 hours)

# Era 1: The Architecture (2014–2022)

## CORE PHILOSOPHY

- Services-driven integration, not point-to-point accidental architecture
- One MAM/ESB at the center, everything orbits it
- Edge systems swap out by changing only one integration point
- Documentation ecosystem built before any integration work began
- Non-technical end users see only what's relevant to their role and content type

## THE 2014 STACK

- Reach Engine (Levels Beyond) — MAM + ESB core
- Quantum StorNext SAN — fiber channel, replicated between both sites
- Quantum AEL500 LTO-6 tape archive at Lincoln Financial Field
- Elemental server for transcoding
- Evertz DreamCatcher — 6-angle game video capture
- Adobe Premiere + Reach Engine search/metadata panel
- Spring XML workflow language / Groovy extensions

# What Made It "Right"

01

## **Services-driven, not “many points to many points”**

One core platform that everything orbited. Edge systems could be swapped without re-architecting the whole.

02

## **Designed for horizontal and vertical growth**

New integration endpoints could be added without rebuilding. The architecture was explicitly built to expand.

03

## **Built for non-technical end users**

Workflow UIs showed only relevant options based on content type, role, and permissions. Seasonal interns could operate it under pressure.

04

## **Support-first mindset**

Full documentation ecosystem — IP sheets, traffic maps, swimlanes, BPM monitoring — built before integration work began.

05

## **Creative users should be creative**

Every automation decision was driven by one goal: remove mundane tasks from editors and designers.

SECTION 2

# Why Good Systems Die

*The system didn't fail. It became obsolete.*

# The Forces That Killed a Good System

1

## Vendor Direction Shift

EXPIRATION DATE

Levels Beyond (Reach Engine) was acquired by Signiant and the roadmap changed. By 2022, CHESA was running upgrades and database migrations of the platform just to stay compatible, yet gaining no new capability. The platform roadmap had moved away from the use case the system was built around.

2

## Cloud & SaaS Maturity

LANDSCAPE SHIFT

In 2014, cloud wasn't yet viable. By 2024, Mimir (cloud-native MAM), helmut.cloud (workflow orchestration), and Backblaze B2 (cloud archive at a fraction of S3 pricing) were not only viable, they were operationally *superior* to on-prem equivalents.

3

## Workflow Demands Outgrew the Platform

SCALE MISMATCH

The Eagles' content operation scaled dramatically — *more platforms, more content types, more users, more urgency*. The system handled game day brilliantly, but daily content production needed orchestration that could run at scale without custom XML for every new workflow.

# The Forces That Killed a Good System (cont.)

4

## Storage Economics Changed

LIABILITY

The LTO-6 tape “Archive” library failed intermittently and went unused from 2020–2024. At migration time: 40 tapes in a 100-slot library, only 23 with data. It simply wasn't an archive. It was a lower-cost second tier of on-prem storage that the facility couldn't maintain. Cloud object storage (Backblaze B2) replaced it entirely, at a fraction of S3 pricing, with full accessibility from anywhere.

5

## The Operational Mandate Shifted

BUSINESS REQUIREMENTS  
CHANGE

The Eagles didn't just need a system refresh. They needed to transform from a facility-bound, on-prem production operation into a cloud-connected, multi-platform content engine — accessible from home, from away games, and from international locations.

The old system was built for a world where the primary output was game day content for the stadium and broadcast partners. The NFL now plays games abroad. Editors work remotely. Every day is a production day.

SECTION 3

# The System That Replaced It

*Era 2: 2024–Present*

# Era 2: The New Architecture (2024–Present)

## THE 2024 STACK

Component	Role
<b>Mimir</b>	Cloud-native MAM — media comes to the user, not the other way around
<b>Helmut4</b>	Workflow orchestration, agent-based, integrated into Adobe CC
<b>Quantum Xcellis SAN</b>	~1PB On-prem production storage, sized for ~2 seasons
<b>Backblaze B2</b>	Cloud archive + DR, geo-replicated East/West — replaces a Replica SAN and LTO Archive entirely
<b>Adobe Premiere Pro</b>	Continuity from Era 1, with Helmut4 export panel integrated
<b>5-node Docker Swarm</b>	Repurposed Reach Engine servers — runs Kelda + Helmut4
<b>helmut.cloud</b>	~80,000 workflow executions/month — custom JS asset retitling

## AT SCALE

**800TB+**

Content under management

**80K**

workflow executions per month



# The Philosophy Shift

Era 1: 2014	Era 2: 2024
On-prem everything; security mandate required it	<b>Hybrid: on-prem production SAN + cloud MAM + cloud archive</b>
Custom Spring XML for every workflow	<b>Agent-based execution at scale via helmut.cloud — low-code/no-code with JS extension</b>
One platform doing both MAM and ESB (Reach Engine)	<b>Separated concerns: Mimir for MAM, Helmut for orchestration</b>
LTO tape archive; manual, failure-prone, eventually abandoned	<b>Cloud object storage (Backblaze B2) with geo-replication — real off-site DR</b>
Home Game days were the peak use case	<b>Continuous content production is the baseline — every day</b>
Sequential delivery: ingest → proxy → transfer to endpoint	<b>Parallel: delivery and MAM ingest happen simultaneously from AME</b>

# More Agile at Every Level

## Distributed Rendering

No single transcoder bottleneck. Any workstation can pick up render jobs via Helmut4. Two dedicated Mac Studios handle YouTube and web delivery credentials. The queue can't be locked by one big ingest job.

## Remote Access is Real Now

In 2018, moving the application to Cloud was on the "perpetual modernization" slide. Editors now start cuts on location at away games and sync back via Helmut4 on return. Archive is accessible from anywhere via Backblaze B2. The pony arrived.

## Opinionated outcomes, unopinionated paths

Instead of rigid processes, all possible workflow paths lead to the intended outcome. When users find workarounds, we accommodate that work preference.

## SaaS Velocity

Mimir pushes updates every two weeks. We don't need downtime windows or on-site database migrations. Vendor improvements arrive automatically, and every customer benefits immediately.



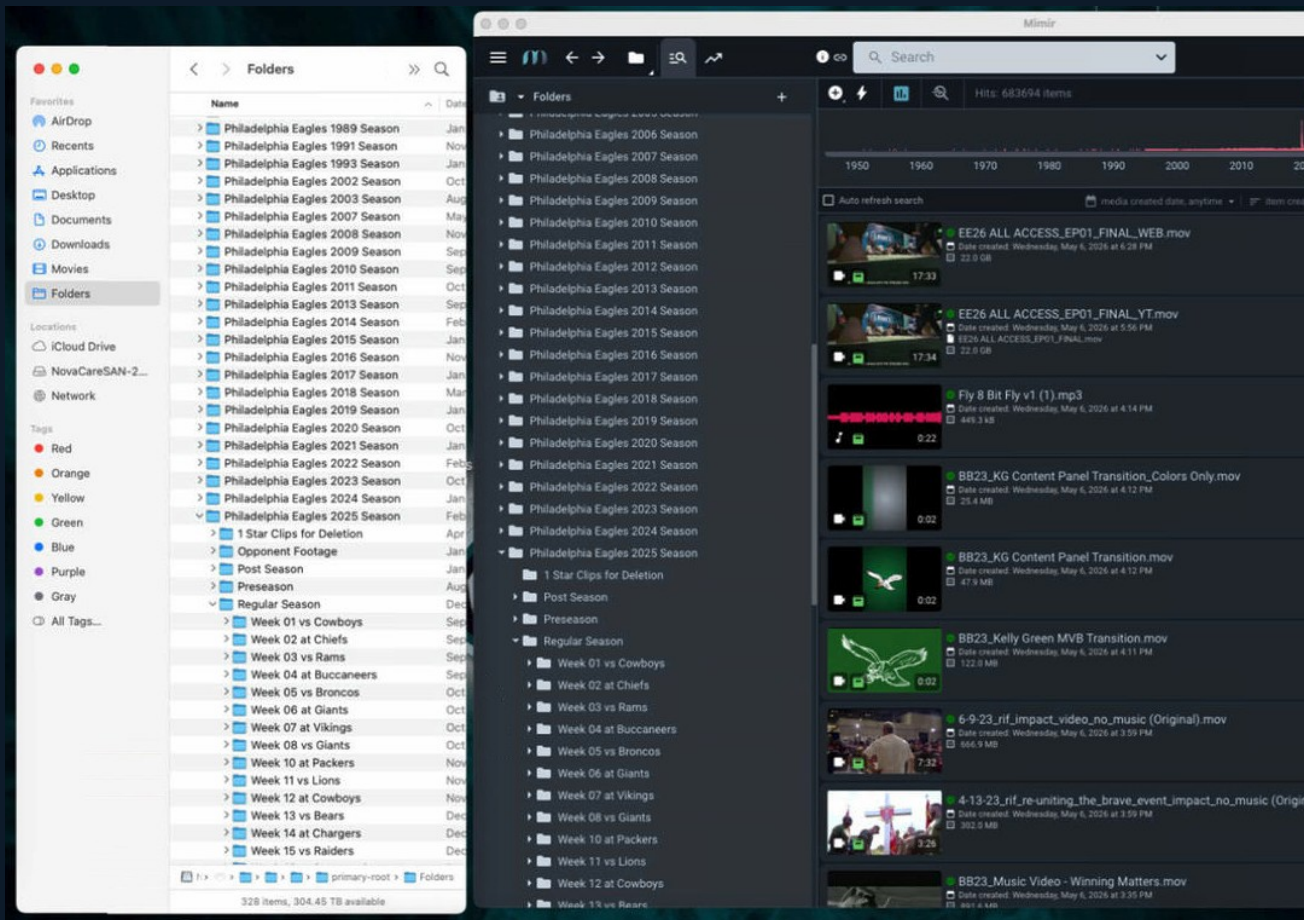
*Now I can easily share entire broadcasts by copying and sharing a link from our MAM. No need for FTP downloads or uploading to other platforms. It's fast, seamless, and ensures everyone can view the content without issues.*

**Stacy Kelleher**

Director of Production  
Philadelphia Eagles

Mimir creates hard links that mirror the MAM structure in macOS Finder, so editors can browse naturally.

Helmut4 silently relinks assets behind the scenes, and auto-imports assets used outside the systems.



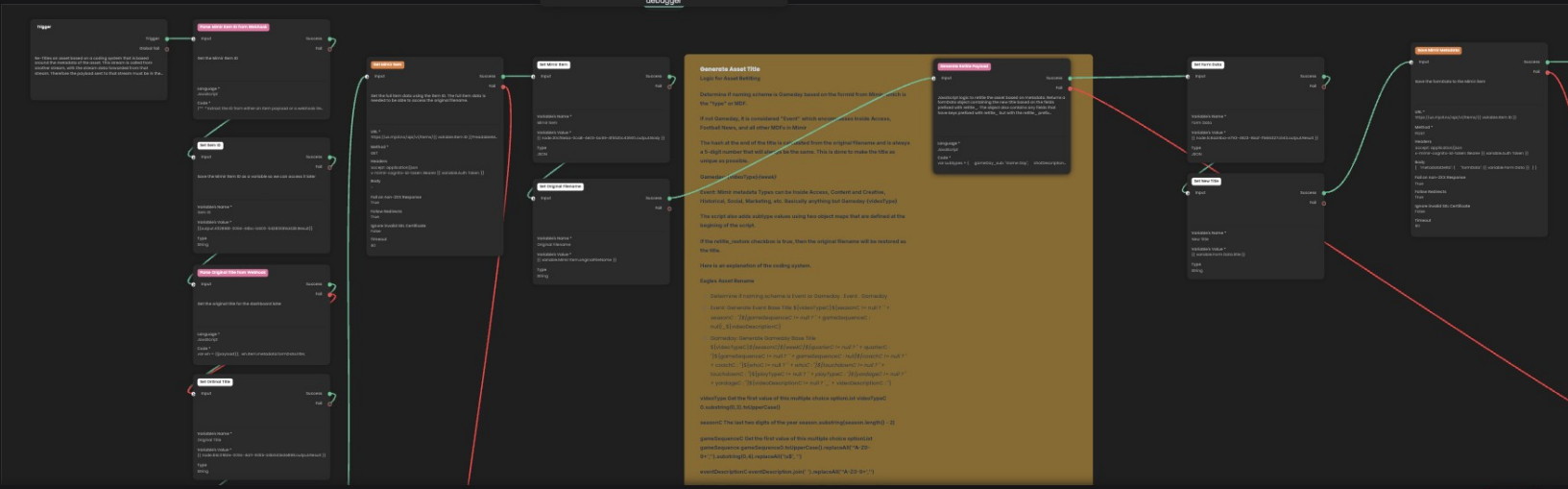
The image shows a screenshot of the Mimir interface. On the left, a search results list displays various video assets. The selected item is "NAT\_26\_EAC Kickoff Party - Kid In Front of EAC Sign\_44068.MP4". The right panel shows the metadata for this asset, including a video player, a metadata tab, and an "Automations" section. The "Automations" section is highlighted with a red box and contains the following fields:

- Retitle: Nat Sound
- Video Type: Season
- Season: 2026
- Week: [Dropdown]
- Quarter: [Dropdown]
- Game Sequence: [Dropdown]
- Play Type: [Dropdown]
- Yardage: [Dropdown]
- Players: [Dropdown]
- Coaches: [Dropdown]

Users input logging metadata in a simple UI: Season, Week, Quarter, Play, Yardage, etc

Helmut.cloud retitles the asset for ease of identification in Mimir and Premiere, enabling faster asset identification in any common UI.

- Nodes
- Search nodes...
- Manage Catalogs +
- helmut.cloud
  - Communication
  - Control Flow
  - File
  - Folder
  - Format Conversions
  - High5
  - Json
  - Math Operations
  - Operating System
  - Scripting
  - Stream
  - String
  - Mimir
  - Mimir



Debugger

- 2026-05-12T14:12:29
- 2026-05-12T14:10:48
- 2026-05-12T14:10:26
- 2026-05-12T14:08:59
- 2026-05-12T14:08:48
- 2026-05-12T14:08:26
- 2026-05-12T14:07:54
- 2026-05-12T14:07:33

<< Mimir-Asset-Retitle >>

Creates: 2026-05-12T14:08:48 Started: 2026-05-12T14:08:49 Finished: 2026-05-12T14:08:50 Duration: 826ms Target email: 4c1b1b62-9492-43b1-aed9-50cd0cc571ce@chesa.hclcloud.local Target name: eagles-hclcloud-1

log information Payload Performance

NAT\_26\_EAC Raw Drone -\_43392.MP4 --> NAT\_26\_EAC Raw Drone - Aerial Shot of Starting Line\_43392.MP4

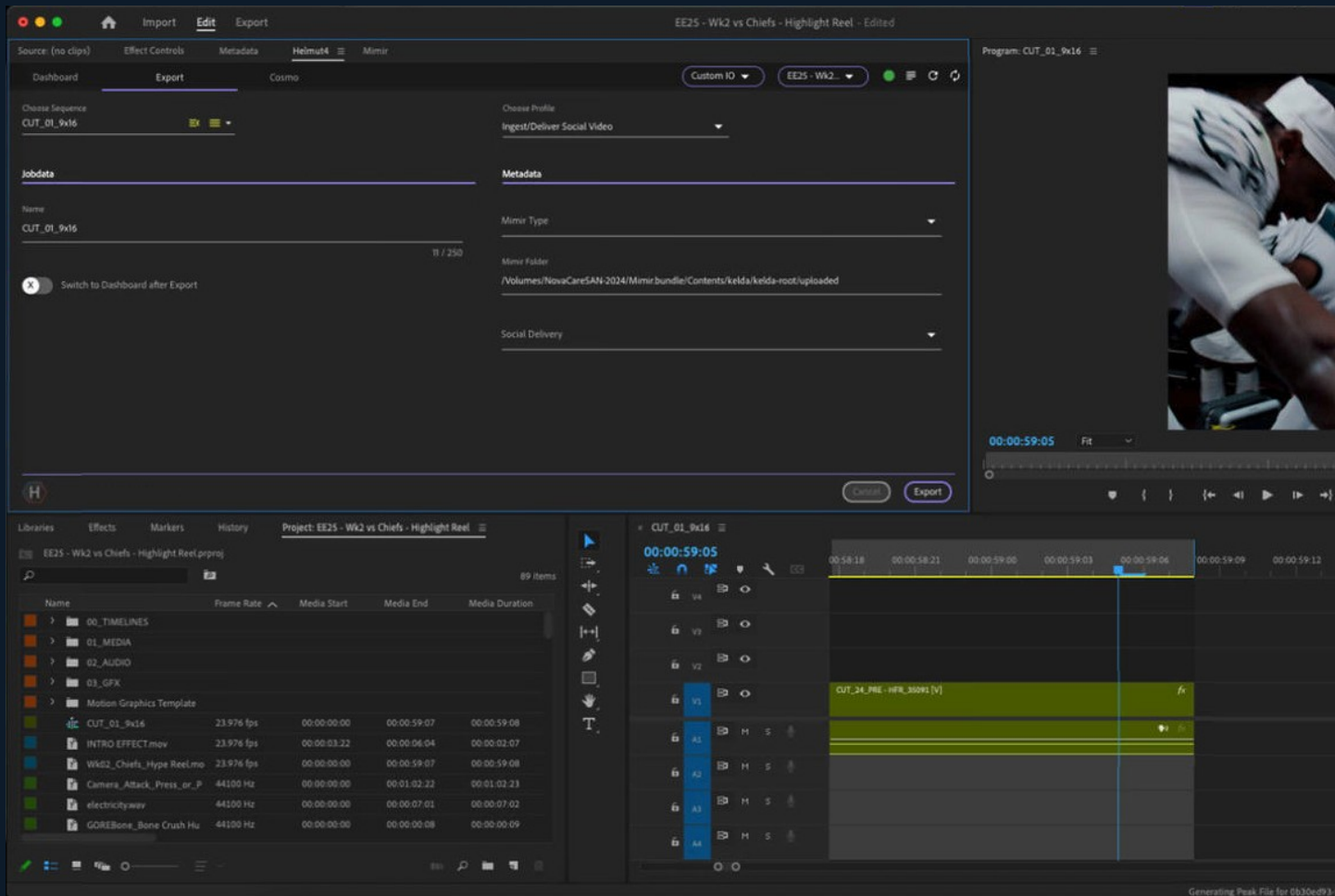
- Parse Mimir Item ID from Webhook 66ms
- Set Item ID 0ms
- Parse Original Title from Webhook 62ms
- Set Original Title 0ms
- Get Mimir Token Secret 185ms
- Set Auth Token 1ms
- Get Mimir Item 186ms
- Set Mimir Item 1ms
- Set Original Filename 0ms
- Generate Retitle Payload 69ms
- Set Form Data 0ms

Search Success Failed Replay

Exporting final content in one simple panel triggers:

- Low Res Proxy
- MAM Ingest
- Common metadata logging
- Transcode for Social
- Delivery to Social channels

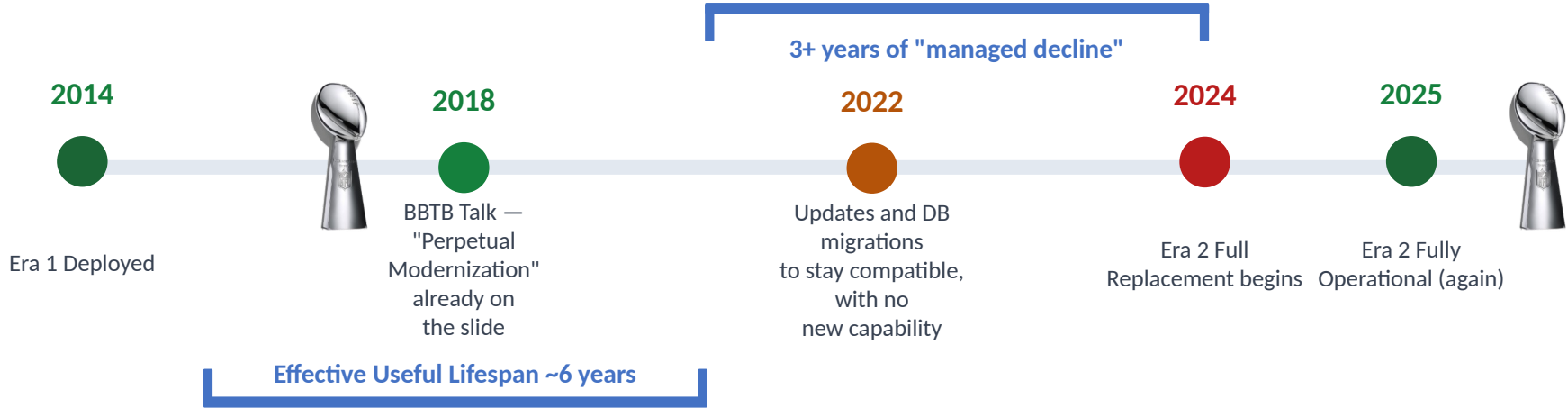
All in parallel, organized, and tracked.



SECTION 4

# The Lifecycle Compression

# The Uncomfortable Math



# Why It's Getting Faster

## Vendor Consolidation and Change Is Accelerating

Startups get acquired. Roadmaps shift. Products get end-of-lifed. This audience has watched it happen to plenty of vendors in the industry. It's not slowing down — it's speeding up.

## SaaS Raises the Baseline Continuously

What was cutting-edge on-prem in 2018 is table stakes in SaaS by 2024. Mimir pushes updates every two weeks. The platform you're being compared against improves whether you upgrade or not.

## Content Demand Is Exponential

Social, OTT, FAST, mobile, second-screen, creator partnerships, international game days. Output endpoints multiply faster than any static architecture can accommodate.

## AI Raises Expectations for "Automated"

Manual metadata logging gives way to AI-assisted enrichment. Manual QC to automated analysis. The definition of "automated" keeps shifting upward — and the gap between your current capability and the new baseline widens.

*When did you last check your vendor's roadmap? • When did you last check your own roadmap requirements?  
Do you have a refresh strategy, or a "wait until it breaks" strategy? • Is your architecture designed for component swaps?*

SECTION 5

# What We'd Tell Our 2014 Selves

*Not everything changed. Some things never will.*

# Five Principles That Survived Both Generations

01

## Services-driven integration is non-negotiable.

The reason we could replace the entire stack was because we designed for modularity from day one. Accidental architectures trap you in place.

02

## Discovery before deployment. *Always.*

Both eras started with deep discovery to understand the actual workflows, not just stated requirements. This never changes.

03

## Creative users should be creative.

The mandate hasn't changed: take mundane tasks off creative staff. Tools must evolve to further enable them.

04

## Documentation is infrastructure.

Traffic maps, service maps, swimlanes, monitoring. True in 2014, true in 2026. If you can't document it, you can't support it and you can't migrate off it easily.

05

## Plan for the system after this one.

Build every system assuming replacement in 5–7 years. Evaluate in year 3. Start procurement in year 5. Complete the transition by year 7.

*Eight years ago, I stood on this stage and showed you one of the best systems we'd ever built. It supported a Super Bowl championship team through the most demanding content operation in the NFL.*

**Almost none of that solution stack exists today.**

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*When content is mission critical to your organization you must prioritize the **lifecycle** of your environment.*

**Build for now.**

**Plan for next.**

**Make sure whatever you build today can be gracefully retired when the world moves on.**

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**CHESA**