



# Generative AI in the Enterprise: One Year Later

## Enterprise Technology Leadership Summit 2024

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# Who we are



John Rauser  
Director of Engineering, Cloud Security



Anand Raghavan  
Senior Director of Engineering, AI

# About Cisco



# AI @ Cisco

## Cisco AI Hub

\$1B

Global AI  
Investment Fund

12+

AI Investments

5

Industry partnerships  
(Nvidia, Microsoft, AWS,  
Intel, AMD)

7

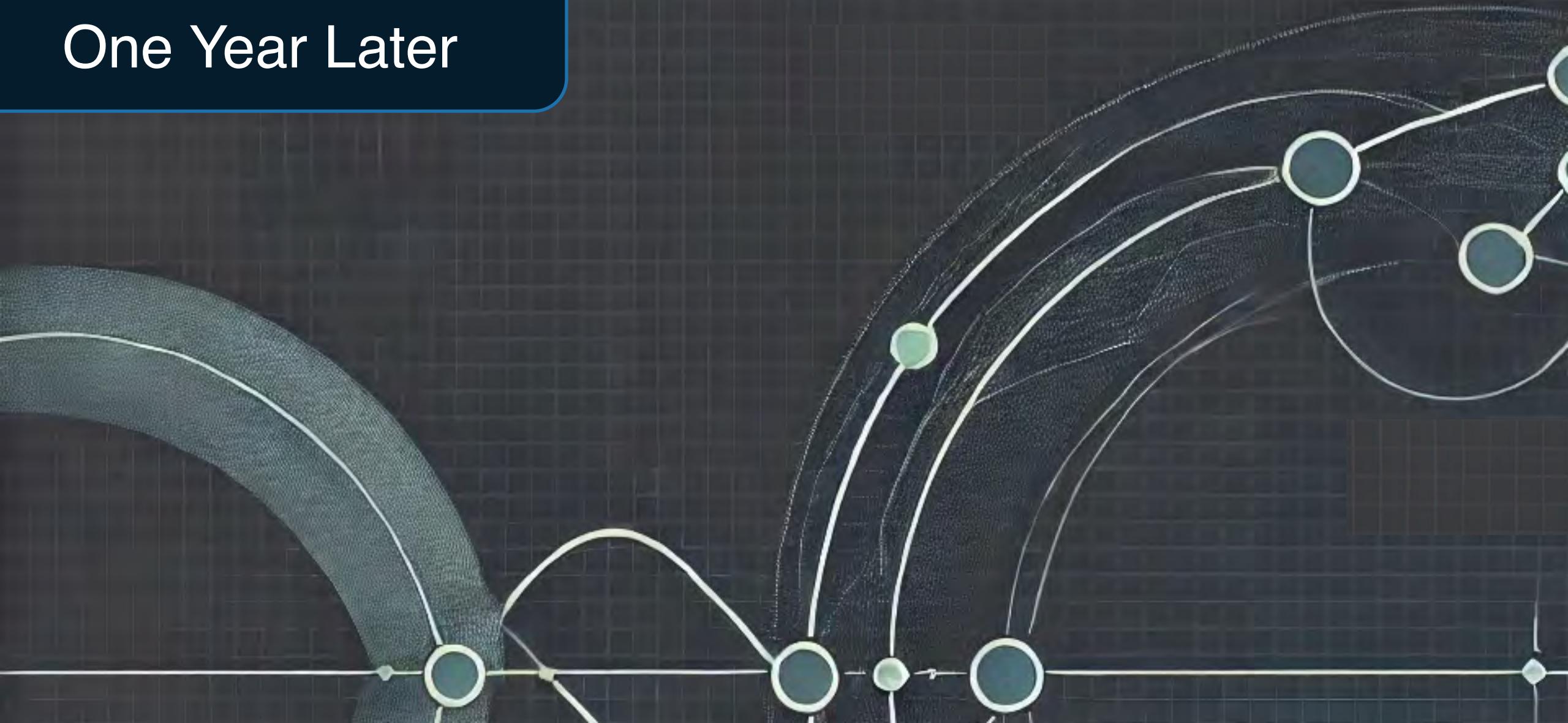
AI Acquisitions

### Enabling AI internally:

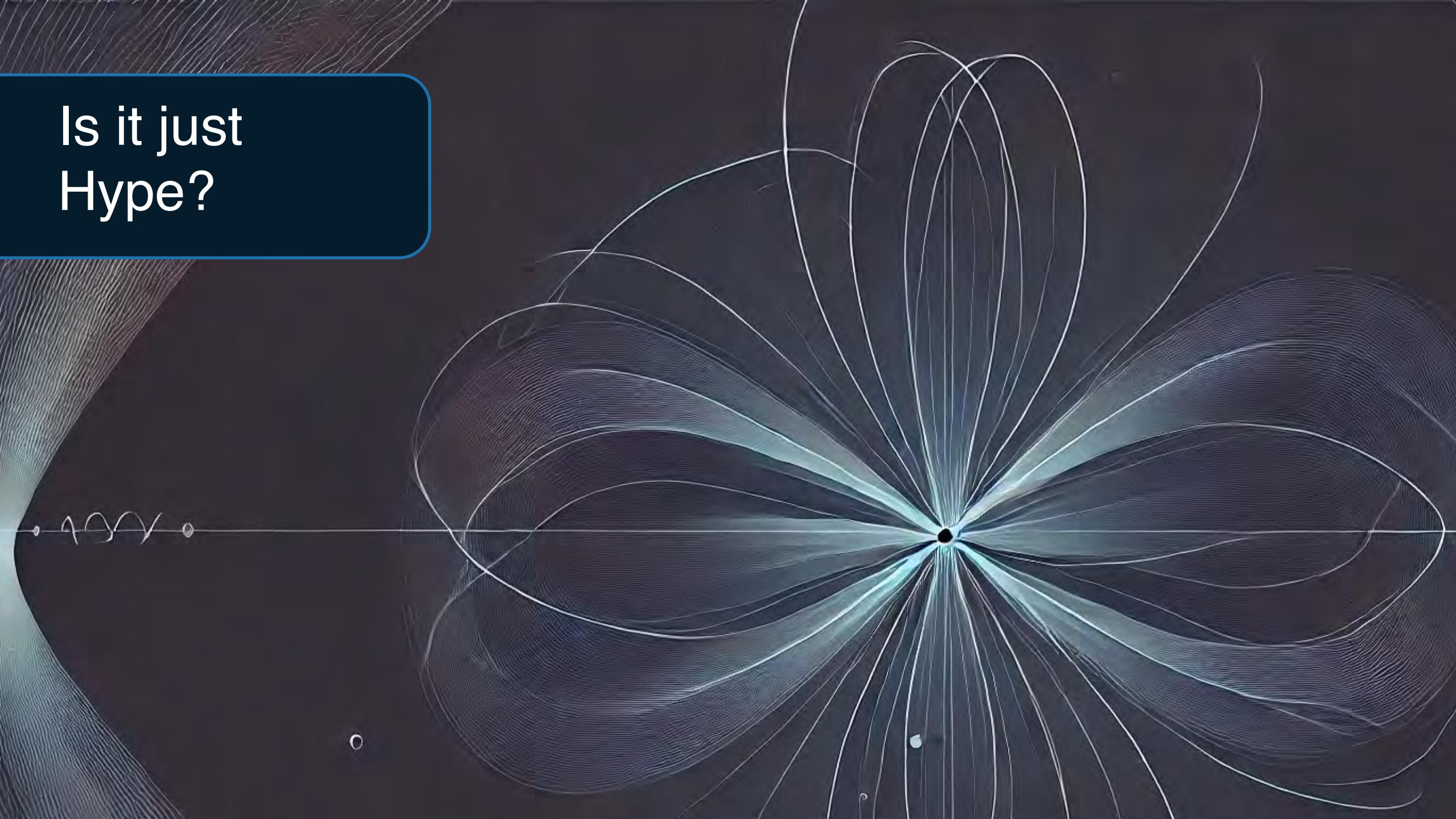
- “BridgeIT” - Chat + APIs
- Communities of Experts (COEs)
- Training Programs, Learning Paths
- Governance (approved models, tools)
- Infrastructure and Platforms
- Hackathons
- Internal Conferences
- Knowledge Management and Sharing

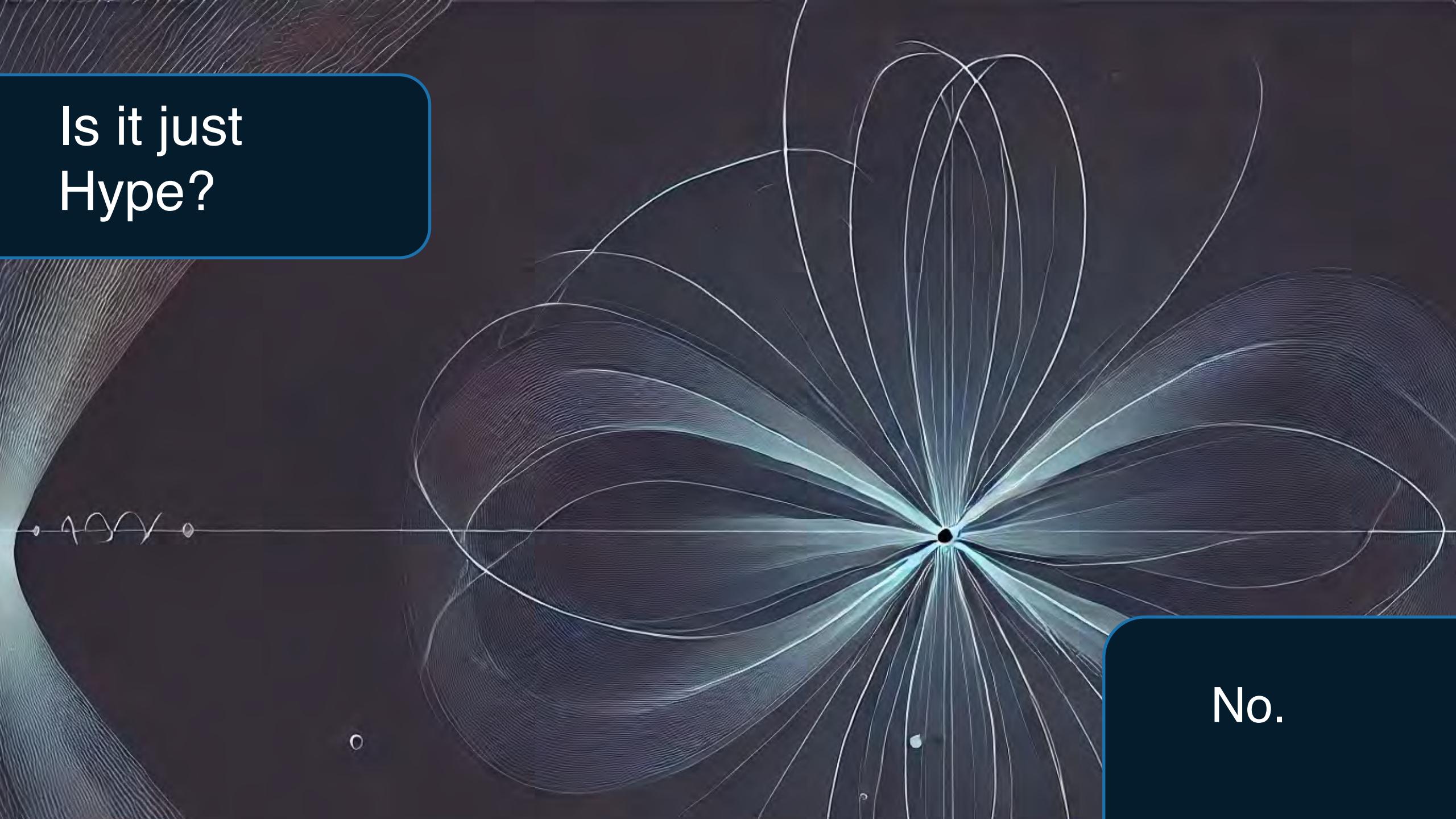
Making AI  
work for you.

# Gen AI: One Year Later



Is it just  
Hype?





Is it just  
Hype?

No.

# The ROI Of Gen AI

*Google Cloud Report*

74% | Seeing ROI from Gen AI investments

86% | Seeing revenue growth estimate of 6% or more

84% | Go from use case to production in just 6 months

<https://buff.ly/3ymJODn>

## Key Benefits:

1. Productivity
2. Business Growth
3. User Experience
4. Security



Where do we see  
Gen AI creating value?

### Key Business Drivers:

1. **Products**: Assist, Augment, Automate
2. **Productivity**: Development, QA, SRE, Cloud Costs, Compliance

# Example: Developer Productivity

Time Saved in documentation  
and auto-completion

50%

Reduction in  
repetitive tasks

30%

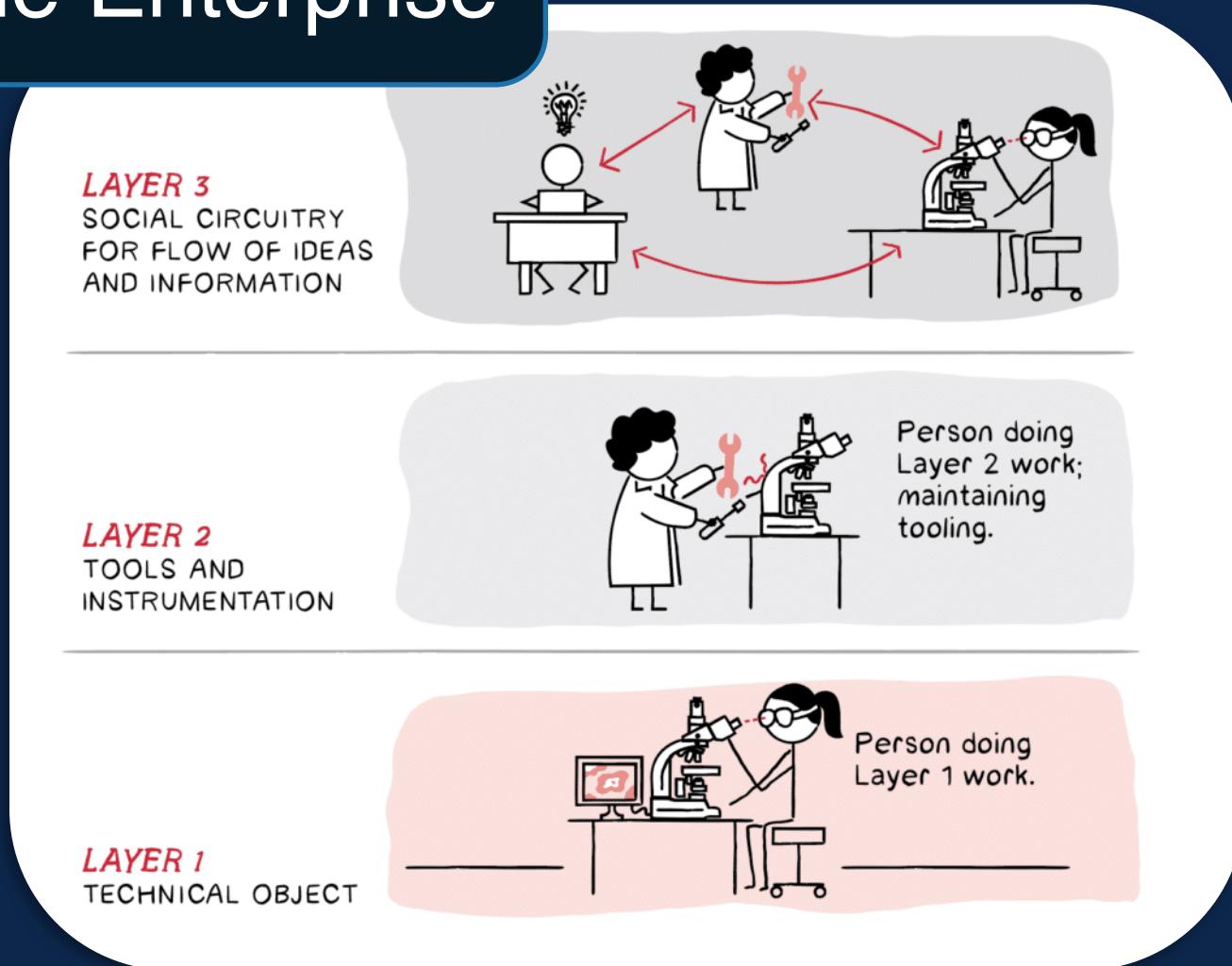
## Transforming Software Development: Evaluating the Efficiency and Challenges of GitHub Copilot in Real-World Projects

Ruchika Pandey, Prabhat Singh, Raymond Wei, Shaila Shankar  
Security Business Group, Cisco Systems Inc

### Abstract

Generative AI technologies promise to transform the product development lifecycle. This study evaluates the efficiency gains, areas for improvement, and emerging challenges of using GitHub Copilot, an AI-powered coding assistant. We identified 15 software development tasks and assessed Copilot's benefits through real-world projects on large proprietary code bases. Our findings indicate significant reductions in developer toil, with up to 50% time saved in code documentation and autocompletion, and 30-40% in repetitive coding tasks, unit test generation, debugging, and pair programming. However, Copilot struggles with complex tasks, large functions, multiple files, and proprietary contexts, particularly with C/C++ code. We project a 33-36% time reduction for coding-related tasks in a cloud-first software development lifecycle. This study aims to quantify productivity improvements, identify underperforming scenarios, examine practical benefits and challenges, investigate performance variations across programming languages, and discuss emerging issues related to code quality, security, and developer experience.

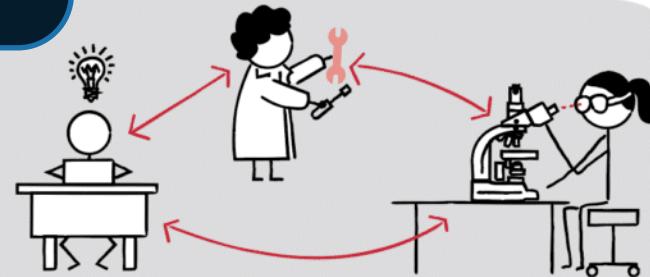
# Wiring AI into the Enterprise



# Wiring AI into the Enterprise

## LAYER 3

SOCIAL CIRCUITRY  
FOR FLOW OF IDEAS  
AND INFORMATION



## LAYER 2

TOOLS AND  
INSTRUMENTATION



Person doing  
Layer 2 work;  
maintaining  
tooling.

## LAYER 1

TECHNICAL OBJECT

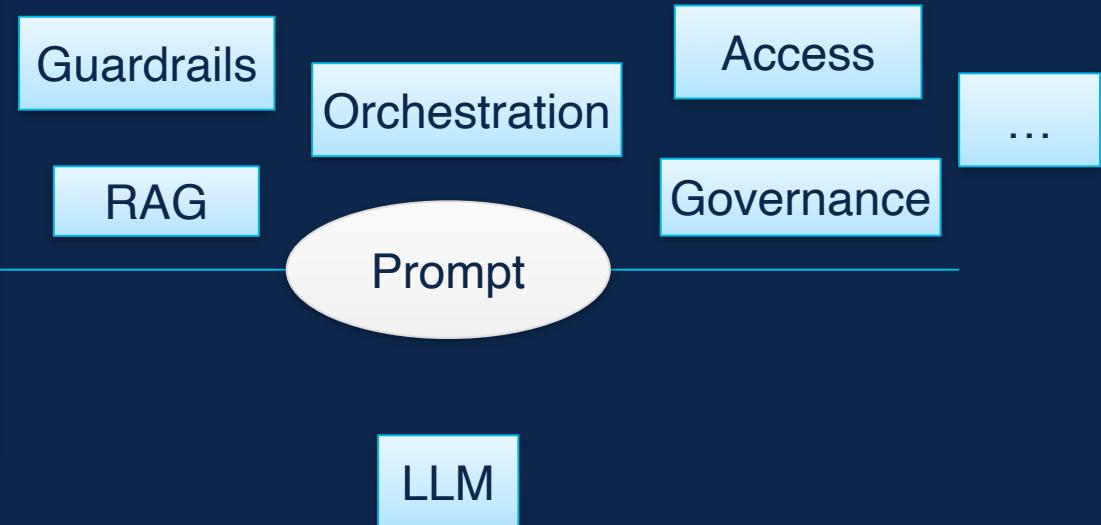
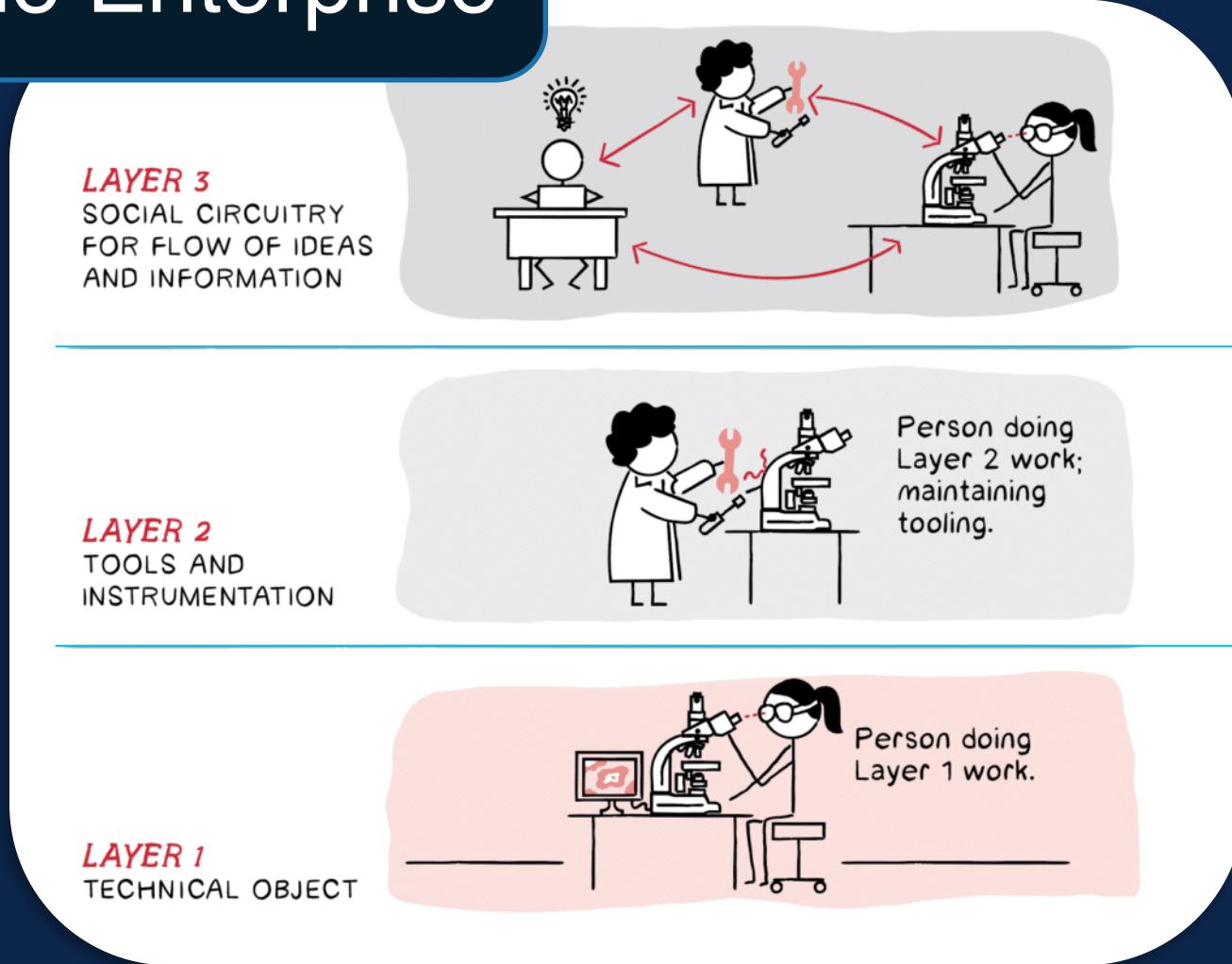


Person doing  
Layer 1 work.

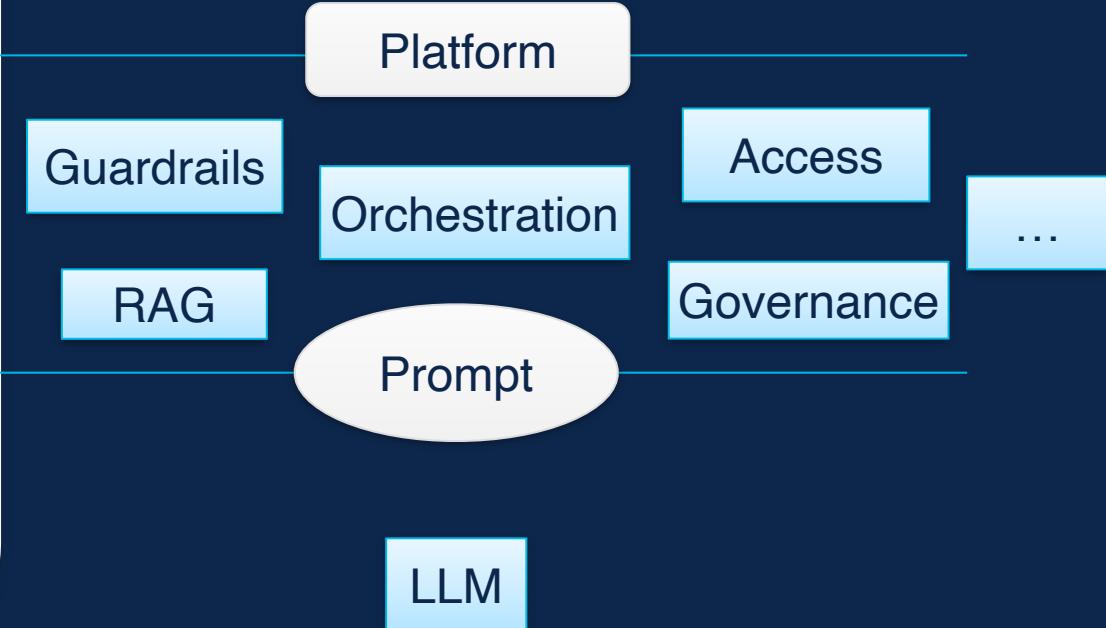
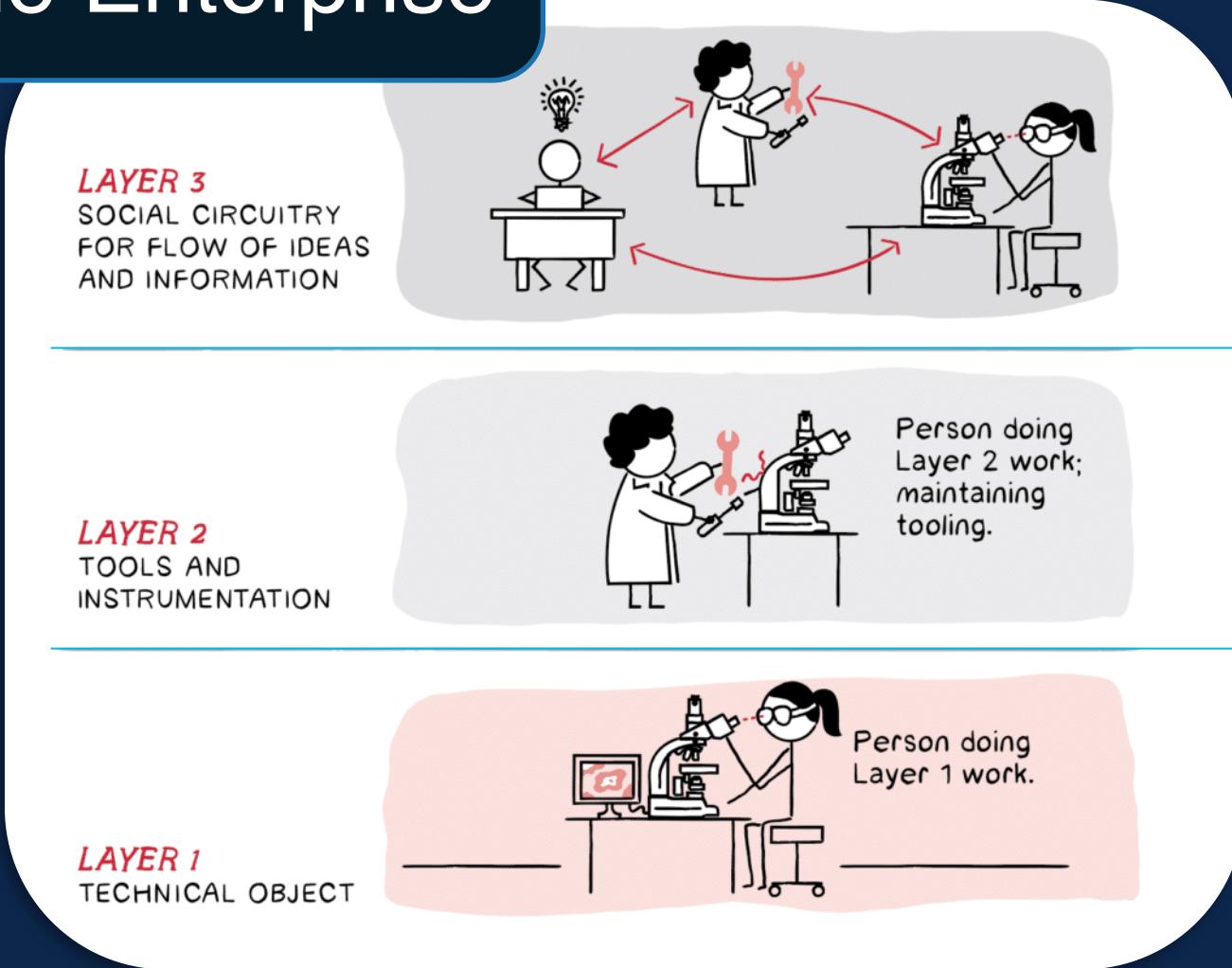
Prompt

LLM

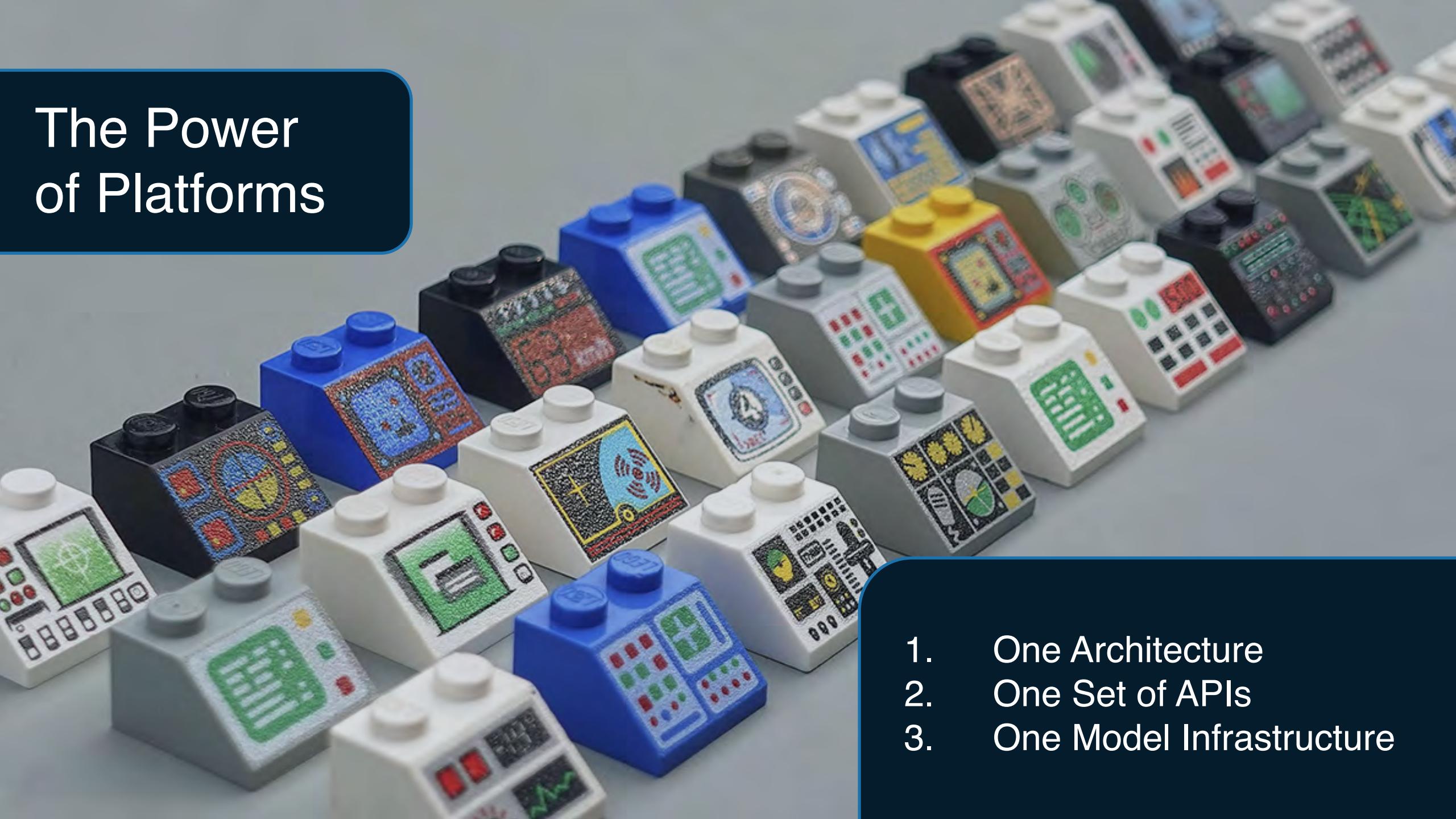
# Wiring AI into the Enterprise



# Wiring AI into the Enterprise

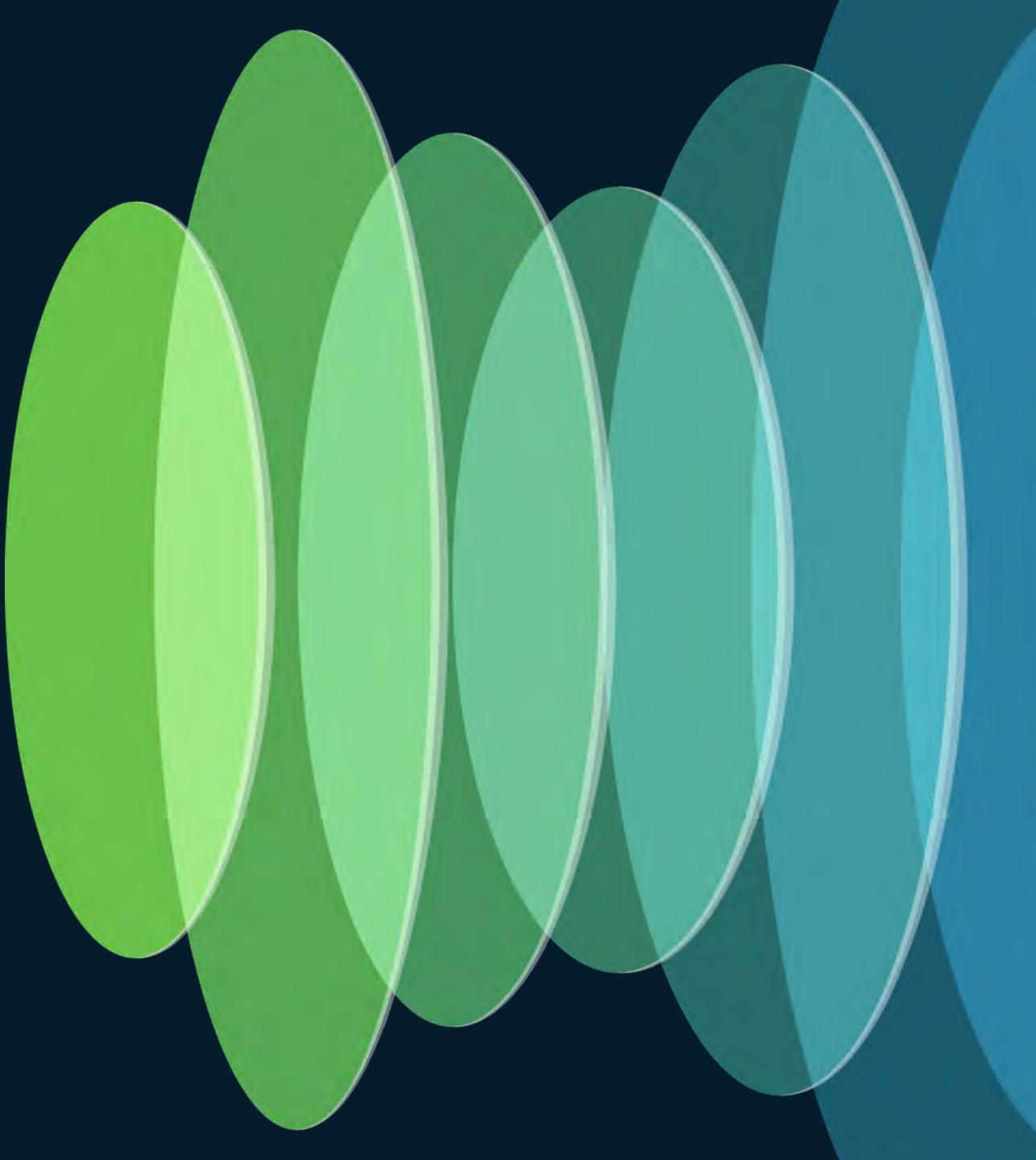


# The Power of Platforms



1. One Architecture
2. One Set of APIs
3. One Model Infrastructure

# Building Enterprise Gen AI Apps



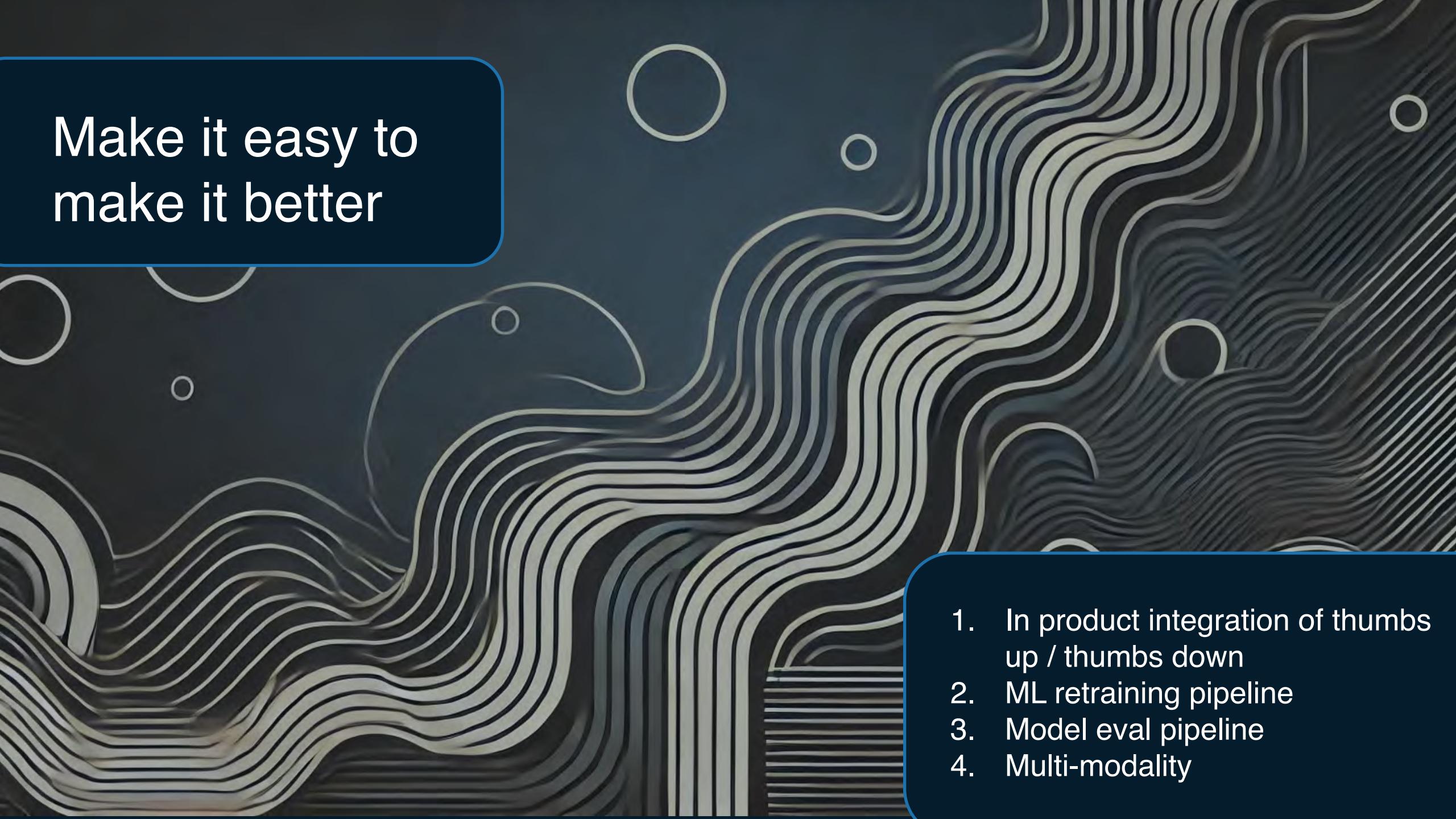
# Learn from the customer

- 
- 1. Product and growth analysis
  - 2. Customer Interviews
  - 3. Prioritize key pain points



Launch fast  
and iterate

1. Pick the right LLM and platform architecture
2. Roll out an alpha early
3. Iterate with customer

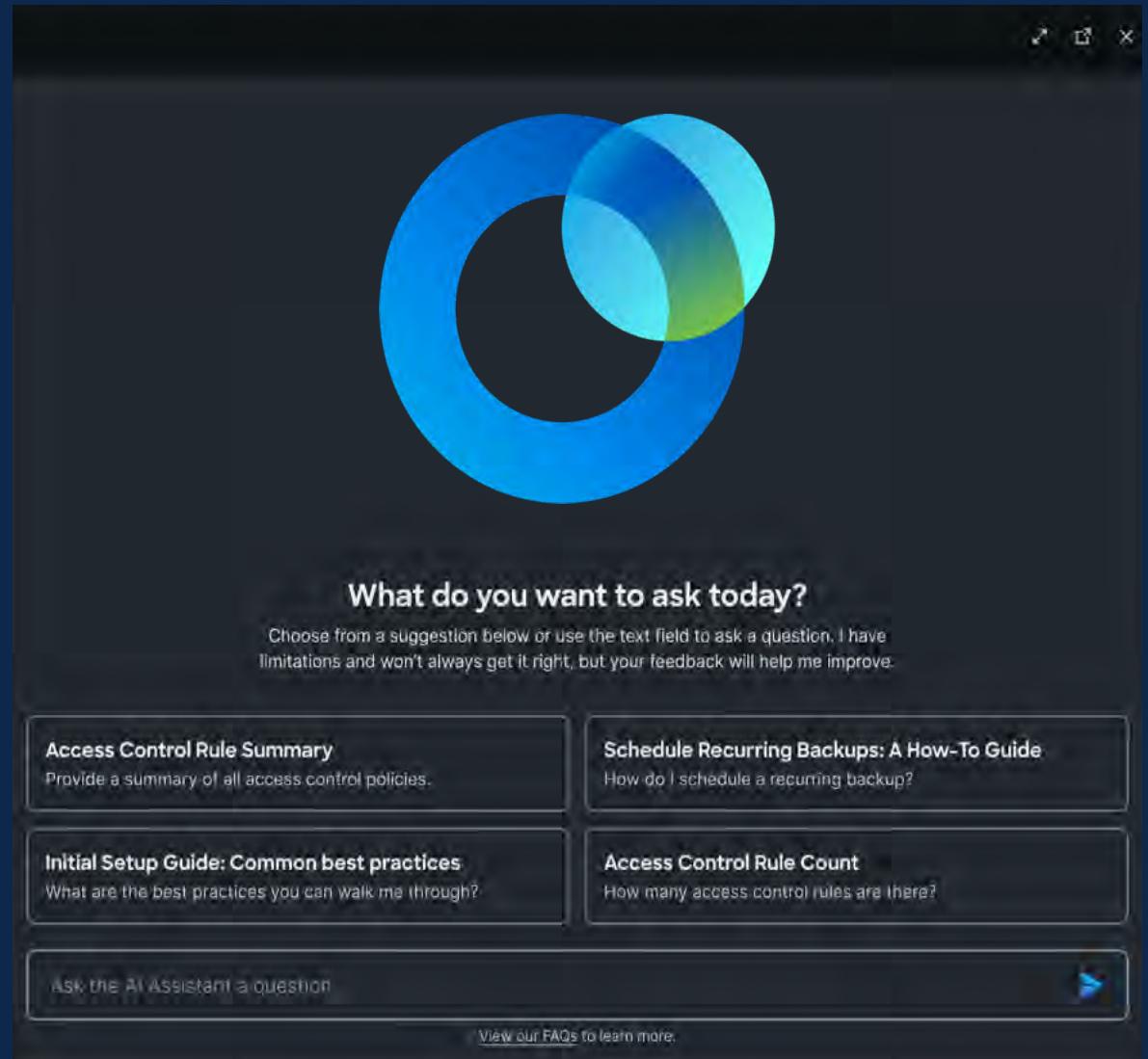


Make it easy to  
make it better

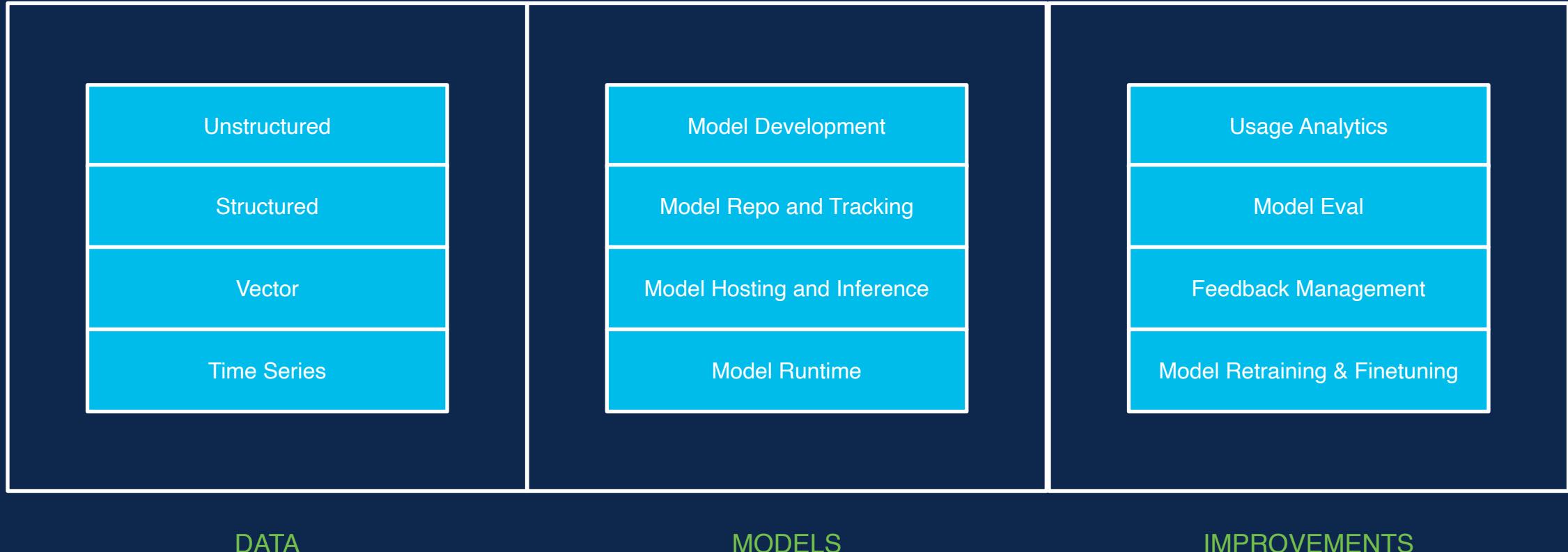
- 1. In product integration of thumbs up / thumbs down
- 2. ML retraining pipeline
- 3. Model eval pipeline
- 4. Multi-modality

# Use Cases

- [Documentation] Answer concept questions, reason over concepts, how-to style questions and provide step-by-step configuration guides
- [Operational] Answer questions related to existing product configuration and operational data
- [Configuration] Allow new configuration and change to configuration of the product
- [Functional] Answer questions related to product function and behavior (what-if & how-is)
- [Workflows] Allow for seamless integration into enterprise process workflows & communication with fellow team members



# Building Blocks



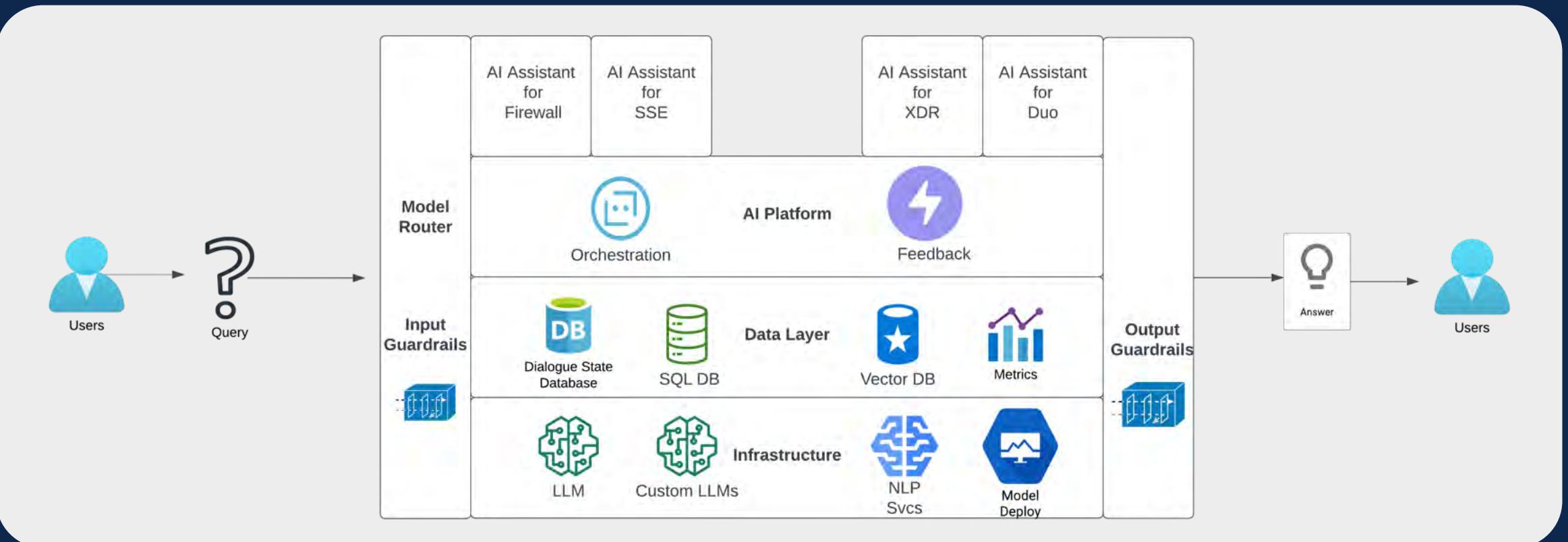
DATA

MODELS

IMPROVEMENTS

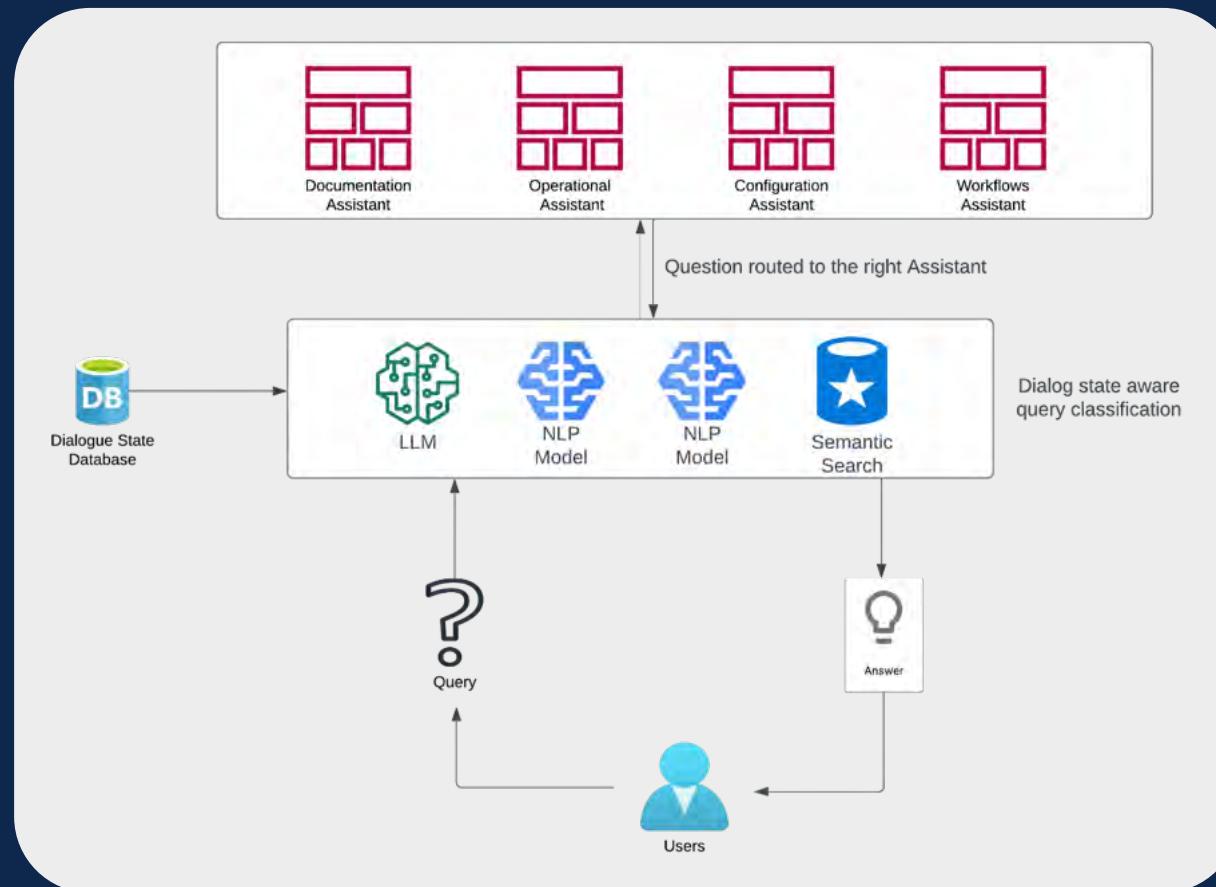
# Unifying our Stack, Bridging the Portfolio

Bringing together different products using Gen AI



# The Heart of the Platform: Model Orchestrator

# Routing queries to the right assistant



# Help we are looking for



How are you **implementing** Gen AI products in your organization?  
What **impacts** are you seeing in deploying Gen AI for productivity?  
What **strategies** are you implementing to enable Gen AI adoption?





# Thank you

