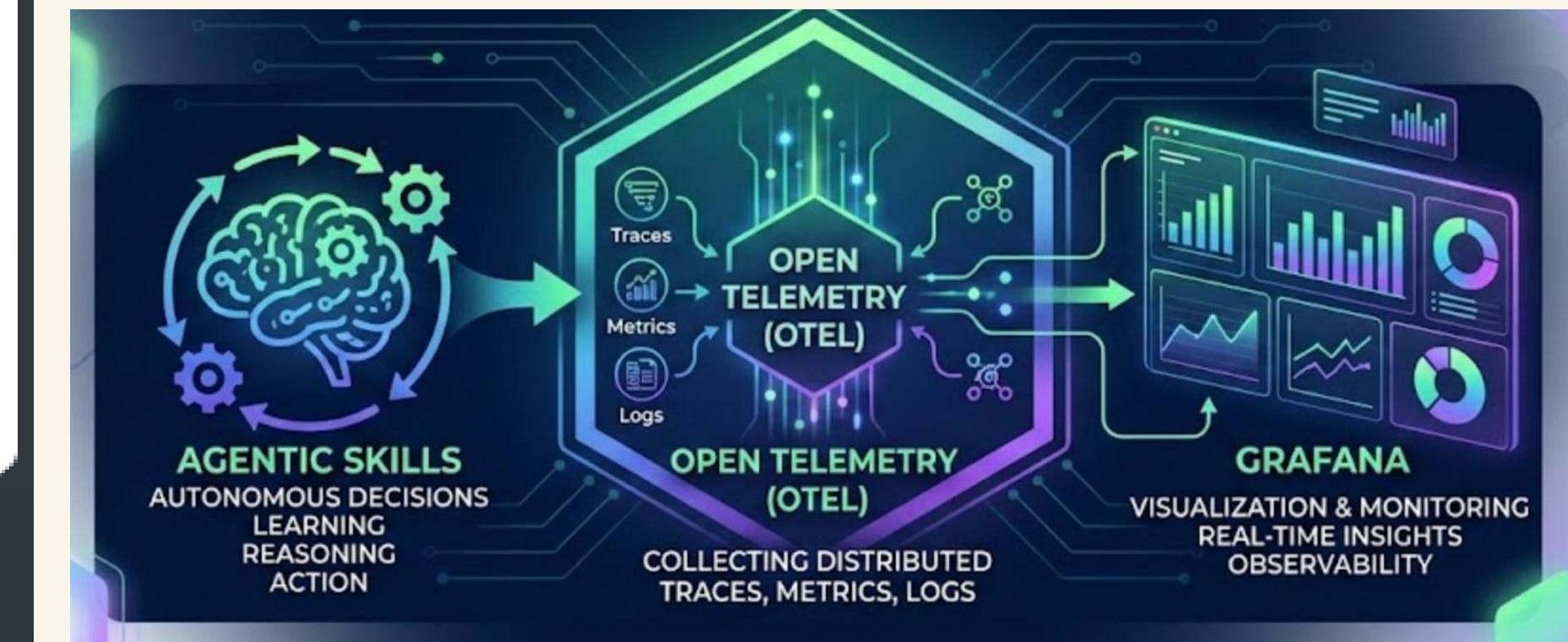


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# Blind to Boundless: Agentic Observability with Otel & Grafana

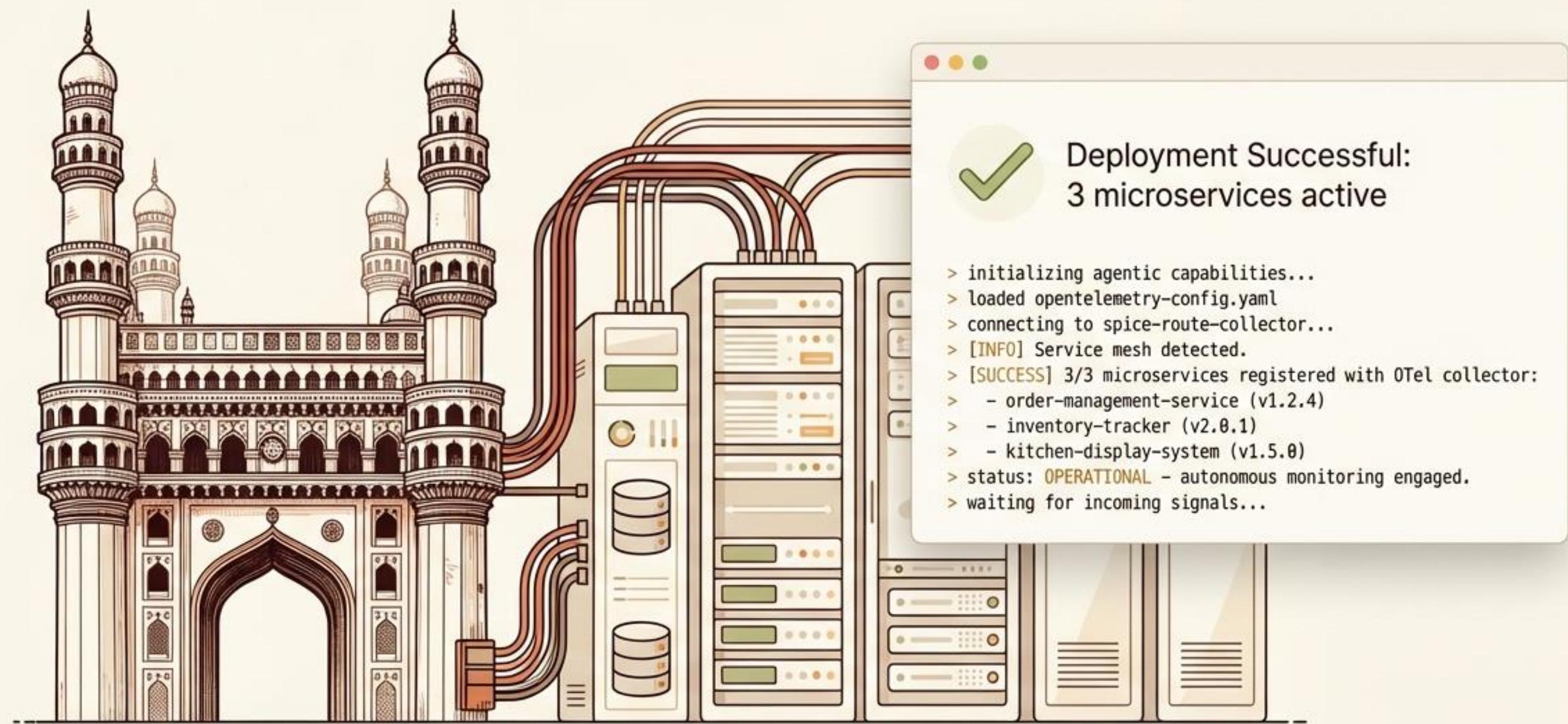


VINAY GATTU

28 Feb 2026

# Autonomous Observability in the Cloud Kitchen

## Serving OpenTelemetry with Agentic Skills



# Upgrading the Kitchen: The AI Ops Evolution



## AI Prompts

Natural language requests asking an AI model to generate a recipe or code snippet.



## AI Workflows

Pre-defined sequences of automated tasks, executed via simple slash commands.



## MCP Servers

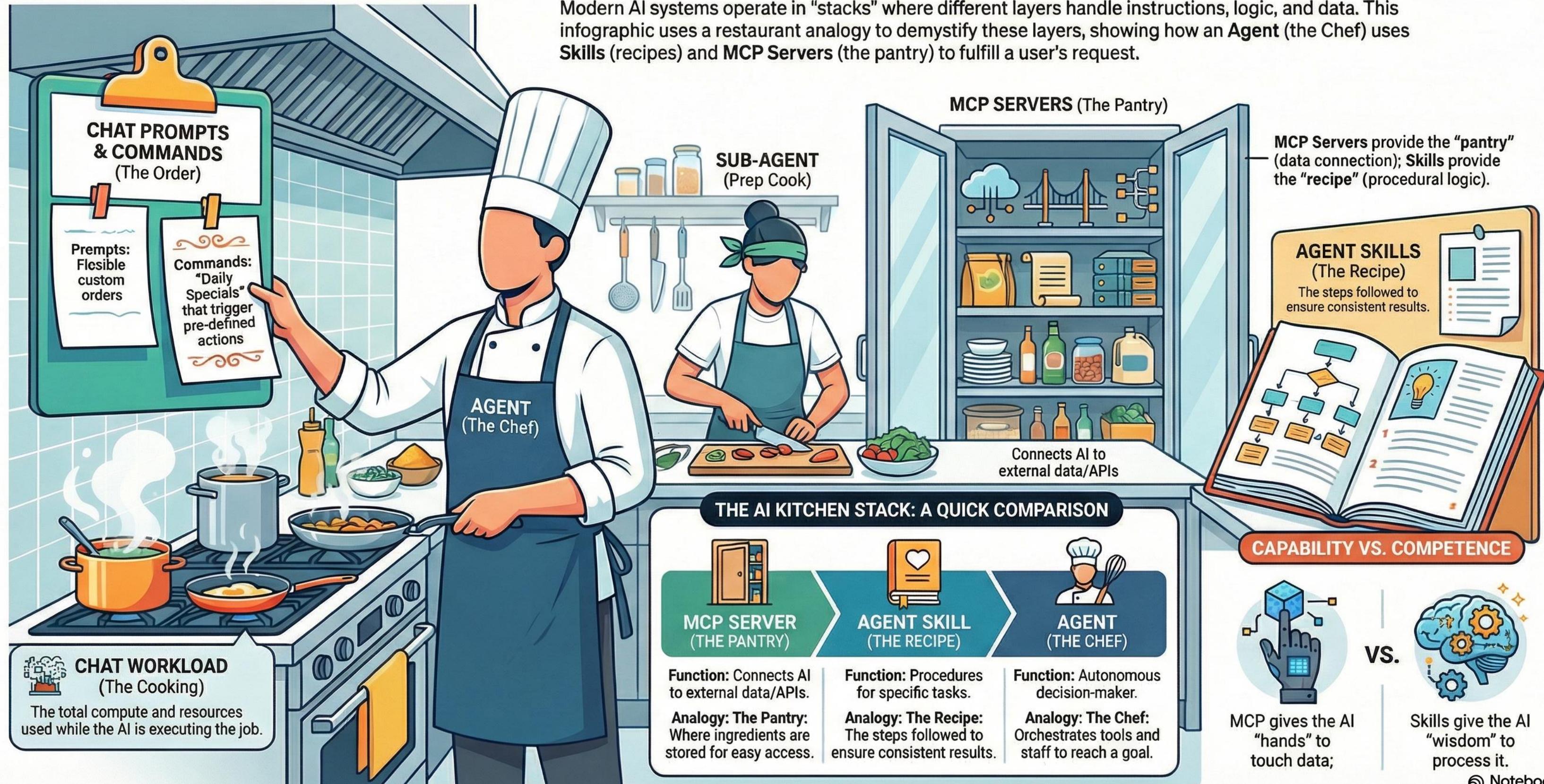
Standardized interfaces connecting AI to external data sources—like giving the chef access to the pantry.



## Agentic Skills

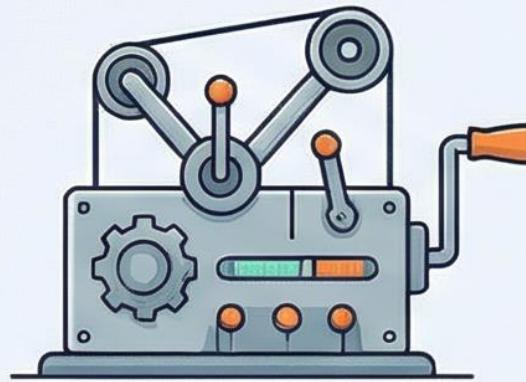
Autonomous, reusable tools with direct environment access to execute complex operations.

# Architecting the AI Stack: A Restaurant Guide to Agentic Workflows



# Scripts vs. Agentic Skills: Adding the Intelligent Layer

## Direct Script Execution (The Manual Approach)



### Command-Driven Rigidity



Users must know exact file paths and specific parameters to initiate any action.

```
{
  "ids": "id",
  "time": "0",
  "target": "target",
  "tolerance": 1,
  "loop": {
    "type": "loop",
    "loop": {
      "type": "loop"
    }
  }
}
```

### Raw Output Noise

Results are delivered in dense JSON or YAML logs that require manual sifting.

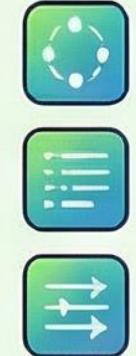


### Blind Execution

Scripts execute without checking environment state, leading to immediate crashes upon error.

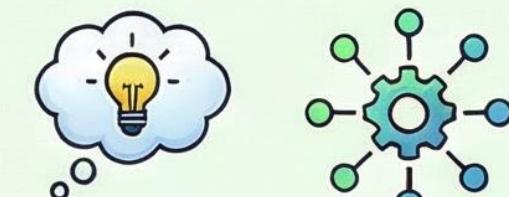


## Agentic Execution (The Intelligent Layer)



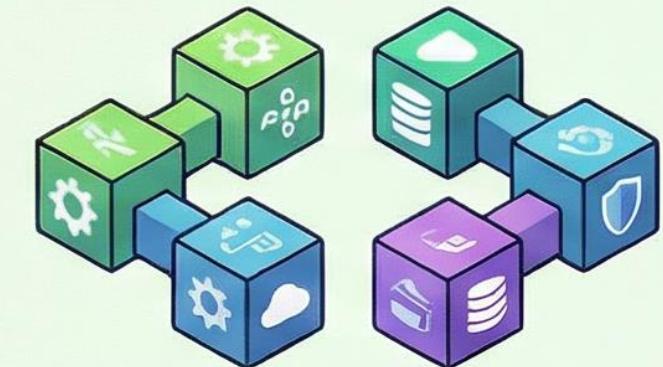
### Intent-Driven Operations

Agents translate natural language requests into the correct technical commands automatically.



### Experience Comparison

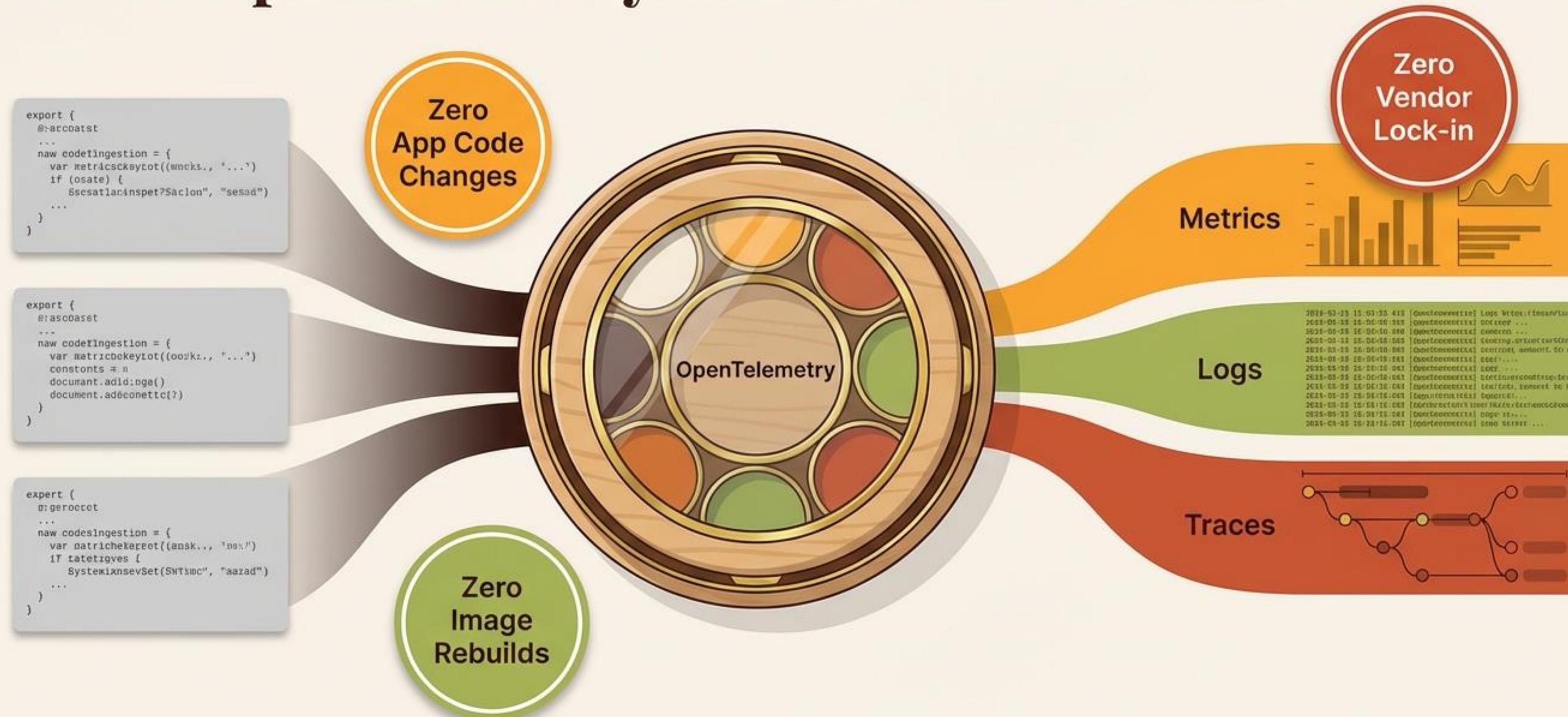
Feature	Direct Script Execution	Agentic Skill Execution
Input Method	Precise CLI Commands	Natural Language / Slash Commands
Context	Blind to Environment	Aware of IDE, Cluster, and State
Feedback	Raw Stack Traces	Synthesized Human Summaries



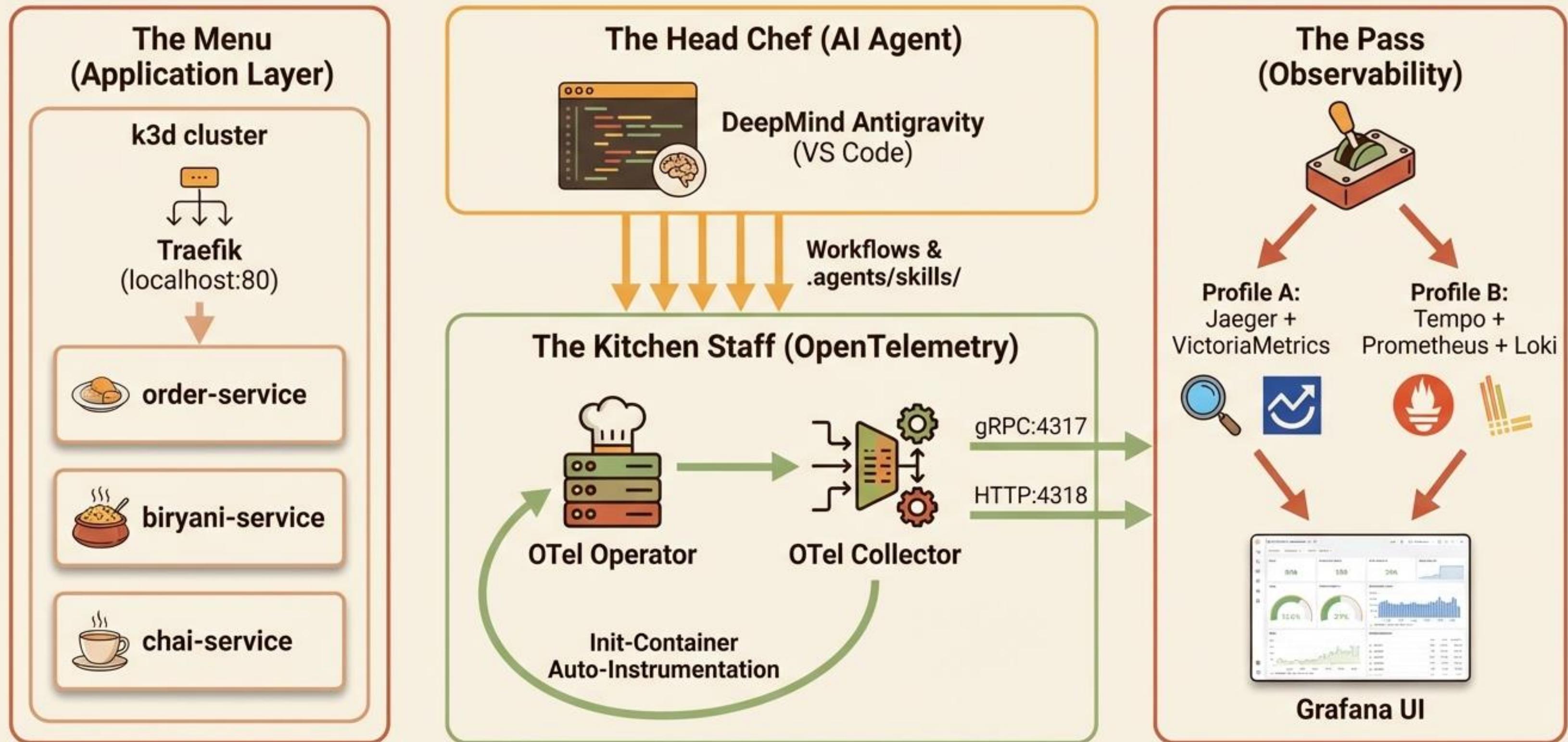
### Intelligent Composability

Agents logically sequence multiple skills to solve complex, multi-step problems autonomously.

# OpenTelemetry: The Universal Masala

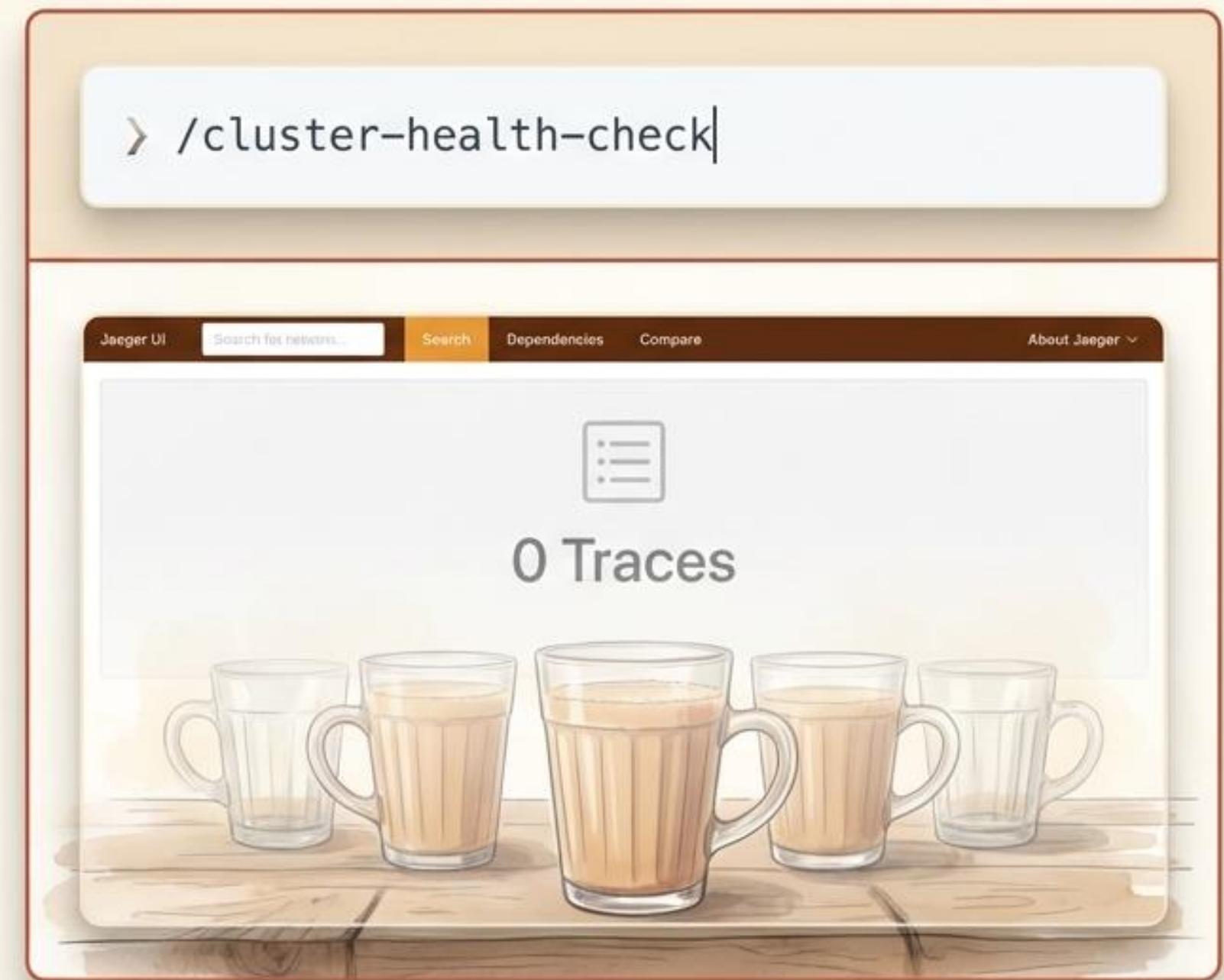


# Architecture: Inside the Cloud Kitchen



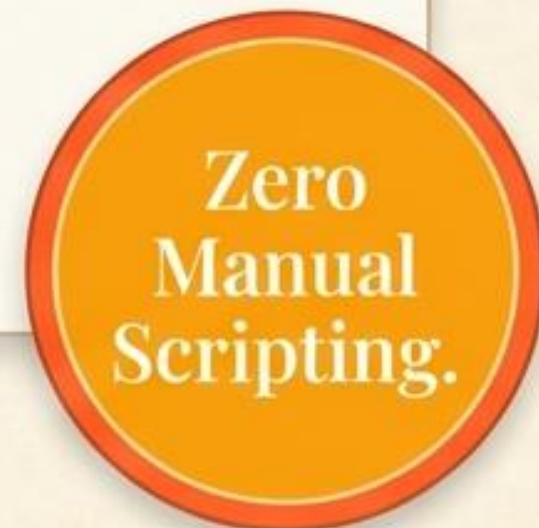
# Step 1: The Empty Kitchen (Baseline)

- **Status:** Apps running, stack up.
- **Command:** Agent runs /cluster-health-check
- **Result:** Pods are healthy, but zero active traces exist. The kitchen is cooking, but we can't see the orders.



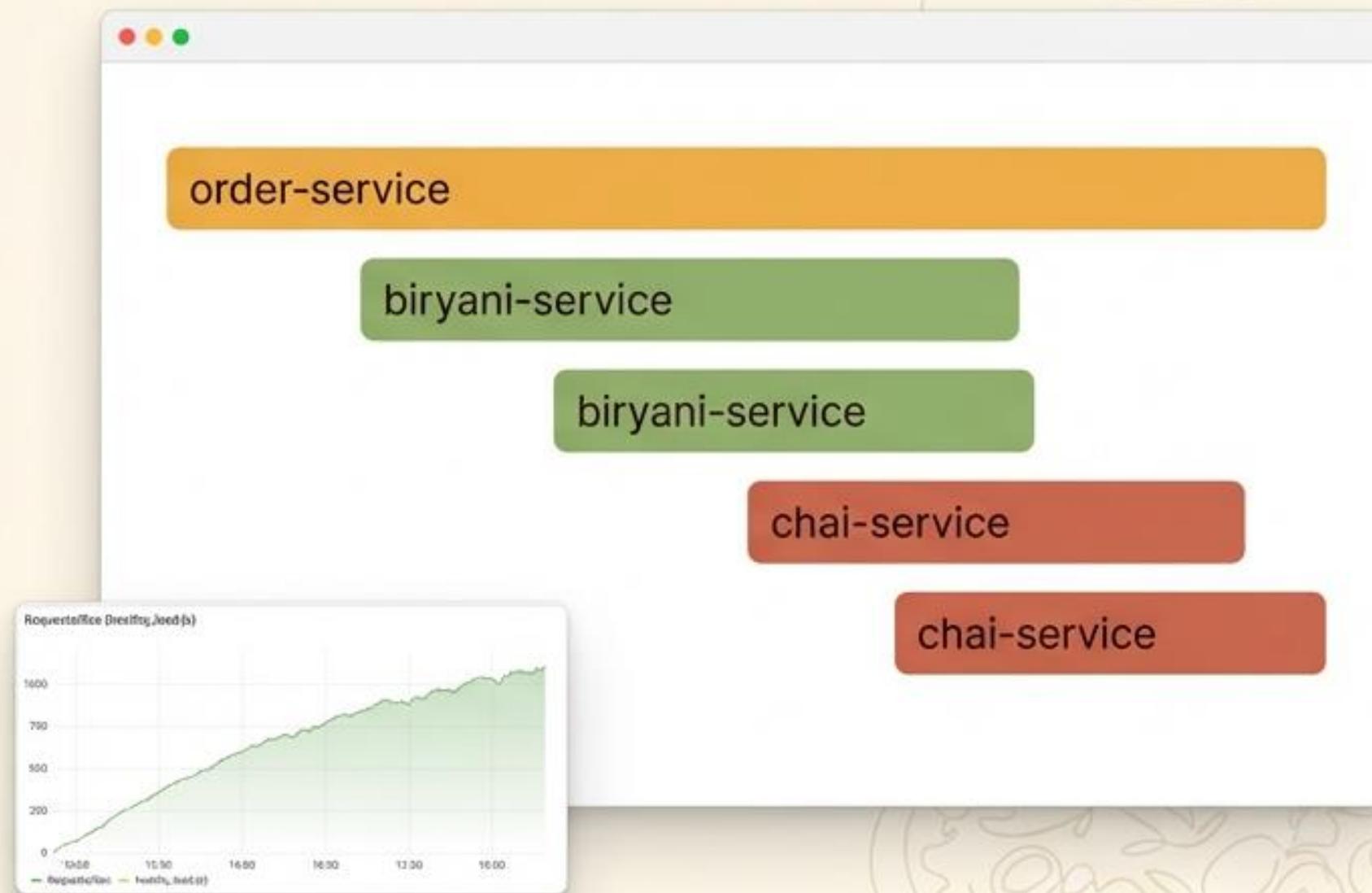
# Step 2: Adding the Masala (Live Application)

- **Prompt:** Hey, instrument my apps with OTel
- **Action:** Agent invokes /apply-otel-instrumentation
- **Execution:** Installs cert-manager -> OTel Operator -> creates Instrumentation CR -> patches deployment annotations.
- **Outcome:** Pods restart with injected Python SDK.



# Step 3: The Lunch Rush (Healthy Load)

- **Action:** Run `healthy_load.js` via k6 (200 requests/minute)
- **Visibility:** Grafana streams live metrics from VictoriaMetrics.
- **Tracing:** Full trace waterfall visible across order -> biryani / chai services.



# Step 4: Changing the Platter (Switching Backends)

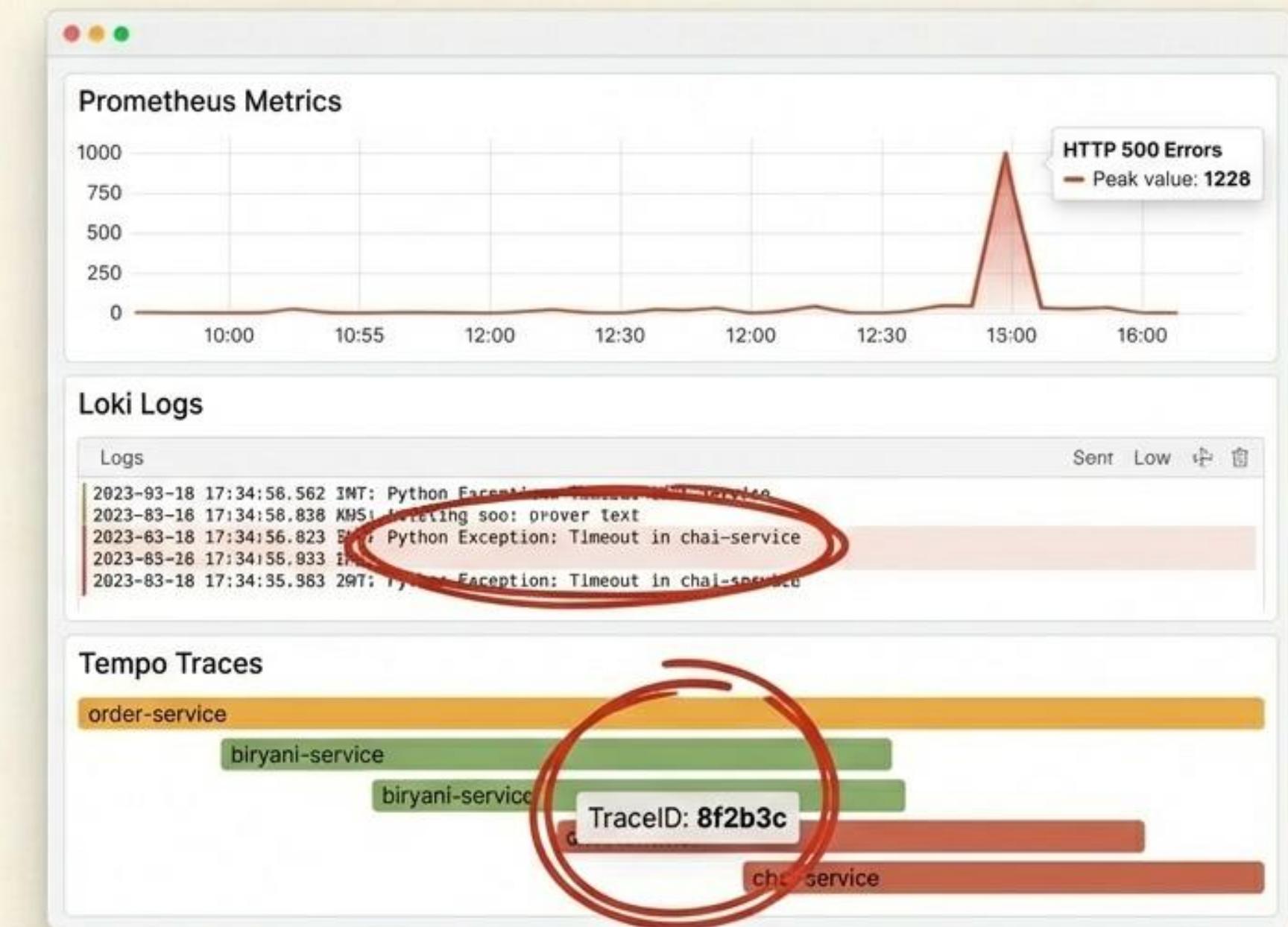
- **Prompt:** Switch OTEL to demo config
- **Action:** Agent runs /switch-otel-config demo
- **Execution:** OTEL Collector ConfigMap is patched.
- **Outcome:** Data reroutes to Prometheus, Tempo, and Loki. Zero pod restarts needed.

## Before & After



# Step 5: Catching Burnt Chai (Error Tracking)

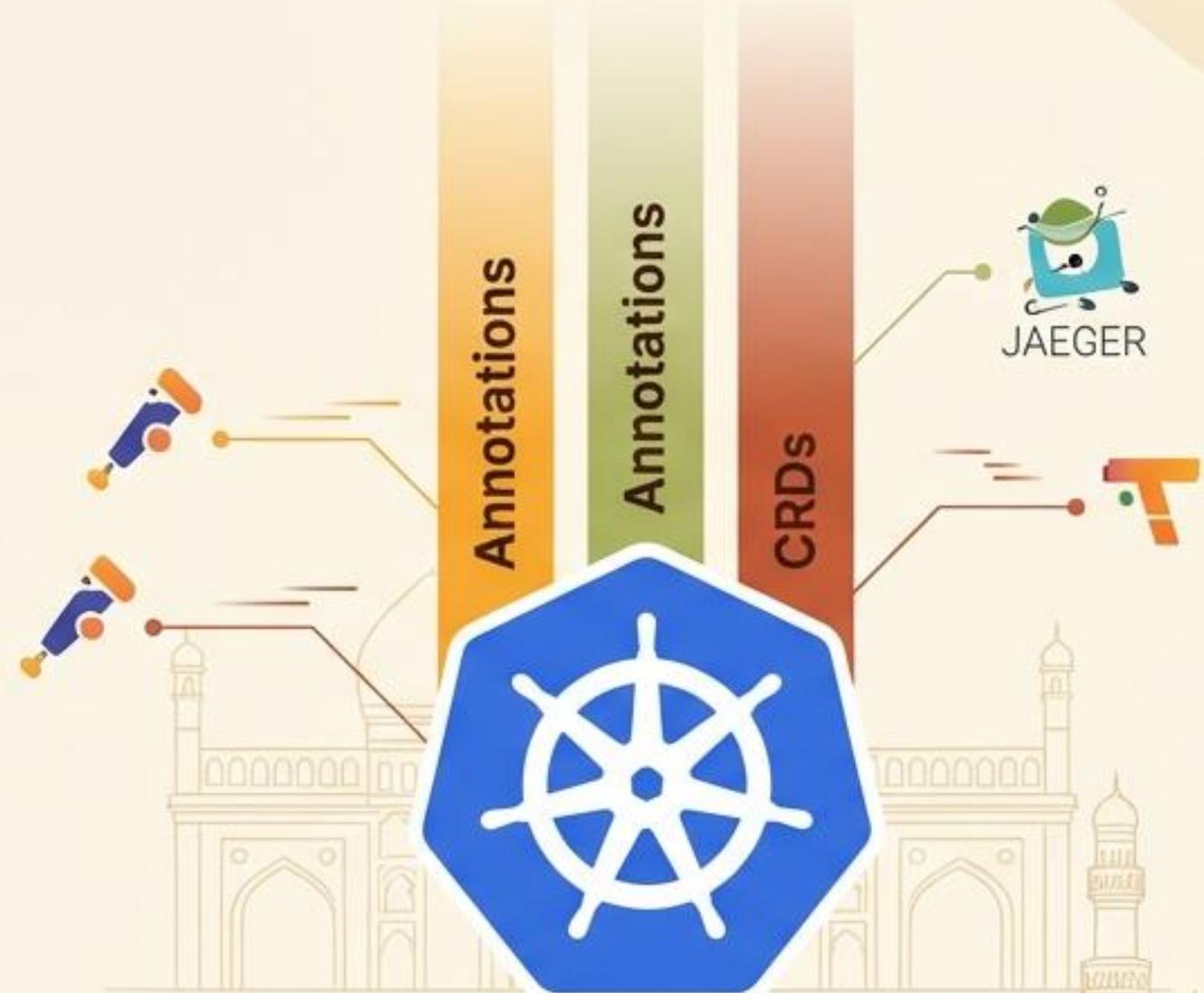
- **Action:** Run `error_load.js` via k6 (150 requests/minute)
- **Visibility:** Tempo traces + Prometheus metrics + Loki logs seamlessly unify.
- **Result:** Instantly pinpoint the failing service without context switching.



# Step 6: Closing the Kitchen (Clean Removal)

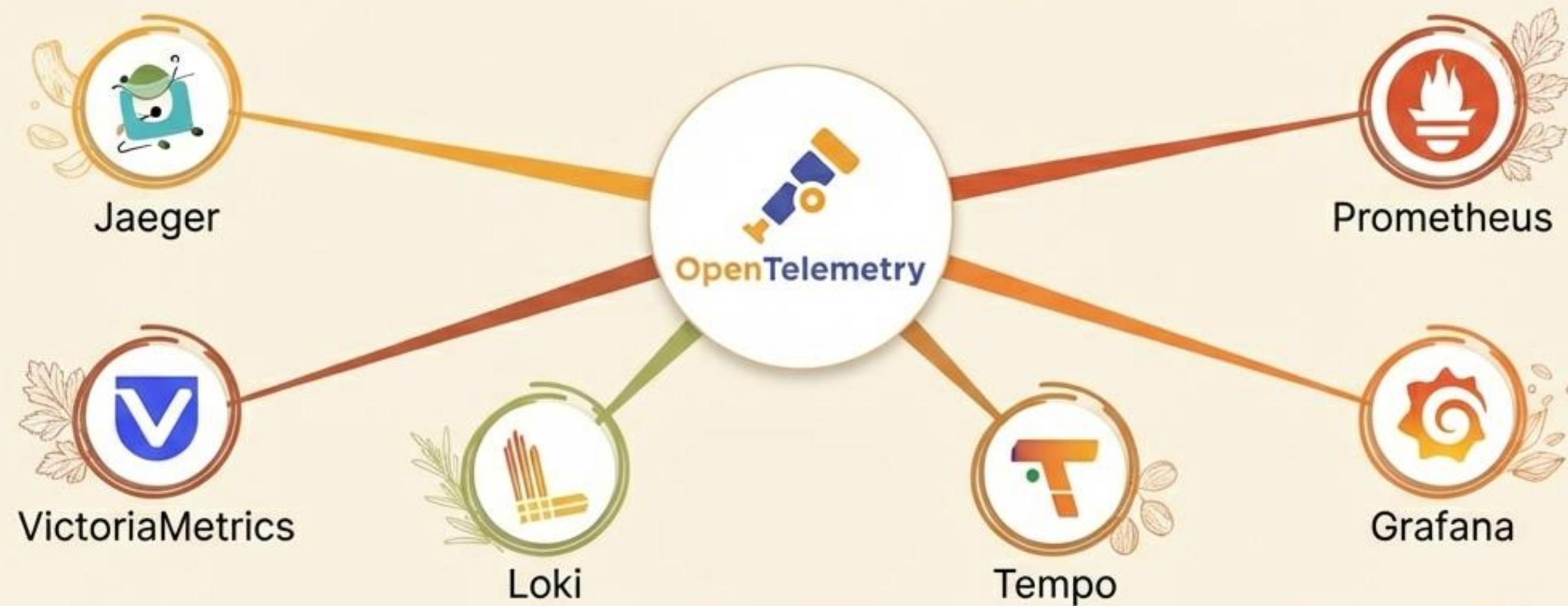
**Prompt:** Remove OTEL instrumentation

- **Action:** Agent runs `/remove-otel-instrumentation`
- ✓ **Execution:** Strips annotations, deletes Instrumentation CR.
- ⚡ **Outcome:** Pods restart clean. Jaeger and Tempo cease receiving new traces.



# Total Flexibility: Best-in-Class by Choice

OpenTelemetry is the great enabler. Every modern product is now OTel-compliant. You have the absolute power to test, evaluate, and switch monitoring tools freely at the backend without touching application code.



# Agentic Speed: Ops at the Speed of Thought

- ▶ **Repeatable:** Reusable SKILL.md definitions standardize complex deployments.
- ▶ **Accessible:** Plain-English interfaces lower the barrier for intricate Kubernetes orchestration.
- ▶ **Fast:** Eliminates manual scripting and context switching. What used to take hours of YAML writing now takes seconds.



**Hours of YAML →  
Seconds of  
Plain English**

# The Perfect Blend

Autonomous operations and OpenTelemetry compose together beautifully—just like Irani Chai and Osmania Biscuits.

The CNCF ecosystem provides the ingredients; Agentic AI provides the speed.

Thank  
you

