

From Completion to Agentic AI

The Evolution of Language models

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Xebia

AGENDA

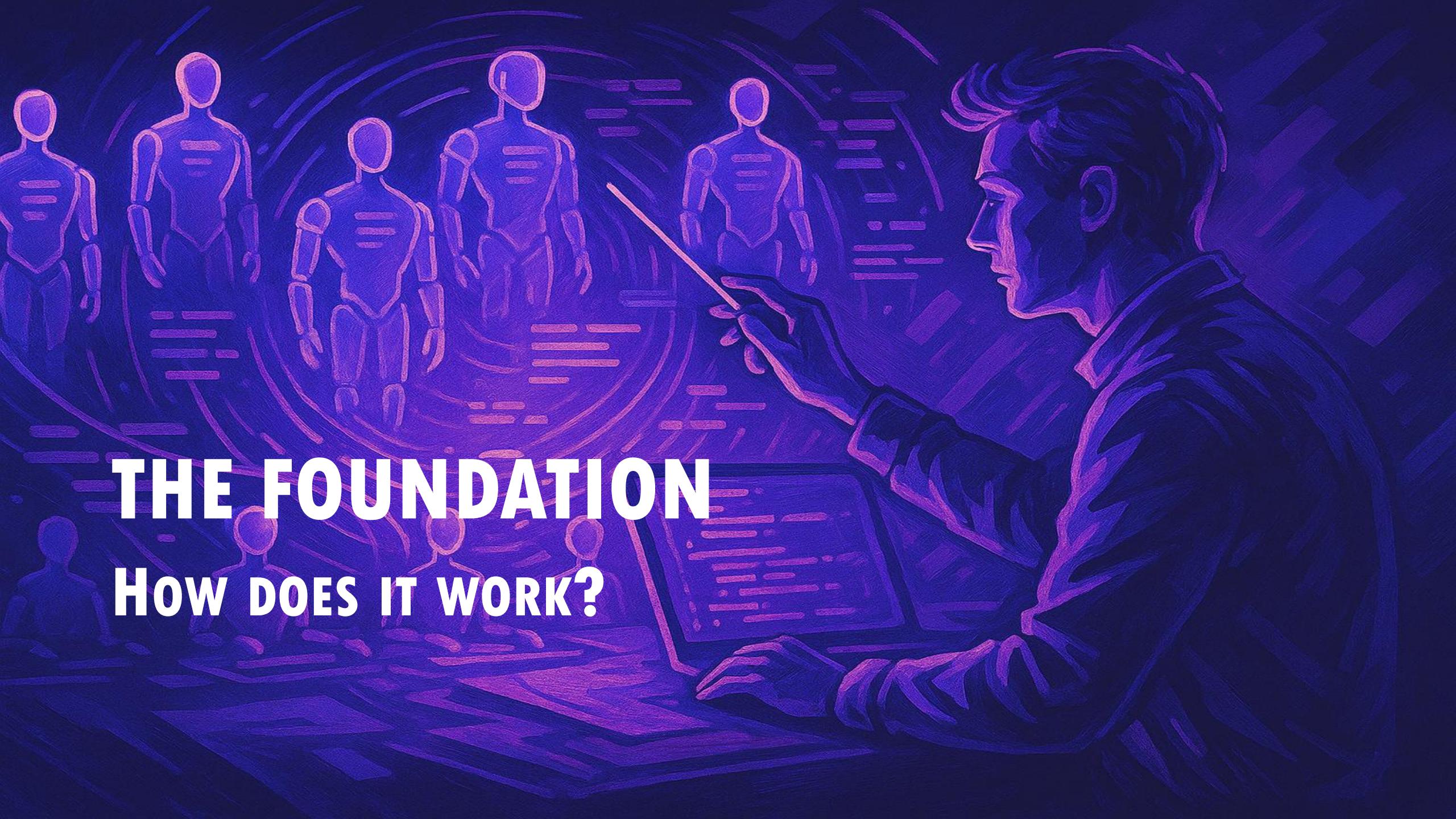
THE FOUNDATION

CONVERSATIONAL AI

KNOWLEDGE ENHANCEMENT

AGENT ORCHESTRATION



The background of the image features a man with dark hair and a beard, wearing a dark suit and tie, sitting at a desk and looking at a computer monitor. The monitor displays a grid of stylized human figures. The overall color palette is dark, with blue and purple hues. The text "THE FOUNDATION" and "How DOES IT WORK?" is overlaid on the left side of the image.

THE FOUNDATION

How DOES IT WORK?

UNDERSTANDING (LARGE) LANGUAGE MODELS

Conferences are fun to attend, the → next

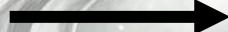
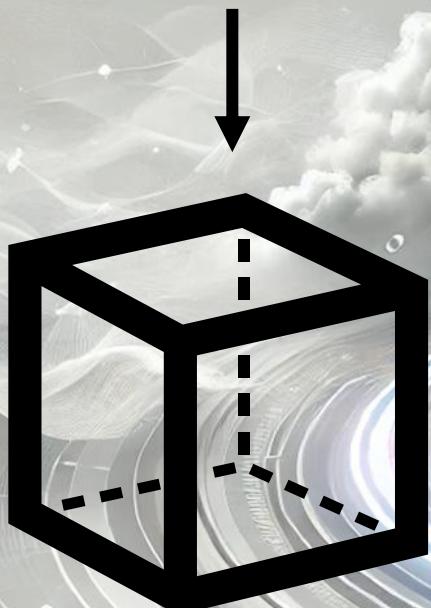
Conferences are fun to attend, the next → event

Conferences are fun to attend, the next event → takes

Conferences are fun to attend, the next event takes place in

UNDERSTANDING (LARGE) LANGUAGE MODELS

Conferences are fun to attend, the next event takes place in



Token	Probability	Outcome
Brussels	75%	0.41
Antwerp	62%	0.52
London	50%	0.04
Paris	34%	0.15

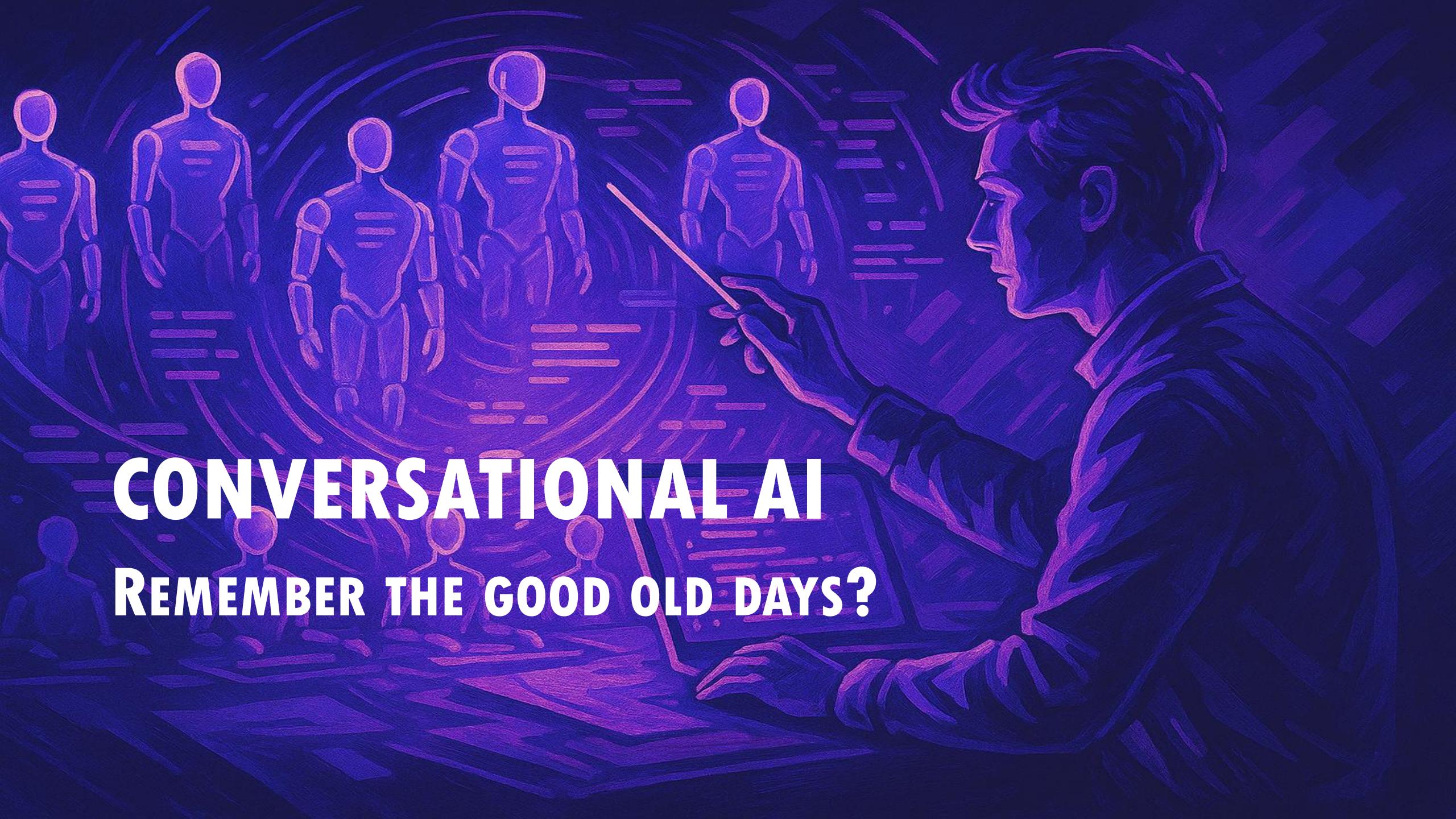
PROBABILITY CALCULATION TEMPERATURE

Token	0.0 - Deterministic	0.7 – Balanced	1.5 – Creative
Brussels	100%	75%	54%
Antwerp	0%	62%	53%
London	0%	50%	50%
Paris	0%	34%	47%

PROBABILITY CALCULATION

TOP P(ERCENTAGE)

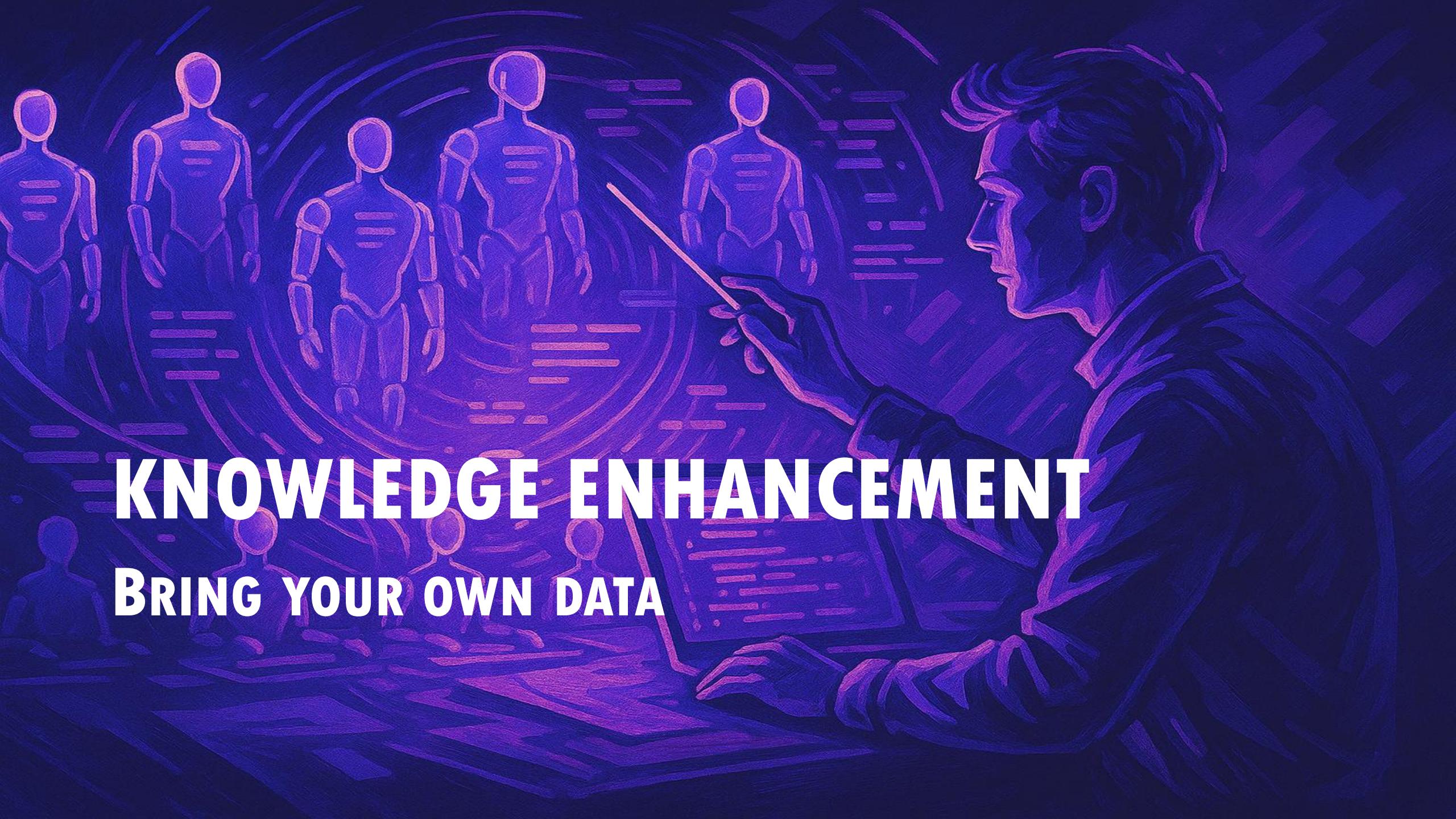
Token	30%	50%	65%
Brussels	75%	75%	75%
Antwerp	62%	62%	-
London	50%	50%	-
Paris	34%	-	-



CONVERSATIONAL AI
REMEMBER THE GOOD OLD DAYS?



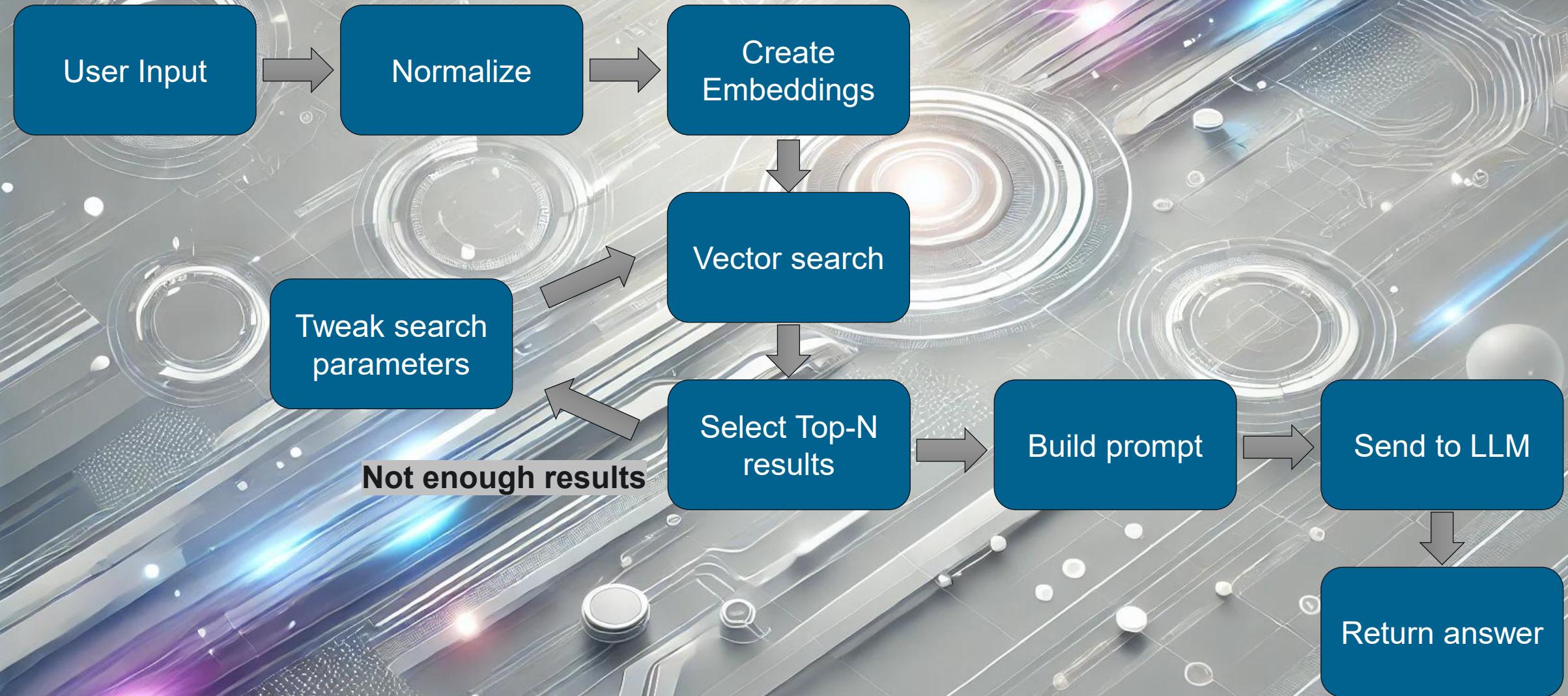
DEMO



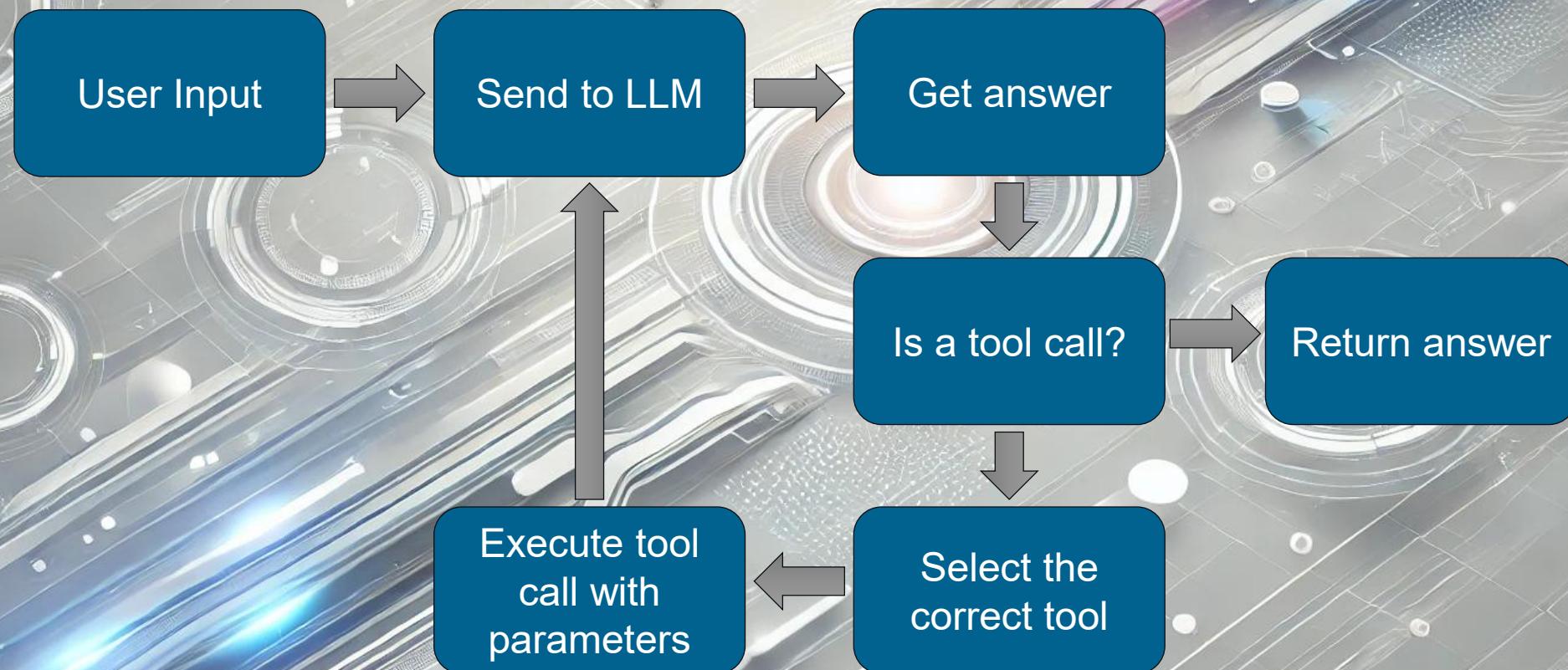
KNOWLEDGE ENHANCEMENT

BRING YOUR OWN DATA

RAG: Retrieval-augmented Generation



Tool calling





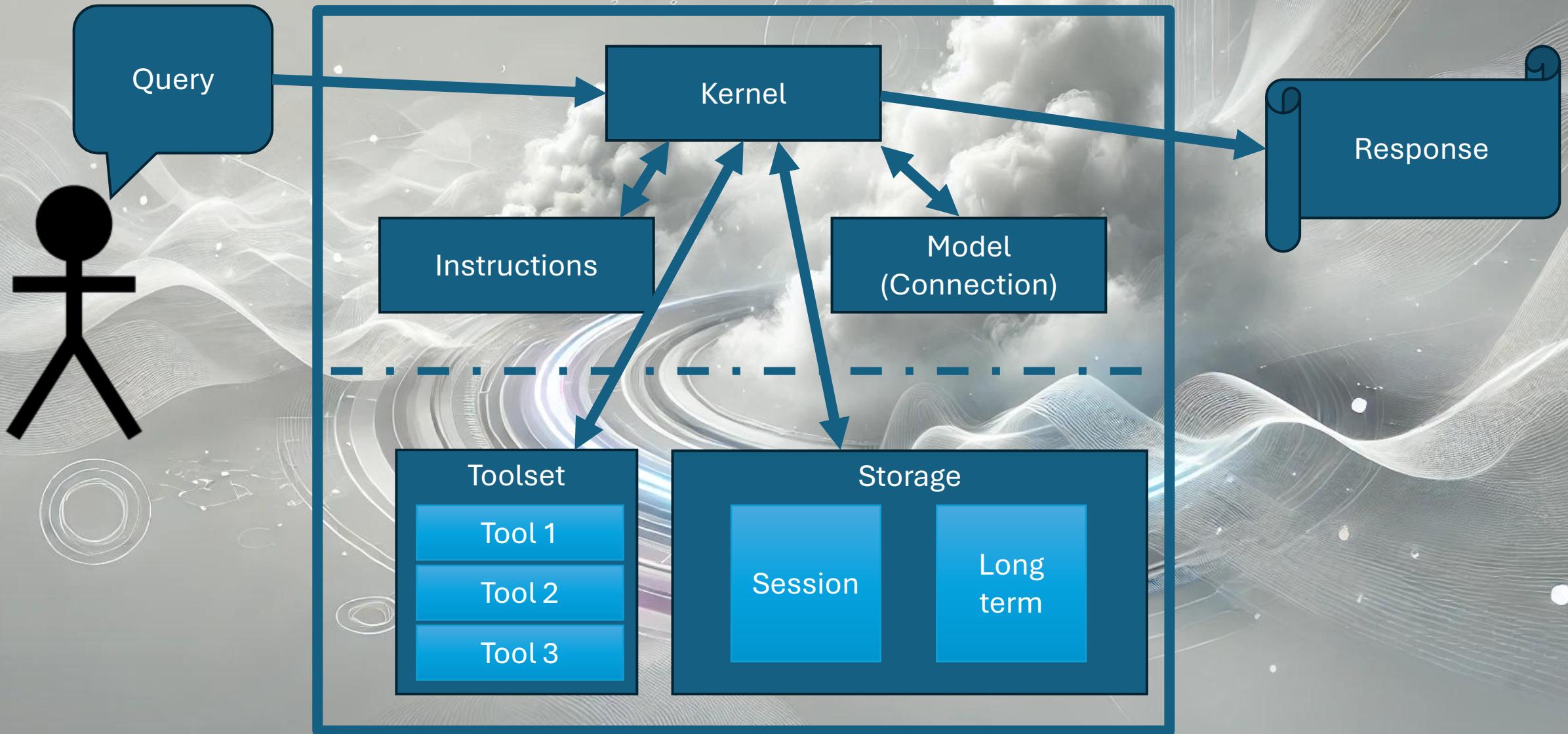
DEMO

The background features a dark blue gradient with a circular pattern of stylized human figures in white and light blue. One figure in the foreground is shown in profile, facing right, holding a baton and appearing to conduct or lead. The overall aesthetic is artistic and futuristic.

AGENTIC ORCHESTRATION

LET THE AI DO IT'S THING

WHAT IS AN AGENT?



WHAT ARE TOOLS?

Code

```
def function(params):  
    ... do something
```

```
def function2(params):  
    ... do something
```

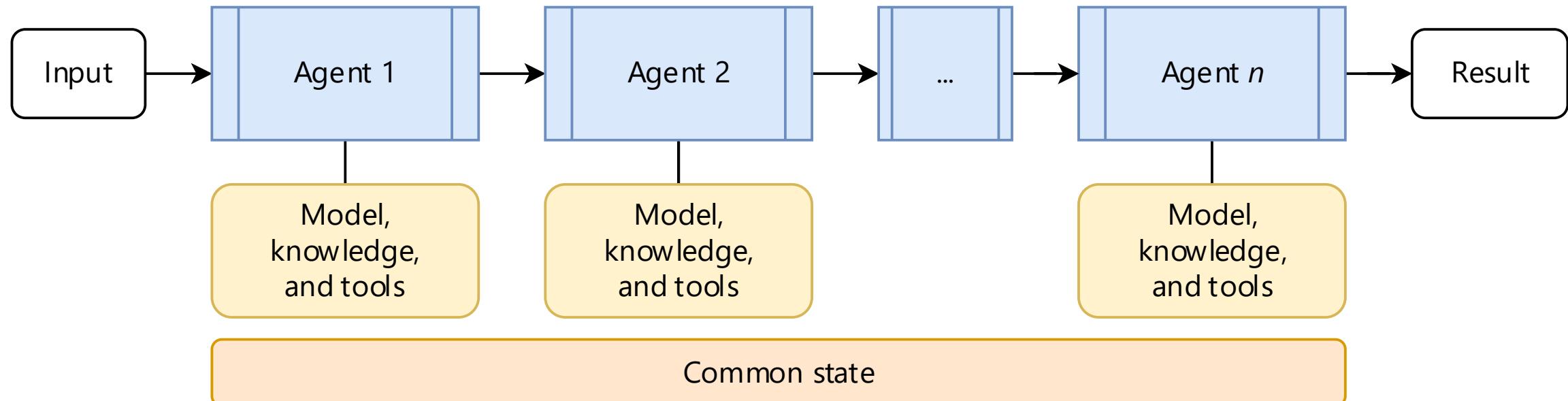
MCP: Model Context Protocol

MCP Client

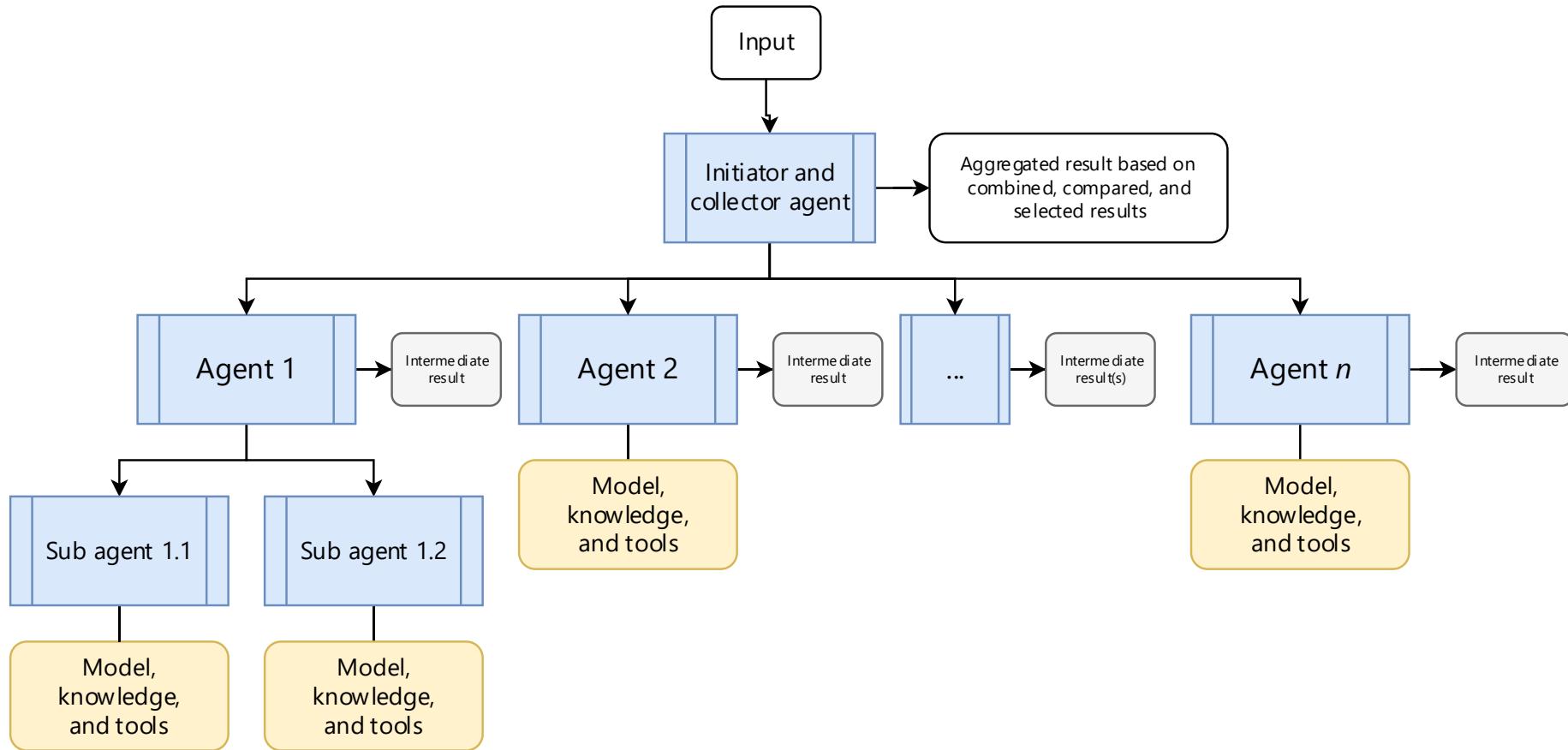
MCP Server
Local on STDIO or Remote via HTTP

Service

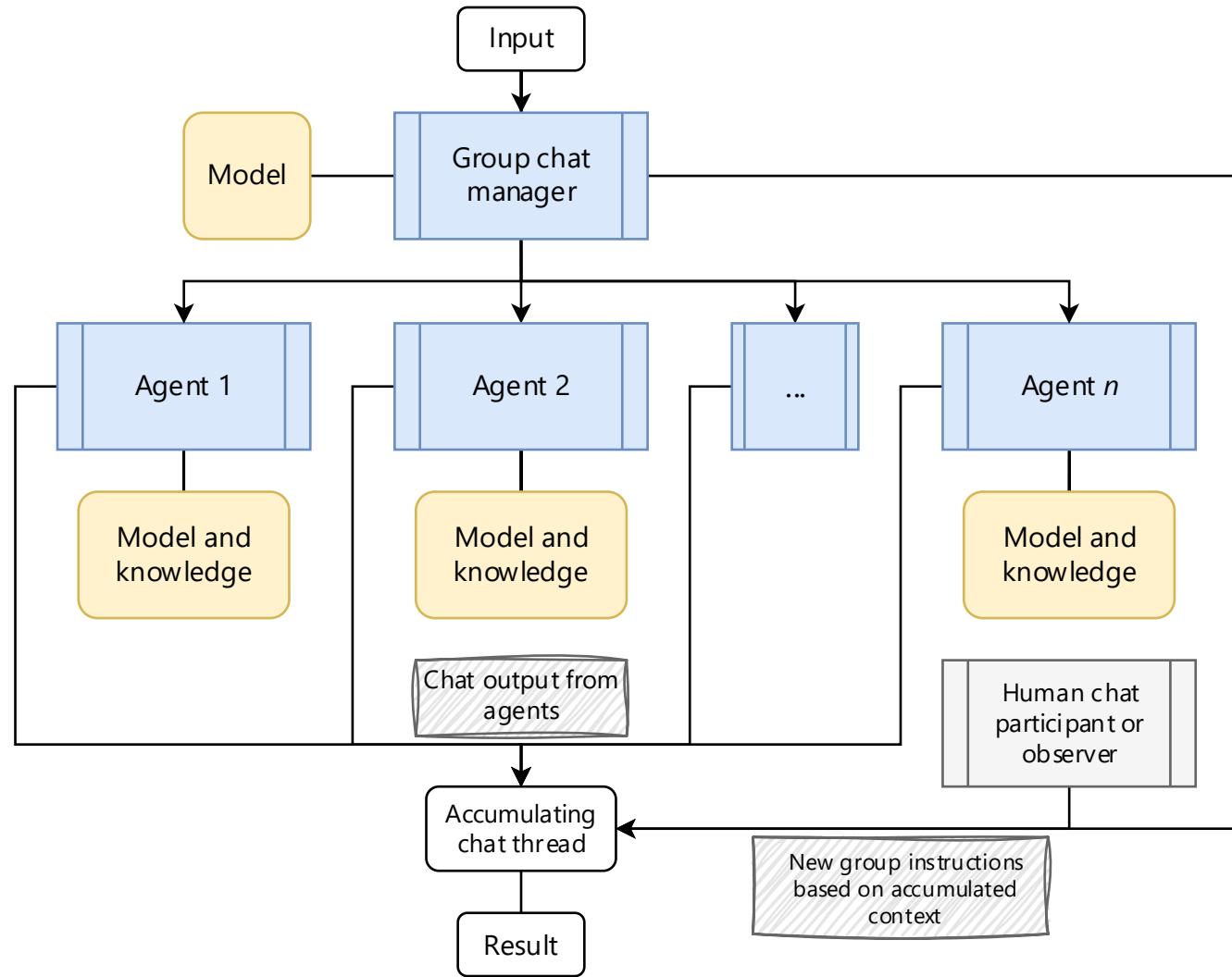
SEQUENTIAL ORCHESTRATION



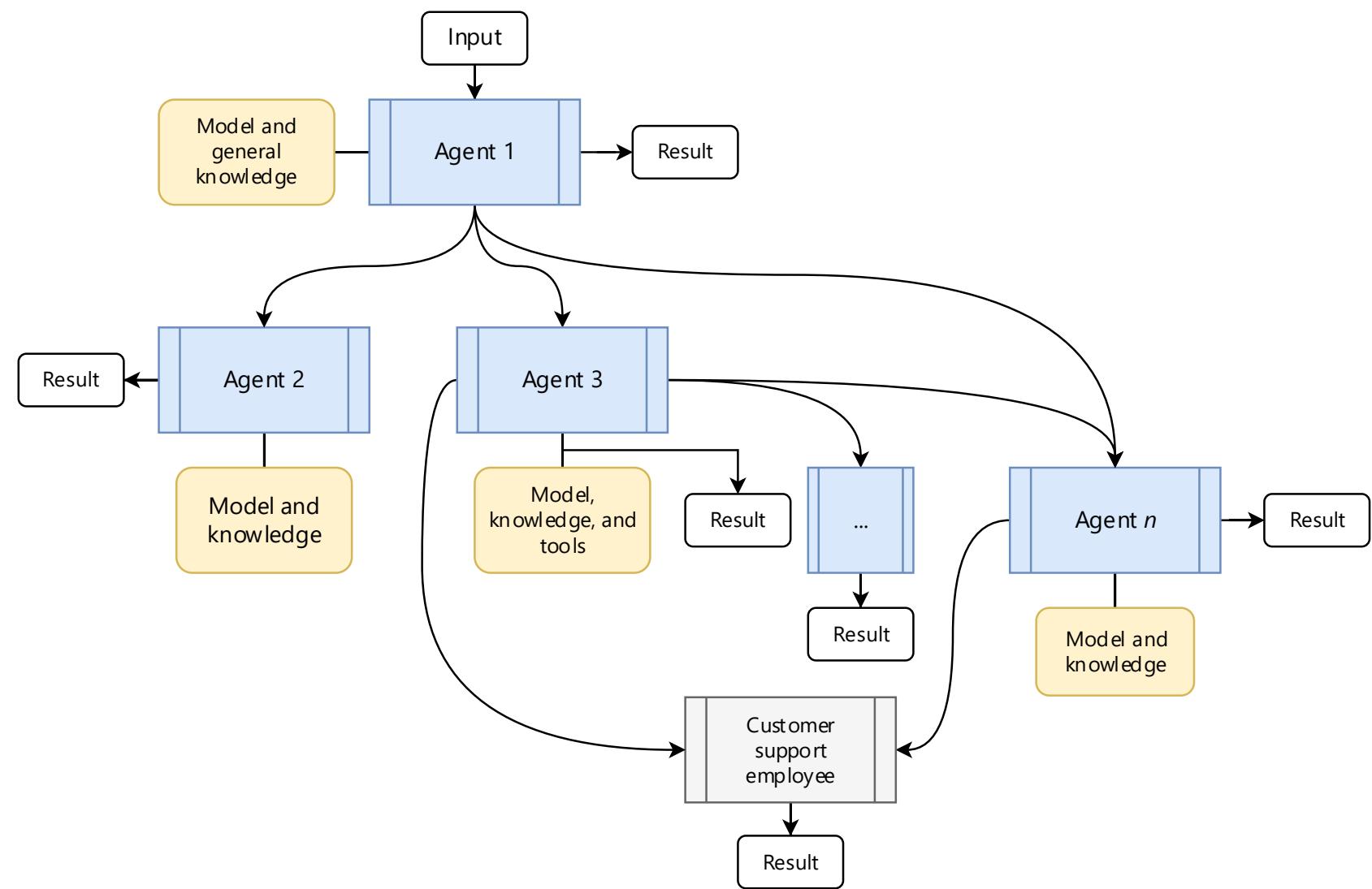
CONCURRENT ORCHESTRATION



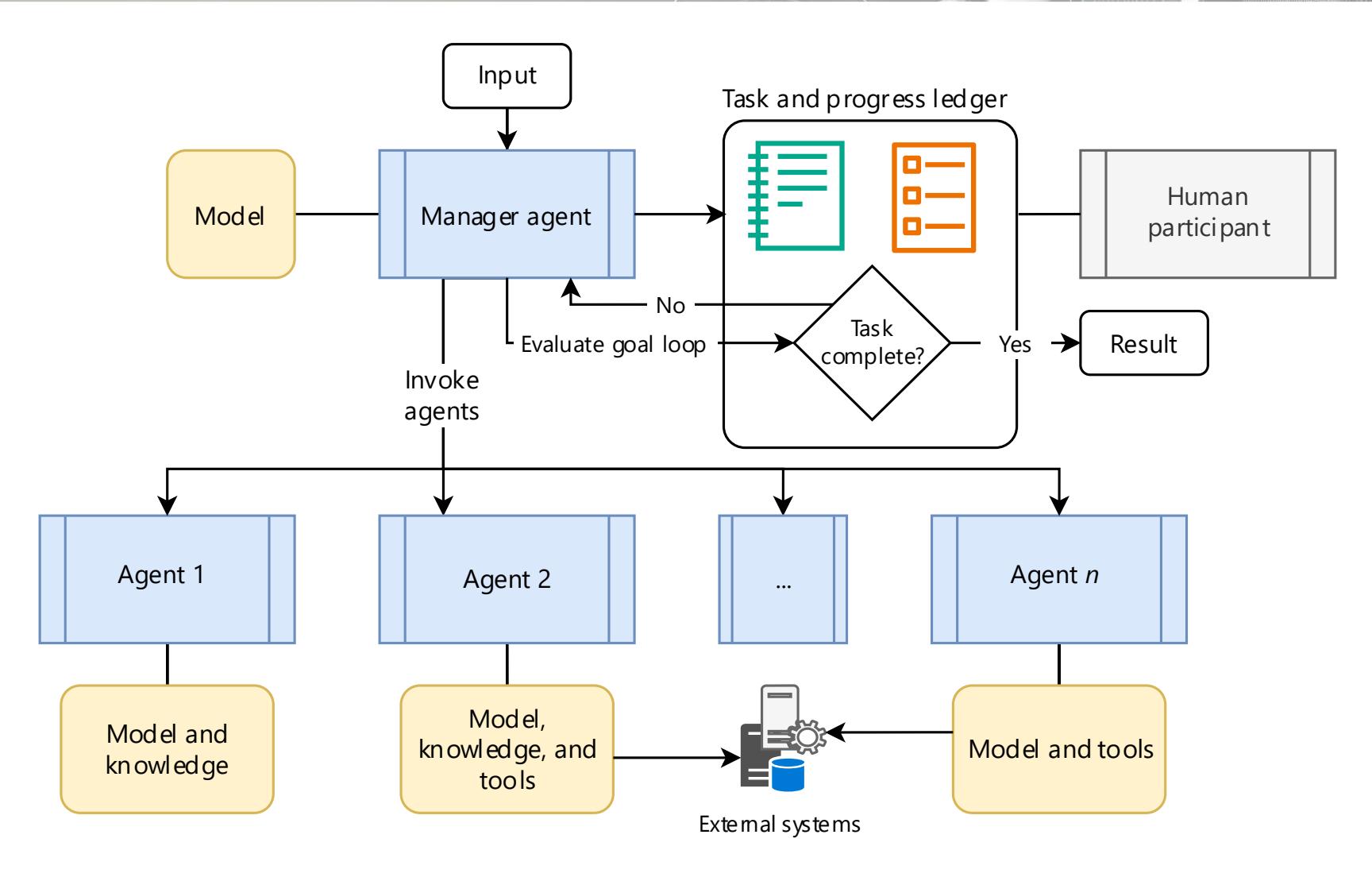
GROUP CHAT ORCHESTRATION

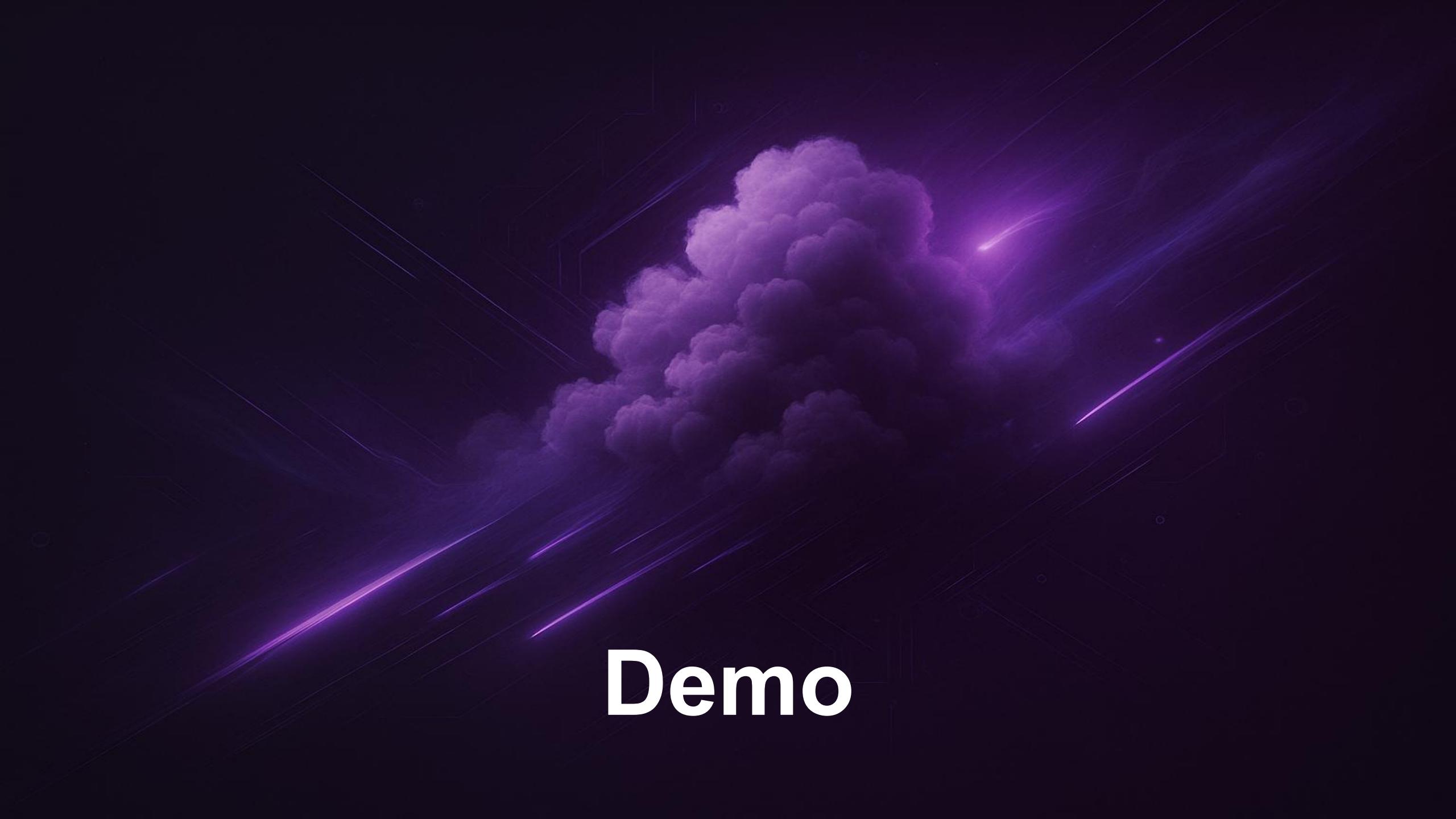


HANOFF ORCHESTRATION



MAGENTIC ORCHESTRATION





Demo



Questions?



DET

DEPARTMENT OF DEFENSE
COMPUTER INFORMATION SYSTEMS
SECURITY
INFORMATION SECURITY
TECHNOLOGY
CENTRAL INSTITUTE FOR CYBERSECURITY
CLOUD COMPUTING TEAM