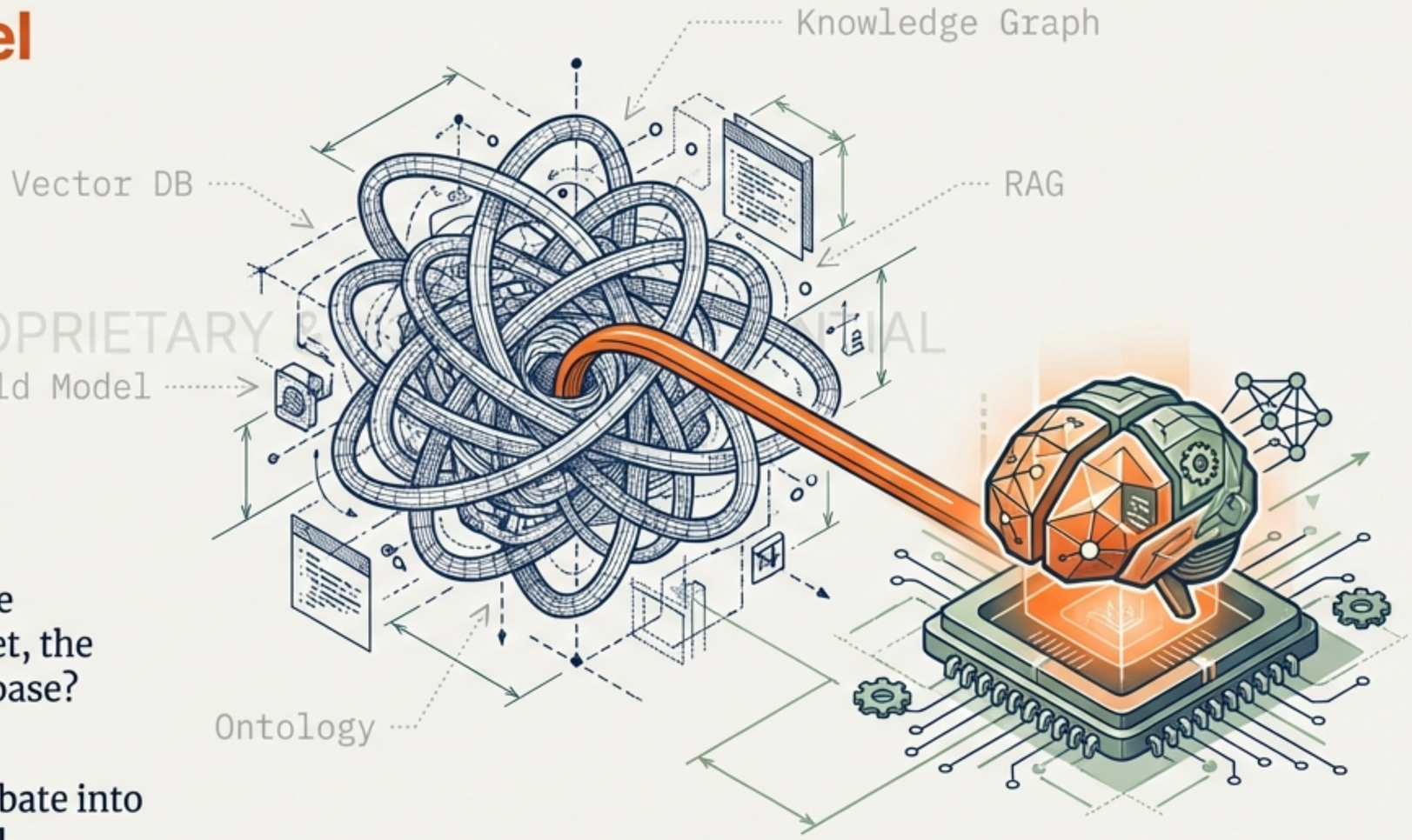
WTF is a Context Graph?

A Guide to the Trillion-Dollar Problem & The Context Flywheel



You've read the threads, listened to the podcasts, and skimmed the articles. Yet, the definition remains elusive. Is it a database? A methodology? A world model?

This deck synthesizes the technical debate into a unified model: **The Context Flywheel.**

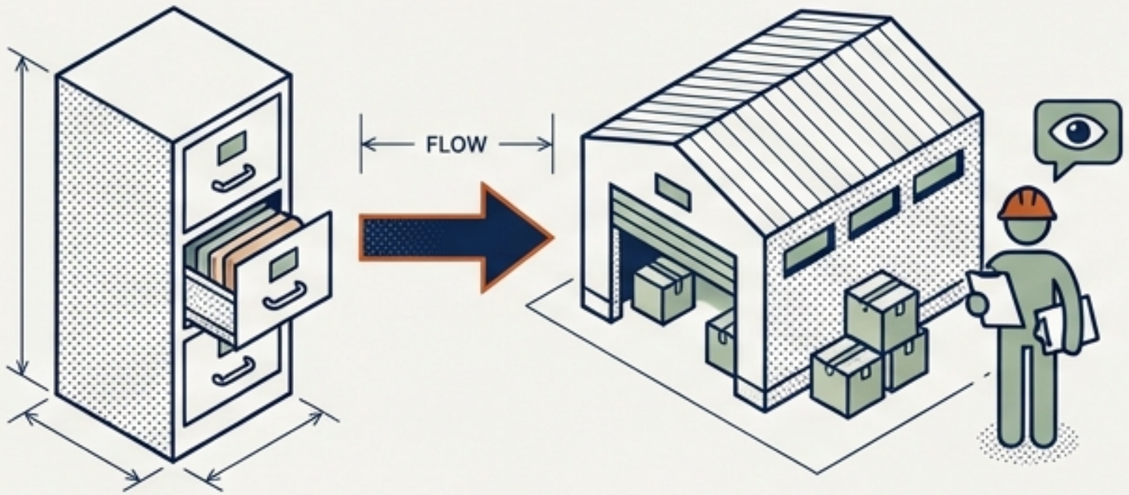
OCT 26, 2024
REV. 1.0

The Shift: From Systems of Record to Systems of Reasoning

THE HUMAN ERA

ERP / CRM

Read Layer

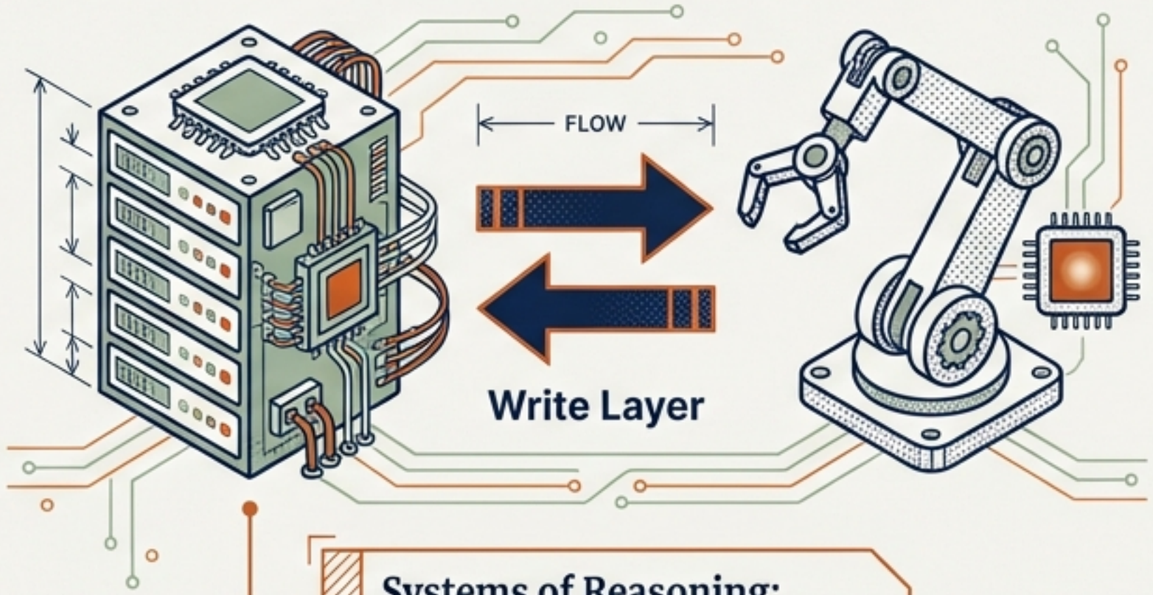


Systems of Record:
Storage designed for humans.
Static snapshots.

THE AGENT ERA

Context Graph

Agent



Systems of Reasoning:
State machines for Agents.
Dynamic inputs & outputs.

SCALE 1:1

We are moving from humans managing data to humans orchestrating agents.

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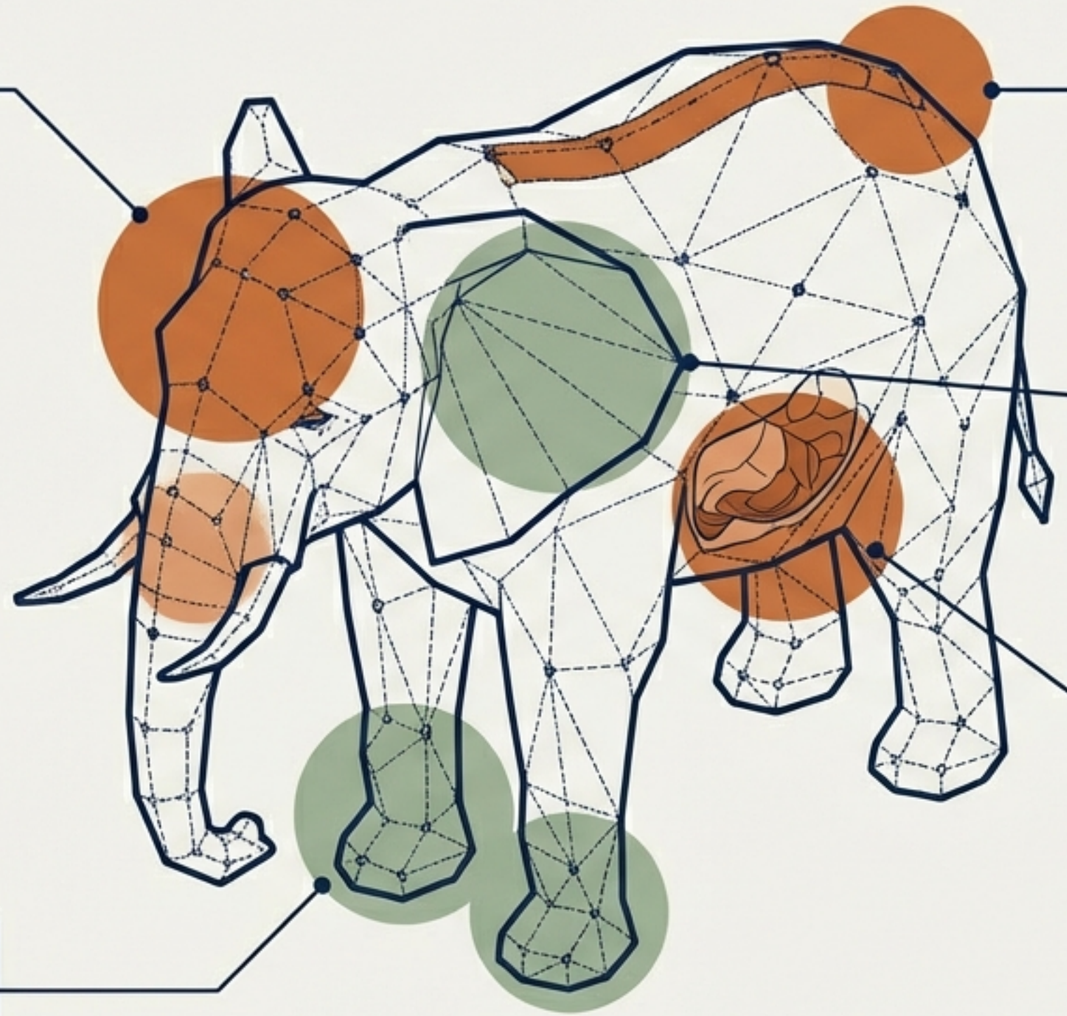
The Definition Problem: Five Blind Men and the Elephant

Decision Traces
(Memory)

Ontologies
(Structure)

Five experts, five contradictory definitions. To understand the unified system, we must first understand why each expert is technically correct about their specific piece of the puzzle.



Coordination
(Access)

Methodology
(Retrieval)

World Models
(Simulation)

SCALE 1:1

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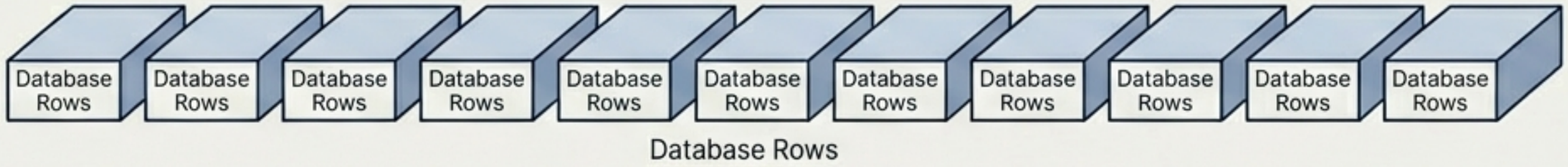
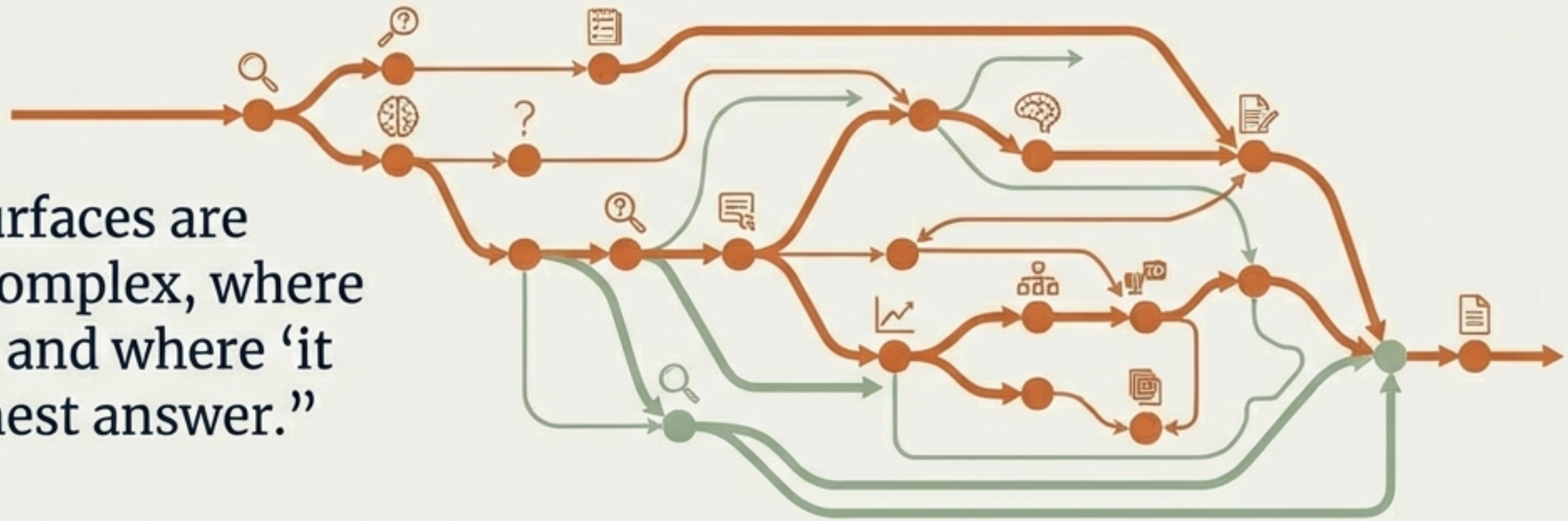
Perspective 1: The Missing Memory

Focus: Decision Traces

Data Warehouse
(State)



Decision Trace
(Reasoning)



“The interesting surfaces are where the logic is complex, where precedent matters, and where ‘it depends’ is the honest answer.”
— Jaya Gupta

SCALE 1:1

Key Insight: Warehouses store *what* happened. Context Graphs must store *why* it happened.

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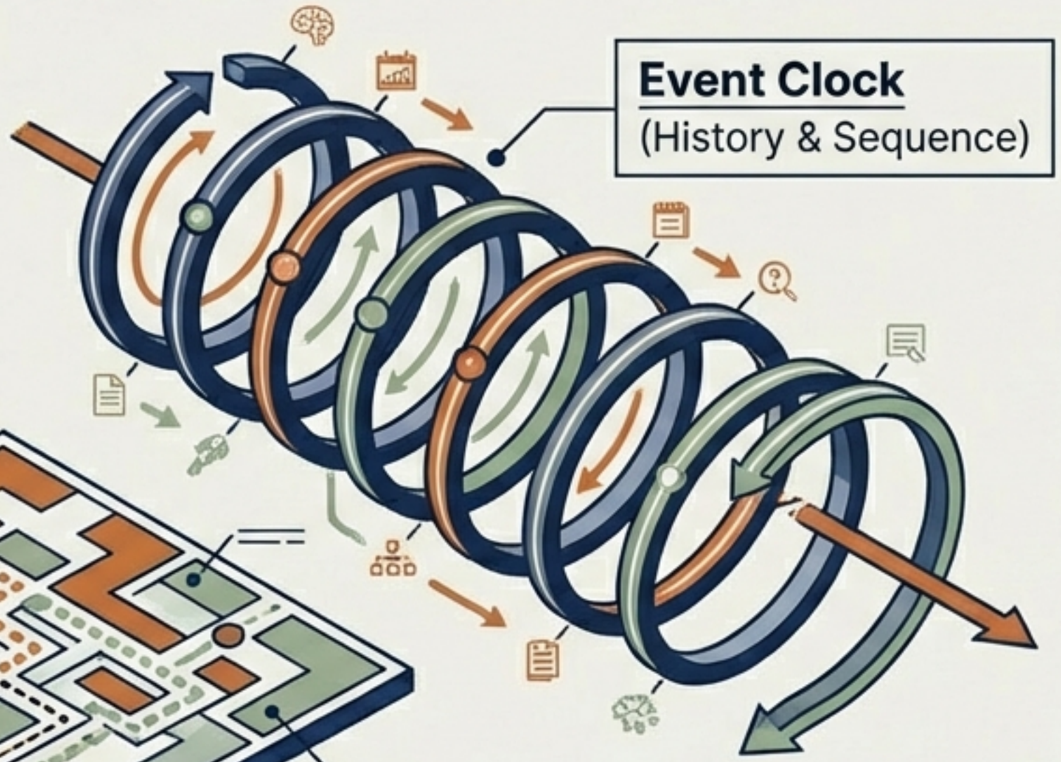
Perspective 2: The Two Clocks

Focus: World Models

State Clock
(Current Truth)



Event Clock
(History & Sequence)

The Informed Walker

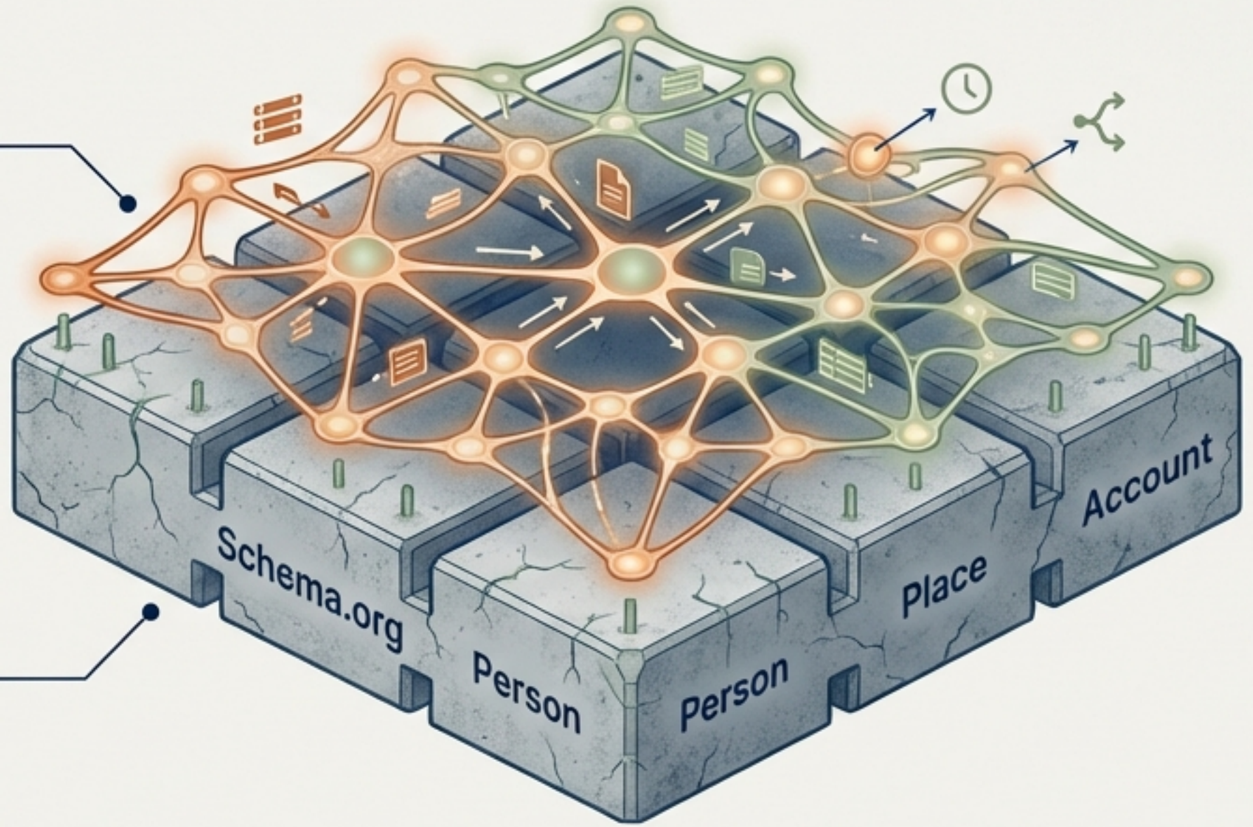
Animesh Koratana's Insight: We have infrastructure for the State Clock, but not the Event Clock. By tracking an agent's "walk" through an organization, we build a World Model of organizational physics.

Key Insight: Building a World Model requires capturing the full historical sequence of an organization's actions, not just its current state.

Perspective 3: The Foundation

Focus: Ontologies (Prescribed vs. Learned)

Learned Intelligence (Novel)



Adopted Foundations (Standard)

Kirk Marple's Argument:

Don't reinvent the wheel. Use existing standards for the basics.

Use AI to learn the ***novel*** **organizational intelligence—temporal validity** and **custom relationships.**

Key Insight: A robust Knowledge Graph is a hybrid system, combining stable, adopted standards with fluid, AI-learned relationships and context.

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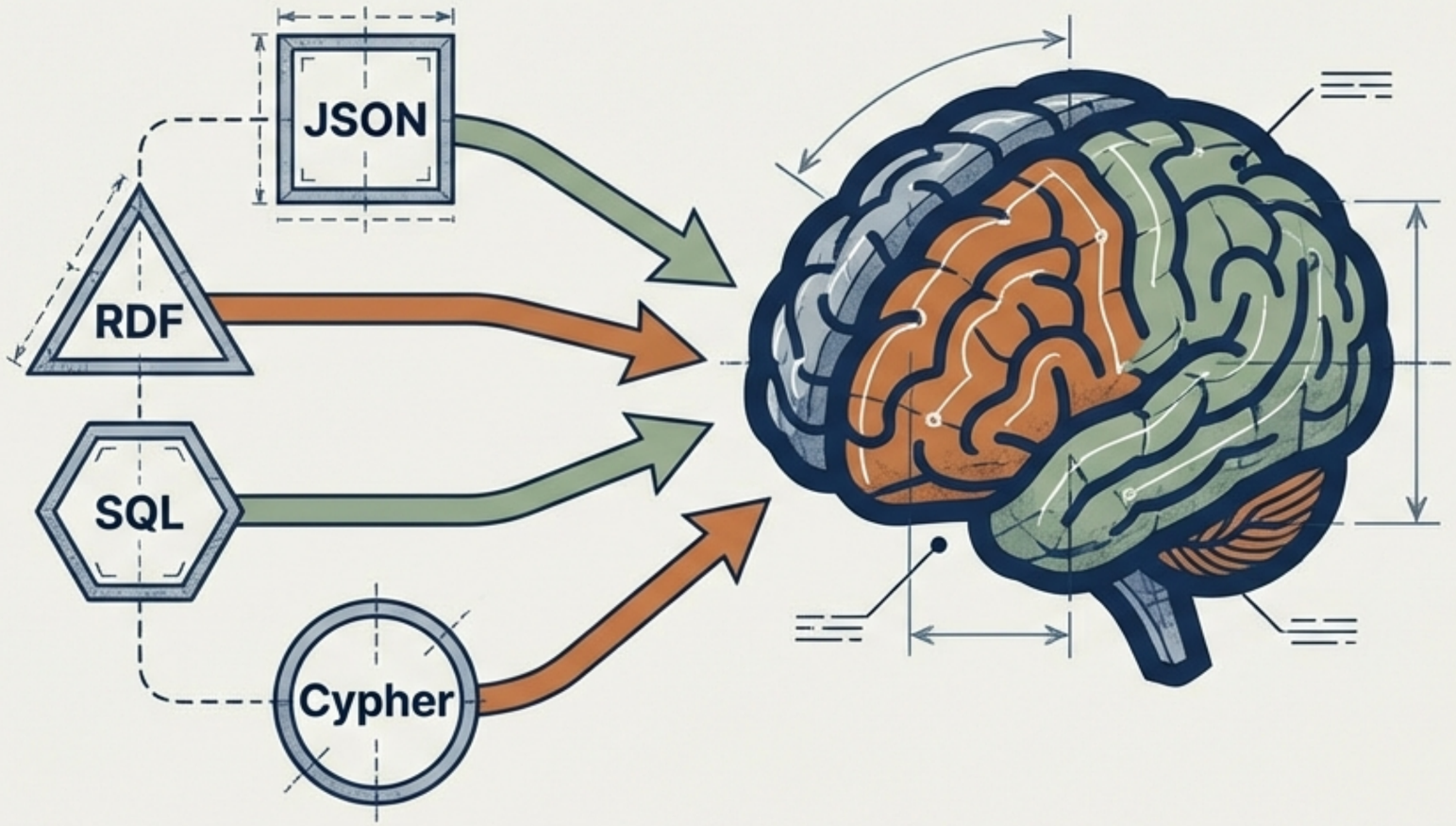
Perspective 4: The Methodology

Focus: Optimization for Retrieval



TrustSpooky's Manifesto:

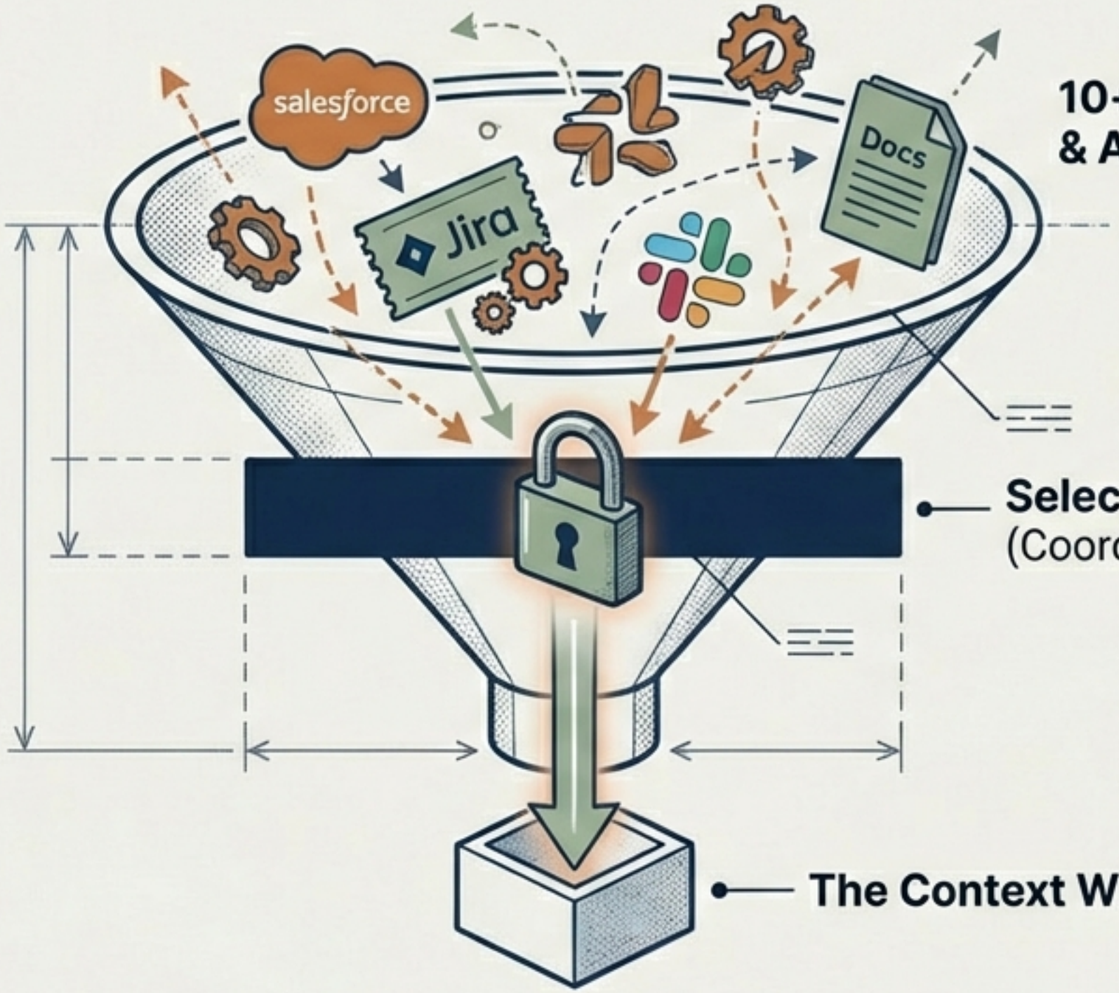
A Context Graph is not a specific database format. It is a methodology.

LLMs don't care about syntax; they care about semantic meaning. The graph is just the format; Context is the optimization.

Key Insight: A Context Graph is a methodology for LLMs to understand semantic meaning, optimizing retrieval regardless of the underlying data format (JSON, RDF, SQL, Cypher).

Perspective 5: The Gatekeeper

Focus: Operational Reality & Coordination

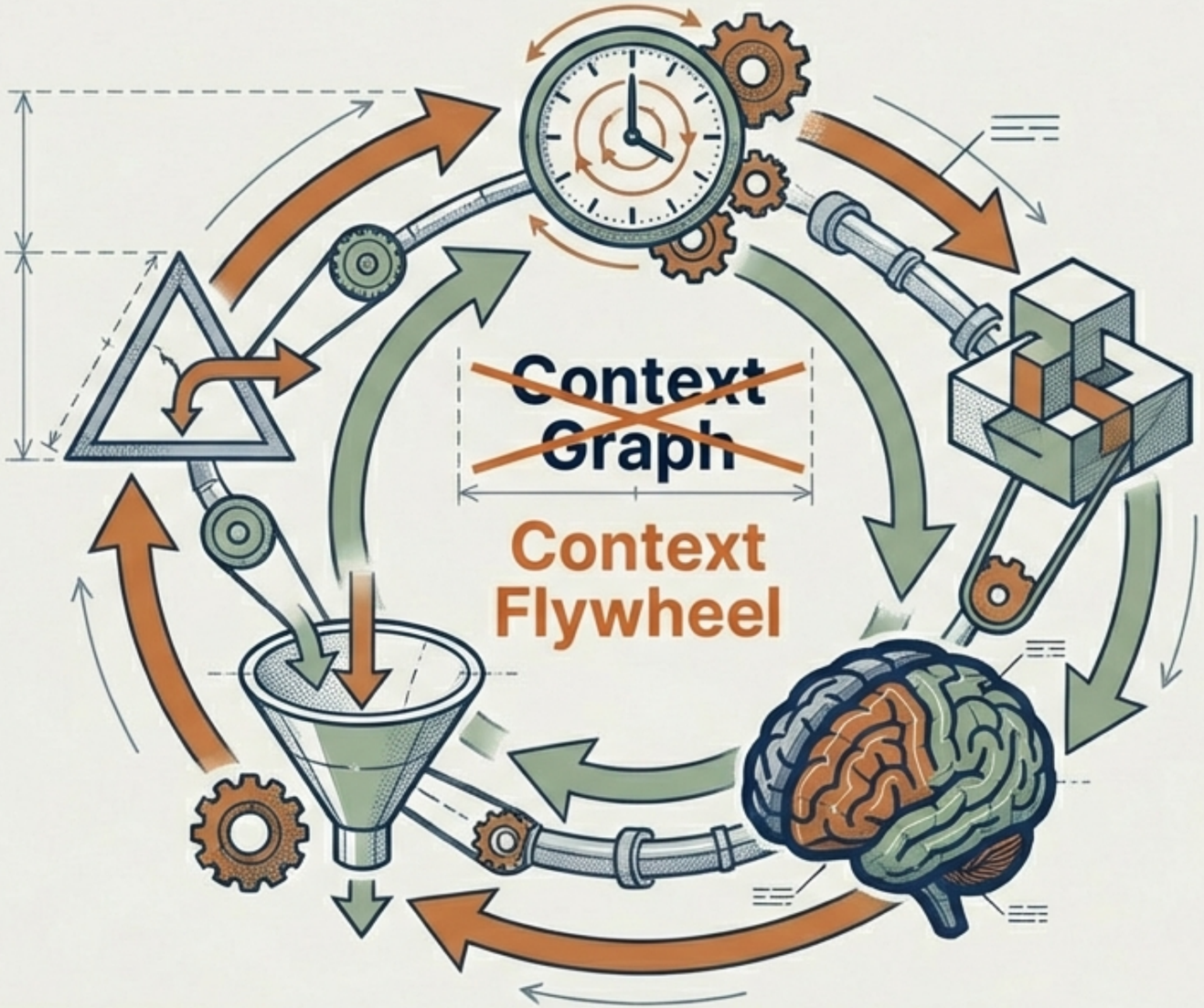


Gil Feig's Insight:

The hard problem is Selection.
If you show the agent everything, it enters the 'Dumb Zone'.

The coordination layer decides what slice of reality to assemble.

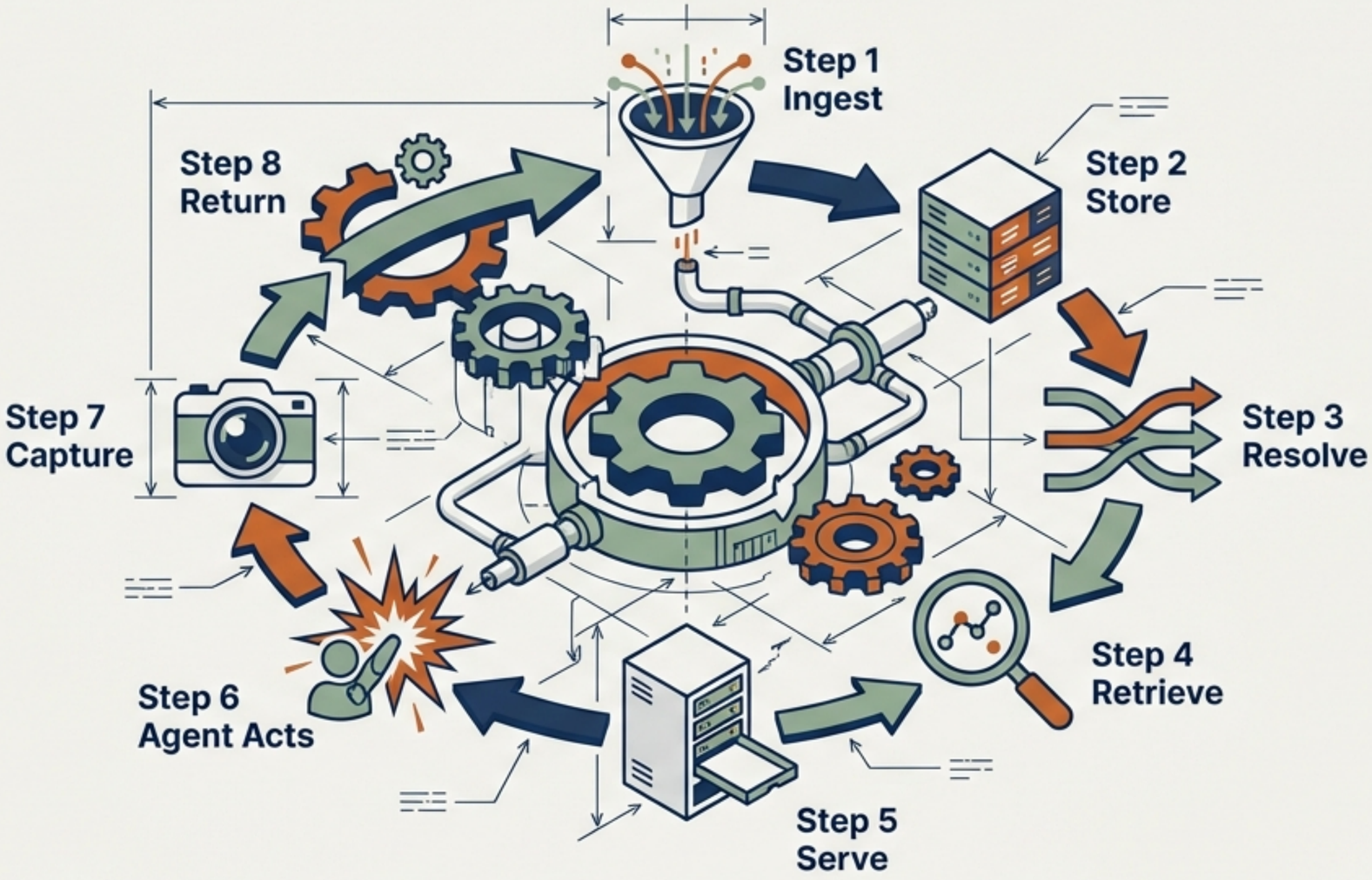
Synthesis: It’s Not a Graph, It’s a Flywheel



They are all right. We need traces, world models, structure, and coordination. But a “Graph” implies a static snapshot.

The value is in the loop that makes the context compound over time.

The Context Flywheel



If the loop doesn’t close, you just have a database with an LLM stapled to it.

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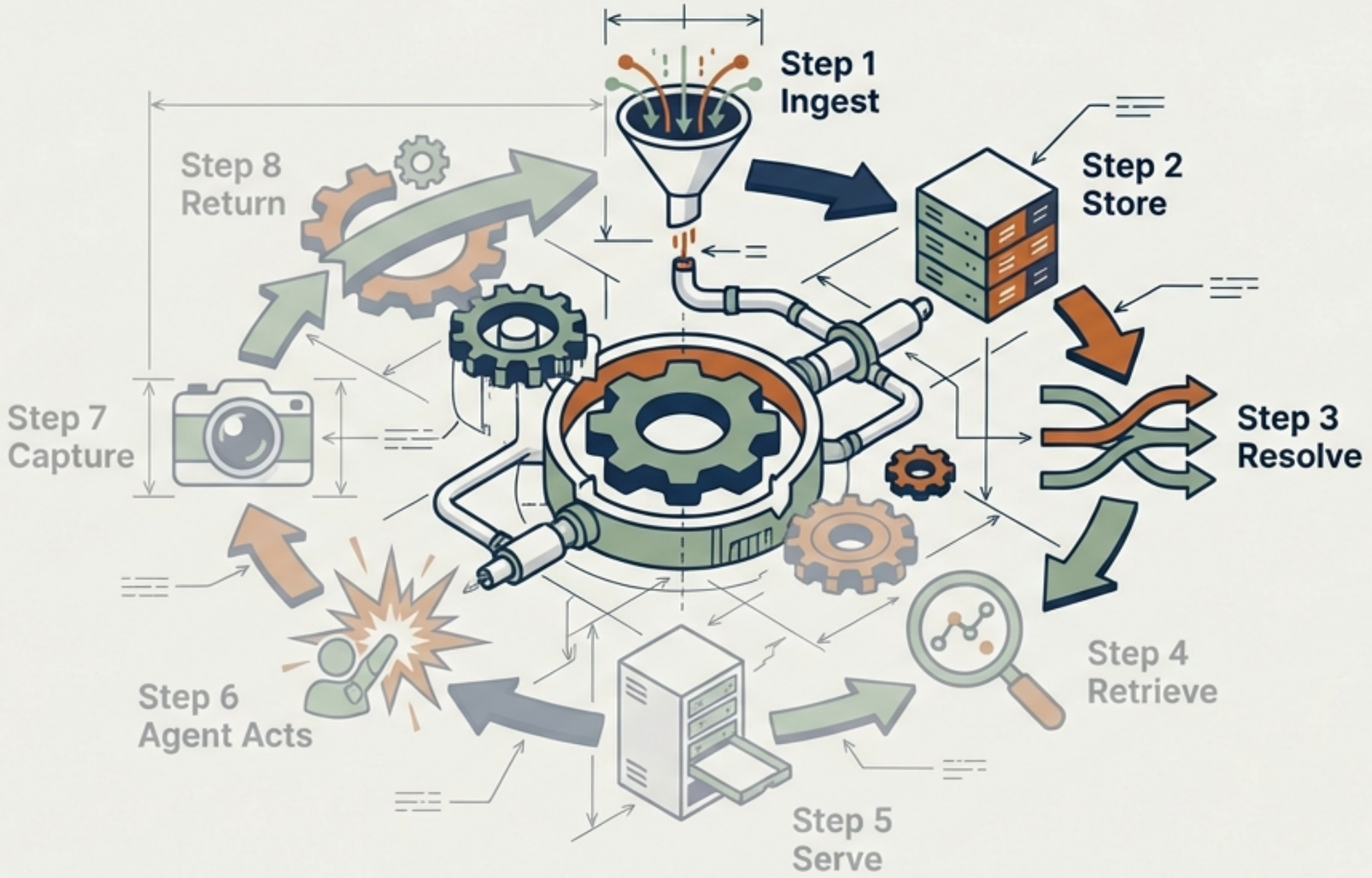
Flywheel Deep Dive: The Foundation Layer



Ingest: Extracting structure from chaos (Slack, Docs, Transcripts).

Store: Using adopted ontologies (Schema.org) for basics.

Resolve (The Hard AI Problem):

- **Identity:** "Sarah Chen" = "@sarah"
- **Fact:** Resolving conflicting sources.
- **Temporal:** Tracking "When was this true?"

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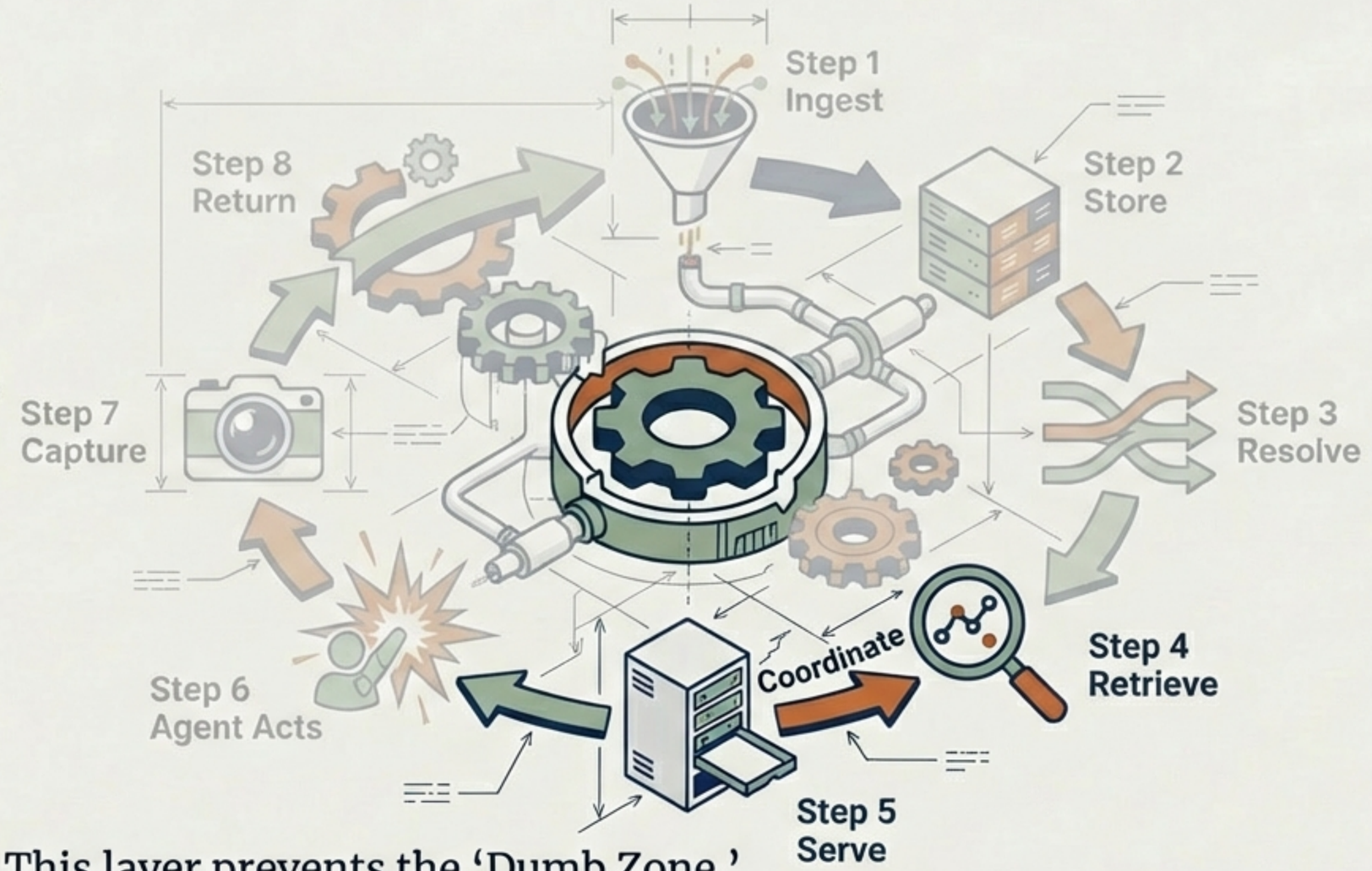
Flywheel Deep Dive: The Action Layer



Retrieve: Hybrid queries (Vector + Graph traversal).

Coordinate: Selection Logic. What do we *not* show?

Serve: Managing token budgets.

This layer prevents the ‘Dumb Zone.’
It stitches results into a coherent slice of reality the model can actually use.

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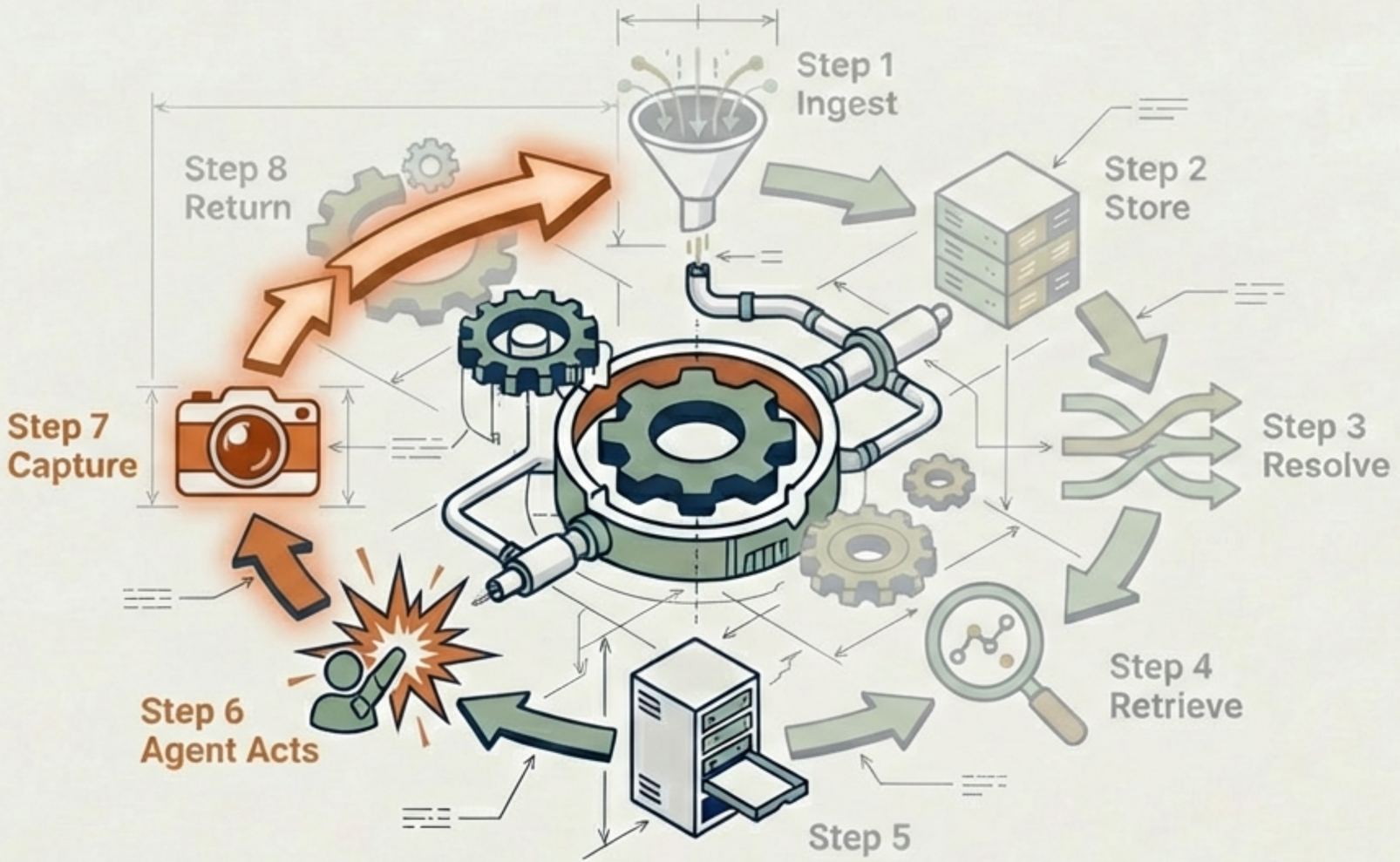
Flywheel Deep Dive: The Compounding Layer



Capture: Decision traces flow back into storage.

The Loop: Reasoning becomes data.

The Trillion-Dollar Opportunity: Every automated decision adds a trace, making the graph smarter for the next decision. Context clarity increases with every rotation.

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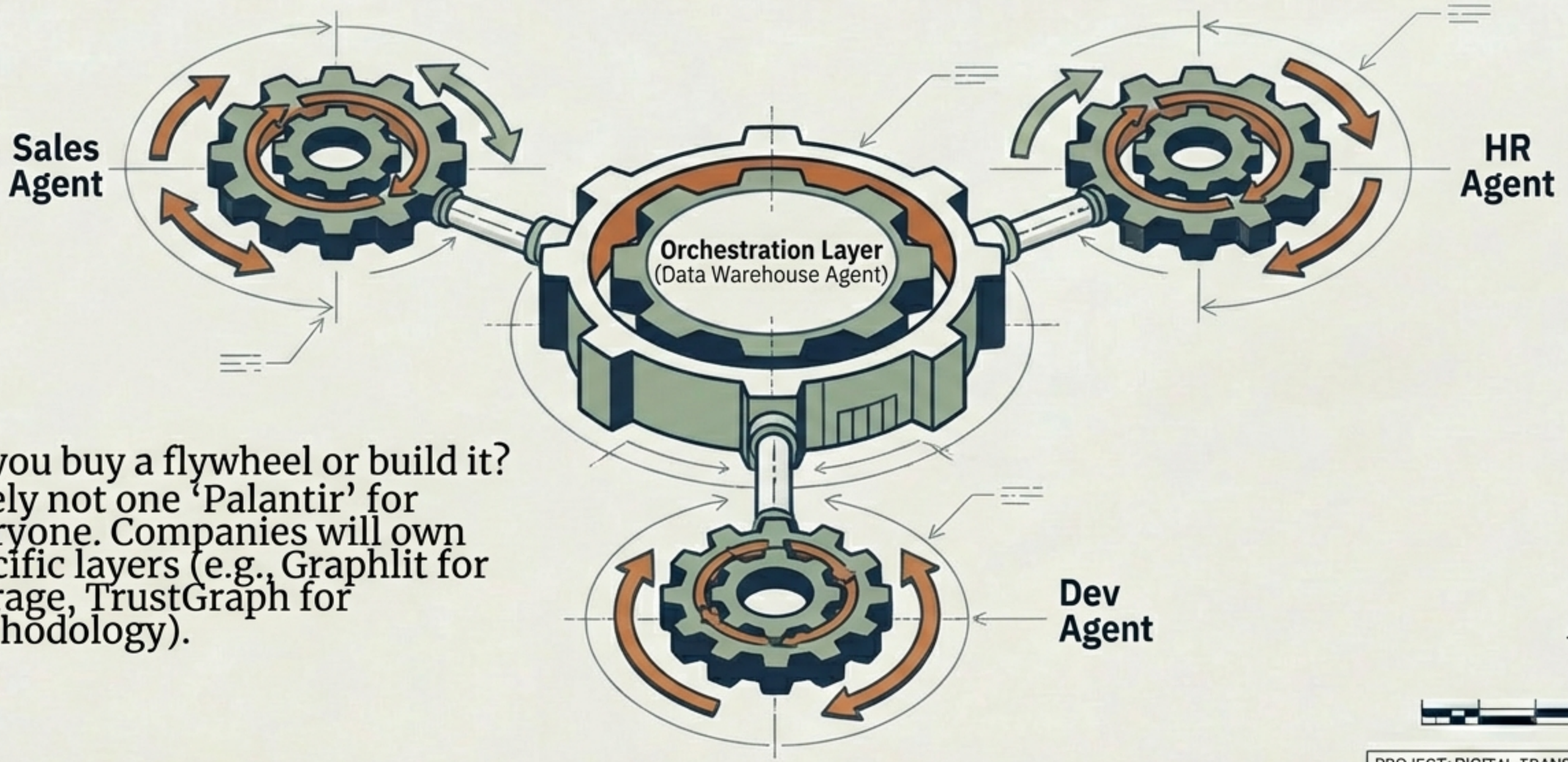
The Market Landscape: A Flywheel of Flywheels



Do you buy a flywheel or build it? Likely not one 'Palantir' for everyone. Companies will own specific layers (e.g., Graphlit for Storage, TrustGraph for Methodology).

Future State: Departmental agents connecting to a central orchestration layer.

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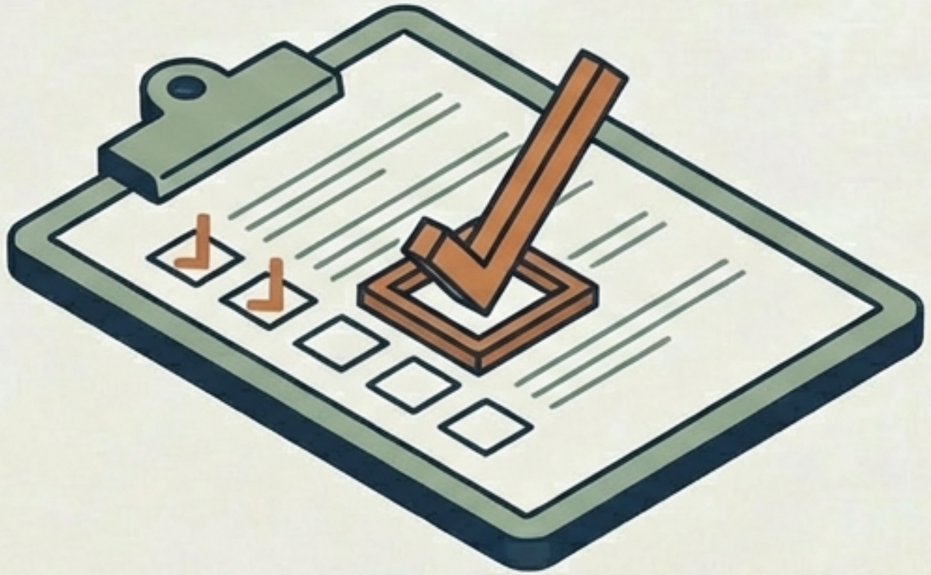
The Litmus Test



When is something NOT a context graph?

When you cannot trace:
“What did the agent see when it made that decision?”

If the loop doesn’t close—if there is no capture and no compounding—you don’t have a Context Graph. You have a database. The graph is the snapshot. The flywheel is the competitive advantage.

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