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Agentic Content Infrastructure

The post-software architecture for enterprise marketing.

EXECUTIVE SUMMARY

Marketing is the most human function in modern business. It is the work of understanding people, moving people, and building brands worth caring about. For two decades, the systems built to support that work have done the opposite — turning marketers into operators of fragmented software, ticket-shufflers between CMS, DAM, CRM, CDP and DXP. The job most of them signed up for has been quietly replaced by the job of running the stack.

Agents alone do not fix this. Adoption is high — roughly nine in ten enterprises are testing AI in marketing — but fewer than one in ten have deployed it into governed, system-of-record workflows. Bolting agents onto the same fragmented stack amplifies the problem rather than solving it.

This paper argues that the next architectural shift is not another SaaS layer, and not a smarter agent. It is a new substrate underneath both. We call it Agentic Content Infrastructure (ACI): a unified, cloud-native context layer that lets agents reason, plan, and execute against the brand without first negotiating a dozen disconnected systems. Workflow on top. Infrastructure underneath. Two layers, not ten. The point is not to make marketers faster at the wrong work. The point is to return them to the right work. To return marketers to the craft, the customer, and the brand.

01 Marketing is the most human-centric discipline in business. The stack the industry built has made it the least human work in business.

Marketing is, at its core, the work of moving people. Understanding what they want and what they fear. Earning their attention with something worth their time. Building a brand that means something and then defending that meaning across thousands of small decisions and millions of small moments. Done well, it is among the most human disciplines in business. It rewards taste, empathy, craft, and judgment. The best marketers are not faster operators of tools. They are clearer thinkers about people.

And yet the lived experience of working in enterprise marketing has, for most of the last two decades, drifted further from any of that. The work has been quietly replaced by a different job: operating an ever-growing surface of disconnected software. A simple landing page passes through a project management tool, a doc, a Figma file, a DAM, a CMS, a CDP, a legal inbox, and an analytics platform before a customer sees it. A campaign update sits in a queue for days because someone needs to retag assets, re-run accessibility checks, and re-publish through three systems that do not share a model of the brand. The most talented people in the building spend their best hours arbitrating between systems no one designed to be arbitrated between.

> *Producing more content is not the answer when the system is incapable of moving what already exists. This is fundamentally an execution and infrastructure problem, not a content problem.*

The result is not just slow marketing. It is a structural betrayal of why people enter the profession in the first place. The brand becomes the residue of whatever the stack lets through, not the deliberate expression of a point of view. Personalization becomes a token in an email, not a relationship with a customer. Strategy becomes a slide deck that survives until the next reorg. And marketers — the human beings whose judgment is supposed to be the entire point — become tired, expensive switchboards.

In 2026, two things make this status quo untenable. The first is that marketing matters more than it has in a generation. AI-mediated discovery is rewriting how products are found. Channels turn over format and audience faster than quarterly planning can absorb. Customers expect brands to know them, in the moment, not three weeks after the brief was approved. Speed and judgment have stopped being trade-offs and become the same thing.

The second is that — for the first time — there is a credible architectural path back to the work. Agents can absorb the mundane execution that currently consumes marketers' weeks. But only if the architecture underneath them is built for the agentic age, not retrofitted from the SaaS one. Returning marketers to craft is the whole reason this shift is worth making. Everything else in this paper is a defense of that goal.

02 The collapse of the SaaS stack

For most of the last decade, the enterprise martech playbook was simple: identify a capability gap, buy a SaaS tool that closes it, integrate it with the others, assign someone to operate it. Repeat. The logic was that specialized software, well-integrated, would outperform any single platform. In practice, it produced

something different: a sprawling, fragile lattice in which every meaningful workflow now crosses four or five systems and a half-dozen owners. The marketer became the human glue between them (Figure 1).

Figure 1. From software sprawl to two-layer infrastructure

The post-software stack collapses ten-plus disconnected products into two architectural layers.

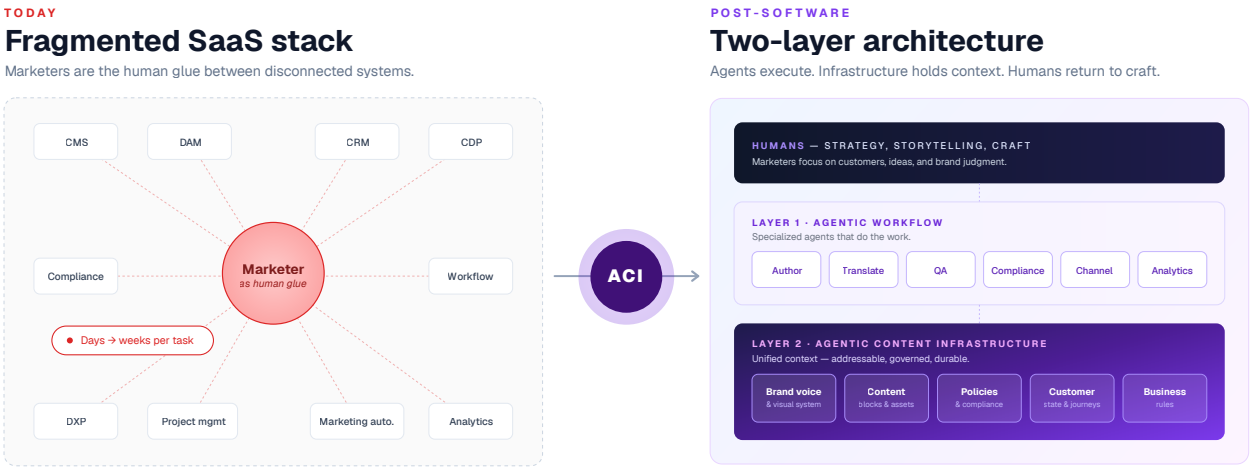

Figure 1. From fragmented software stack to two-layer infrastructure.

Take the unremarkable case of launching a localized landing page. The brief lives in a project management tool. The copy lives in a doc. The design lives in Figma. The assets live in a DAM. The page is built in a CMS. Personalization rules live in a CDP. Compliance review happens in email. Analytics live somewhere else entirely. None of these systems share a model of the brand. None share a model of the customer. None share a model of what "done" looks like. The system has no center; the marketer is the center.

Adding AI to this does not fix it. It magnifies it.

Recent industry research lays the problem bare. McKinsey reports that roughly 90% of CMOs are testing AI applications while fewer than 10% have deployed end-to-end workflows that generate measurable value.[1] Independent industry analysis tracks the same pattern from the other direction: more than 90% of enterprises use AI agents somewhere, only ~6% have fully integrated them into the marketing stack.[2] The gap between adoption and integration is the entire problem. Agents are easy to deploy in a single tool. They are nearly impossible to wire into governed, cross-system workflows when the systems were never designed to be governed together.

An agent reading from a fragmented stack does not produce better marketing — it produces confident, autonomous decisions made on partial context. It does not know which version of the brand voice is current. It does not know which asset is approved. It does not know which CMS holds the canonical page. It picks one and is wrong. Multiply that by every routine task across a Fortune 500 marketing organization and you get a new failure mode: AI-scale incoherence that is fast and autonomous, but entirely off-brand.

[1] McKinsey & Company, "Reinventing marketing workflows with agentic AI," 2025. McKinsey reports that roughly 90% of CMOs are testing AI applications while fewer than 10% have deployed end-to-end workflows that generate measurable value.

[2] MarTech, "Why AI adoption is high but integration is failing in martech," 2025. Industry research cited shows 90.3% of companies use AI agents while only 6.3% have fully integrated AI into the marketing stack and 23.3% have agents in production.

> *Adoption is high because AI is easy to deploy in isolated tasks. Integration is rare because stitching those outputs into governed cross-system workflows is fundamentally an architecture problem, and the architecture is broken.*

The pressure is not abating. Gartner projects that 40% of enterprise applications will feature task-specific AI agents by the end of 2026, up from fewer than 5% in 2025.[3] The agents are coming whether the underlying architecture is ready or not. The industry's current response of adding another layer in the form of "orchestration platforms," "AI control planes," "agent gateways", is the same instinct that built the original mess. Another product on top of the stack does not collapse the stack. It deepens it. The only direction left is down: replace the stack with infrastructure.

03 The two-layer future

We believe the post-software marketing stack has two layers. Just two.

Agentic workflow — the execution layer. Specialized agents that do the actual work of marketing: authoring pages, translating campaigns, validating compliance, generating creative variants, deploying to channels, measuring outcomes. Agents are the new way work gets done.

Agentic content infrastructure — the context layer. A unified, cloud-native store of the brand: voice, visual system, assets, content blocks, policies, customer state, business rules. Not another SaaS product. Infrastructure, in the same sense that S3 and Azure Blob are infrastructure. Durable, cheap, addressable, governed by code.

The CMS, the DAM, the DXP, the bespoke approval system, the "AI-powered" bolt-ons all collapse into one of these two layers, or it disappears. The stack becomes flatter, not taller. The marketer is no longer the glue holding the system together; the infrastructure is. The marketer becomes the head, not the spinal cord.

Why "infrastructure" is the right word

For two decades, the prevailing metaphor in enterprise software has been the "suite": a connected family of products owned by one vendor. Before that, the metaphor was the "platform." Both metaphors assumed that the unit of value was software, and the question was how to compose it. ACI rejects the premise.

The unit of value in an agentic world is context, not software. Agents are commodity. Models are commodity. What makes one company's agents more valuable than another's is the quality, completeness, and accessibility of the context they reason against. That context is not a product. It is infrastructure that is built once, governed once, and available everywhere. This is why "services are becoming software" and "software is becoming infrastructure" are two halves of the same story. The work that used to be done by armies of contractors is being done by agents. The systems that used to host that work as features are being absorbed into a thinner, more durable substrate that the agents read and write directly.

The strategic stakes are not academic. McKinsey estimates that agentic AI will come to power as much as two-thirds of current marketing activities and that organizations that rebuild workflows around agents — rather than

[3] Gartner, "Gartner Predicts 40% of Enterprise Apps Will Feature Task-Specific AI Agents by 2026, Up from Less Than 5% in 2025," August 2025 press release.

bolting AI onto existing processes — can capture 10—30% revenue lift from hyperpersonalized marketing.[4] The brands that get there compound. The brands that don't will spend the next five years renewing license fees on products that no longer execute the work.

04 Context is the constraint

In production, the bottleneck on agentic systems is rarely the model. It is the context. Agents fail not because they cannot reason, but because they cannot find what they need to reason about. Brand guidelines live in a 90-page PDF that has not been updated since the last rebrand. Approved imagery lives across three DAMs depending on the region. The current promotional offer is in a Jira ticket. The legal disclaimer is in someone's inbox. The agent sees none of it.

Fragmentation is not a tax on humans alone. It is a hard ceiling on what any agent — no matter how capable — can deliver inside an enterprise. Doubling the size of the model does not retrieve a document the model has no path to. Adding another integration does not unify a context model that was never written down. This is the underlying reason that McKinsey's data shows so few enterprises crossing from AI experimentation to deployed value: the architecture is missing, not the ambition.

> *Agents, like people, need context to operate effectively. Unifying context into infrastructure does not improve agents at the margin. It changes what agents are capable of, categorically.*

What unified context unlocks

When the brand — voice, visual system, content blocks, policies, customer state — lives in a single addressable layer that agents can read and write through governed interfaces, three things change at once. Reliability stops being a function of prompt engineering: the agent retrieves the canonical version of a fact, not a probable one. Speed becomes a property of the architecture: a new agent does not require six months of integration to be useful. And cost compounds downward: a single context layer serves every agent and every workflow, so the marginal cost of new automation falls toward zero.

Most importantly, unified context is what makes the human side of marketing finally tractable. A marketer cannot personalize at scale, or maintain a consistent voice, or move at the speed of culture, when the brand they are responsible for lives in a hundred places. They can — for the first time — when the brand lives in one. The craft becomes possible again because the substrate stops fighting it.

This is the same pattern that played out in the cloud era. Storage was the bottleneck until S3 made it infrastructure. Compute was the bottleneck until EC2 made it infrastructure. Once a fragmented capability becomes durable, addressable infrastructure, every layer above it accelerates. ACI does the same thing for marketing context.

[4] McKinsey & Company, "Reinventing marketing workflows with agentic AI," 2025. McKinsey estimates that agentic AI will come to power as much as two-thirds of current marketing activities, with 10–30% revenue lift available to organizations that rebuild workflows around agents rather than bolting AI onto existing processes.

05 A reference architecture for ACI

ACI is not theory. The pattern is already running inside some of the world's most demanding marketing organizations. The reference architecture has four tiers (Figure 2).

Figure 2. Agentic Content Infrastructure — Reference Architecture

Humans direct. Agents execute. Infrastructure holds the brand. Governance is encoded in the substrate.

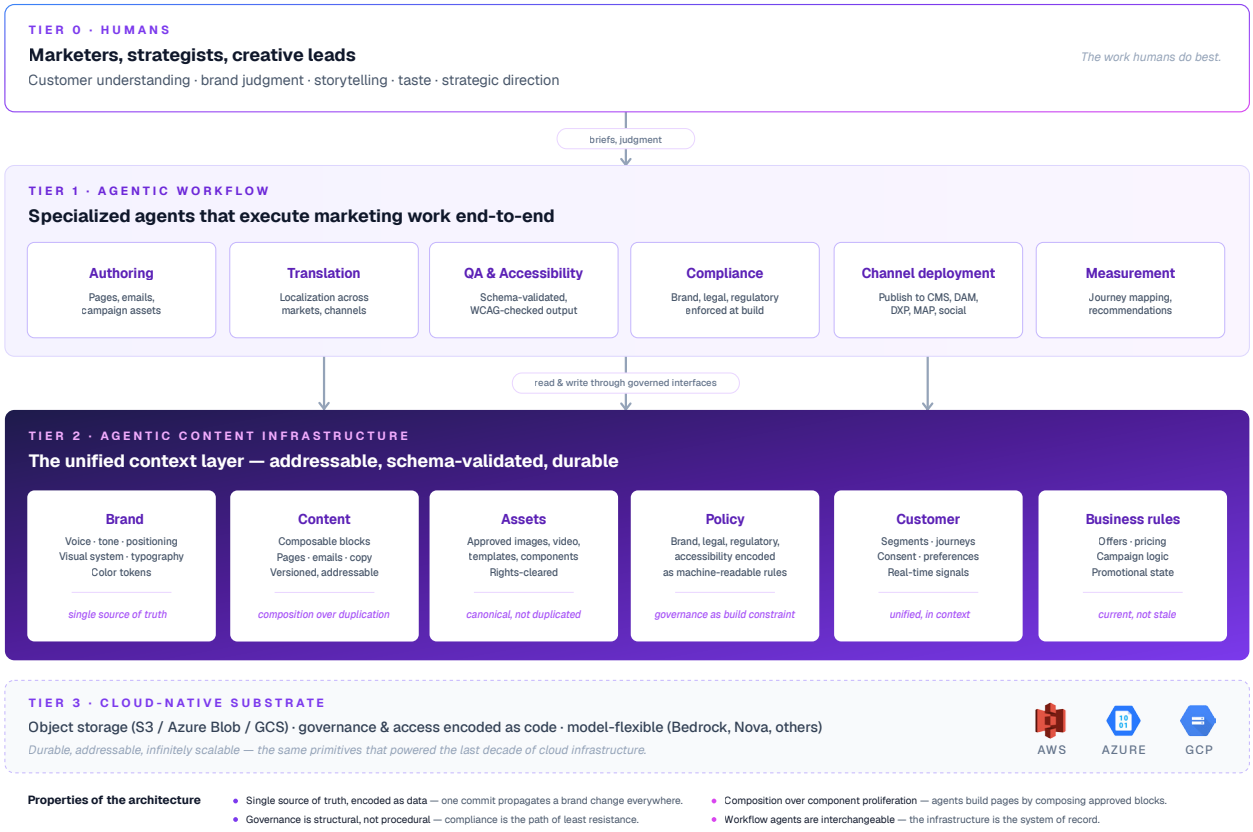

Figure 2. Agentic Content Infrastructure — reference architecture.

Single source of truth, encoded as data

Every element of the brand — color tokens, type, voice, visual system, approved assets, content blocks, policies — is defined once, as structured data, in a single durable location. Not as a document, not as a set of guidelines, not as a configuration buried inside a CMS. As data, in cloud-native storage, versioned and addressable. When the brand evolves, one commit propagates the change across every agent and every surface. The brand book stops being a PDF nobody reads and becomes the substrate the entire stack runs on.

Governance as build constraint, not policy memo

Compliance is encoded into the infrastructure itself. Agents cannot pick a color outside the token system, because the token system is the only set of colors that exist. They cannot author a layout outside the approved block vocabulary, because the build validates content against a schema. Brand integrity stops

being a function of human review and becomes a property of the substrate. The default flips: non-compliance requires active effort. Compliance is the path of least resistance.

Composition over component proliferation

Instead of building a new CMS template every time the brand needs a new page shape, ACI exposes a small vocabulary of composable primitives — containers, grids, atomic blocks — that agents combine to produce arbitrary layouts. A complete page becomes a JSON document, not a code change. The front-end team builds the primitives once; agents compose within them, indefinitely, safely.

Workflow agents read and write through the layer

Above the infrastructure sits a population of specialized workflow agents — authoring, translation, QA, accessibility, compliance, channel deployment, measurement. Each reads from and writes to the shared context layer. None of them owns the brand. None of them holds canonical state. The infrastructure is the system of record. The agents are interchangeable.

> *Flexibility and governance are not in tension when the outputs are validated by infrastructure. The composition layer gives agents real expressiveness; the substrate prevents drift.*

An architecture built this way does not need to be defended by process. The process is the architecture. That is what makes it possible — for the first time — to let agents contribute to production marketing at enterprise scale without eroding the brand, and to free the human team for the work that requires their judgment in the first place.

06 What the early adopters are seeing

ACI is not a future-state thesis. The architectural pattern is already in production inside Fortune 500 marketing organizations across telecom, technology, financial services, consumer goods, and global hospitality. Outcomes have been documented in third-party case studies and partner publications, not just internal claims.

AWS Customer Case Study — content operations at AWS and T-Mobile. In a published AWS customer case study, customers running content operations on Gradial — including AWS itself and T-Mobile — have seen up to 20x efficiency gains and 99.9% accuracy in content operations, with corresponding reductions in time-to-market while preserving compliance and brand quality.[5] The case study documents agent orchestration across enterprise CMS, DAM, project management, and marketing automation systems — the canonical fragmented stack — replaced by an agentic supply chain reading from unified context.

AWS Partner Network — multi-model agent orchestration. AWS's Partner Network blog details how Gradial uses Amazon Bedrock and Nova models to run the specialized workflow agents described in the reference architecture above — authoring, QA, channel deployment, and customer-journey analysis —

[5] AWS Customer Case Study, "How Gradial built the first agentic AI platform for end-to-end content supply chain using AWS." AWS reports that customers including AWS and T-Mobile have seen up to 20x efficiency gains and 99.9% accuracy in content operations on Gradial.

against unified content context.[6] The architectural point is the one made earlier in this paper: model choice is becoming a routing decision; context is the durable asset.

Published Gradial customer outcomes. In publicly released Gradial customer material, a global software company reduced content supply chain operating costs by 40%, and a Fortune 500 enterprise completed a full site migration in four months that had previously been scoped, with traditional tooling, as a two-year program.[7] These are not point automations. They are organizational outcomes — what becomes possible when the substrate is right.

The common factor across these outcomes is not a particular model, a particular agent, or a particular vendor relationship. It is architectural: each customer is operating against a unified context layer rather than a fragmented stack. The agents are interchangeable. The infrastructure is the durable advantage.

The teams that get to this architecture first will compound. The teams that wait will pay license fees indefinitely for the privilege of moving slower than their competitors — and, more painfully, will keep losing the marketers they most want to keep, because the work will keep being the wrong work.

07 What to do now

The practical question for every marketing leader in 2026 is not whether to adopt agents. It is whether the organization has the infrastructure underneath them for that adoption to matter. A useful starting set of questions:

01 **Where does our brand actually live?** If the honest answer is “a PDF, a Figma library, and an oral tradition,” the brand is not yet addressable by agents — and the agents will produce whatever their training data thinks our brand looks like.

02 **Which systems hold canonical state today, and which hold copies?** Every duplicated state is a place an agent will be wrong.

03 **Of the SaaS contracts up for renewal in the next 18 months, which execute work and which merely hold context?** The latter category is the one ACI absorbs.

04 **What is the smallest end-to-end workflow we could move onto unified context inside one quarter?** Page updates, email creation, campaign QA, and translation are the most common starting points.

05 **Who in our organization owns the substrate?** If the answer is “no one,” the architecture will not happen by accident.

The reclamation

The most important argument for ACI is not the cost line, or the throughput line, or the integration line. It is what the architecture gives back to the people. The most talented marketers in the building stop spending their weeks moving tickets across systems no one designed to be moved across. They return to the work

[6] AWS Partner Network Blog, “Powering Enterprise Content Ops with Gradial and Amazon Nova.” Documents Gradial’s use of Amazon Bedrock and Nova models for orchestrating specialized content-operations agents across enterprise CMS, DAM, marketing automation, and project management systems.

[7] Gradial, “Agentic Energy: Why Modern Campaigns Feel Different,” published 2025. Public Gradial customer outcomes cited include a Fortune 500 site migration completed in four months that had been scoped as a two-year program, and a global software company that reduced content supply chain operating costs by 40%.

that drew them into marketing in the first place: understanding customers, building a brand worth caring about, telling a story well, making something people remember. The agents do the execution. The humans do the thinking. The brand compounds because both halves are finally doing the work they are best suited to.

> *Marketing returns to a fundamentally creative, strategic, and customer-centric craft again — not because we wished it would, but because the architecture finally allows it.*

We are early. The next five years will be the most consequential architectural shift marketing has seen in two decades. The teams that recognize it for what it is — a move from software to infrastructure, from fragmentation to unified context, from process to substrate, from operating tools to understanding people — will define what the function looks like for the decade after that. The teams that don't will spend that decade explaining why their stack is still in the way.

About Gradial

Gradial is the agentic content infrastructure company. We help the world's most demanding marketing organizations replace fragmented software stacks with a unified context layer and a population of specialized workflow agents — so brands can move from idea to customer experience in minutes, not weeks, and so the human side of marketing returns to its highest and most human use. Gradial runs in production at Fortune 500 enterprises across telecom, technology, financial services, consumer goods, and global hospitality. To learn more, visit gradial.com.

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6. AWS Partner Network Blog, "Powering Enterprise Content Ops with Gradial and Amazon Nova."
7. Gradial, "Agentic Energy: Why Modern Campaigns Feel Different." Publicly released customer outcomes.