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Zebra
DevCon 2023
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Decoding the Future: The Potential of Large Language Models

September 14, Madrid, Zebra DevCon 2023



We are AI experts
helping companies implement
AI-powered solutions

200 commercial AI projects

120 world-class AI experts

10 years on the market

Deep technical expertise

Generative AI
Natural Language Processing
Predictive Analytics
Computer Vision
MLOps and Data Engineering

Extensive solution experience



Do LLMs think?

The Evolution of LLMs



Predicting the next letter
(Language automata)

Keyword based systems
(Bag of words)

Processing forwards and backwards as if it made sense
(also RNN)

Predicting the next letter
(Generative LLMs)



Remembering simple phrases and patterns
(Chatterbots)

Sequential processing
(RNN)

Processing all at once
(Transformer)



The Impact of LLMs

97%

of business owners believe that **ChatGPT** will benefit their businesses

Forbes Advisor: How Businesses Are Using Artificial Intelligence in 2023

98%

of global executives agree that AI **foundation models** will enable connections across data types, revolutionizing where and how AI is used

Accenture Tech Vision 2023

30%

Generative AI is expected to achieve a 30% share of the overall AI market by 2025

Boston Consulting Group

LLM Use Cases

Question answering

Answer questions about products or procedures, extract information from the knowledge base

Text summarization

Summarize a long document e.g., news, meeting notes, email, research paper

Text generation

Generate or improve the quality of text e.g., for emails or marketing content

Text classification

Categorize documents, analyze sentiment of product reviews, detect toxicity, etc.

Semantic search

Find similar texts in the knowledge base and historical data

Coding support

Write or analyze code to help software engineers increase productivity

LLMs in the Zebra Ecosystem

New model of user interaction with devices

Smart text interface



Handheld Computers

Wearable Computers

Tablets



Knowledge retrieval



Recommendation Engine

Workflow Assistance

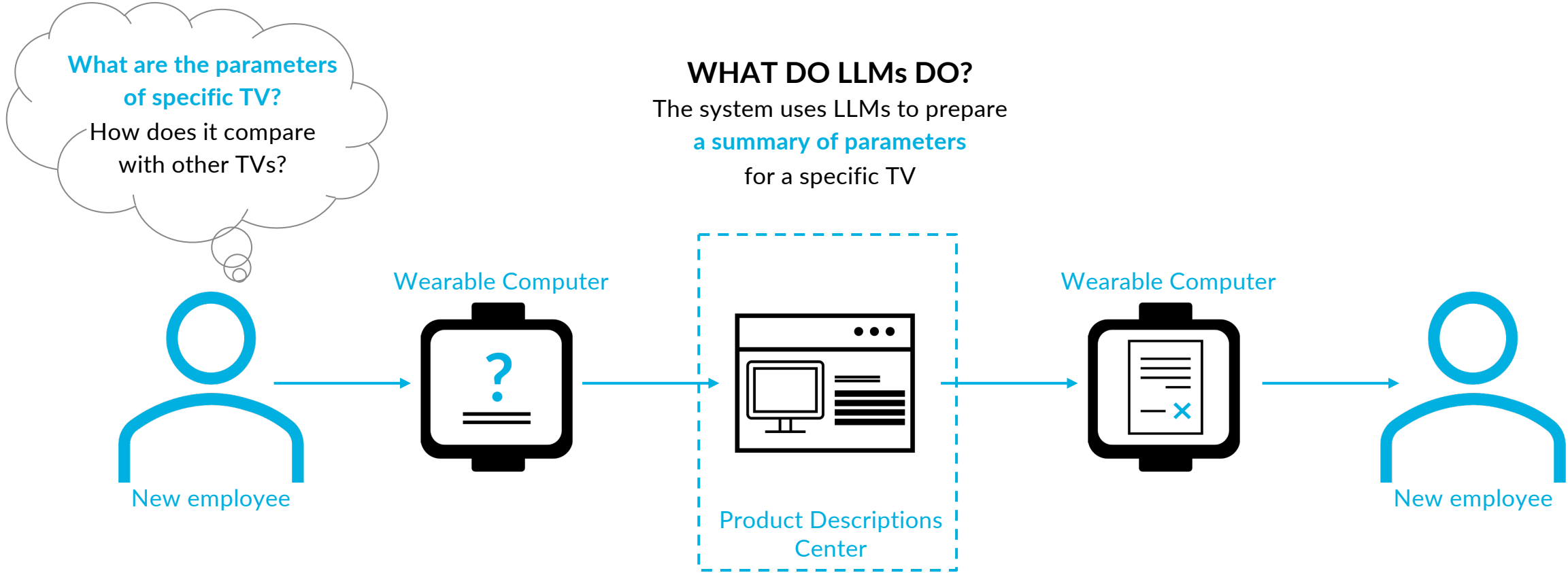
Task Management and Communication

Text-to-SQL and
data visualization



Forecasting, Planning
and Pricing

Product Recommendation



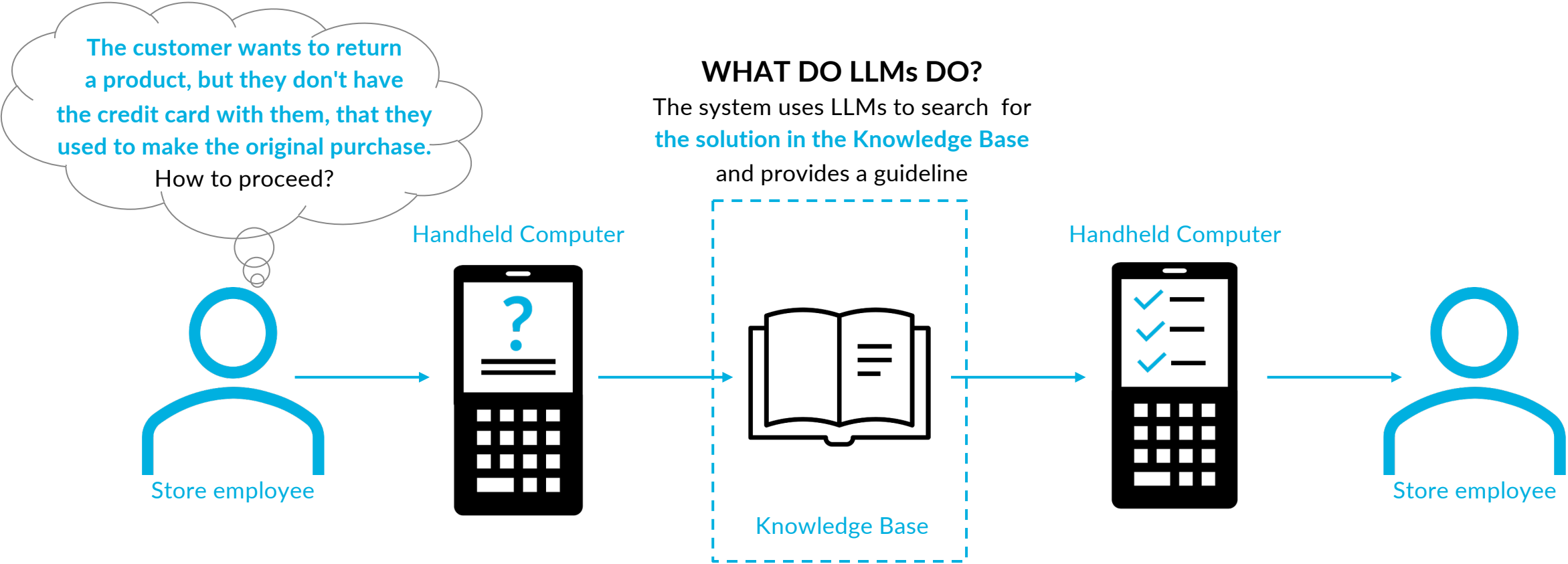
WHAT DO LLMs DO?

The system uses LLMs to prepare a **summary of parameters** for a specific TV

BENEFITS

- Improved customer satisfaction
- Immediate support for employees
- Lower recruitment requirements for FLW

Workflow Assistance



WHAT DO LLMs DO?

The system uses LLMs to search for the solution in the Knowledge Base and provides a guideline

BENEFITS

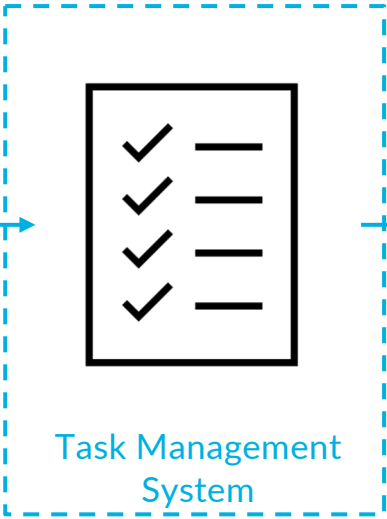
- Increased productivity of new employees
- Reduced employee turnover
- Improved customer and employee satisfaction

Task Management and Communication

What should I do today?
Give me more information regarding the "receiving inventory" task

WHAT DO LLMs DO?

The system uses LLMs to create a summary of tasks and to provide detailed instructions on how to conduct a specific task



BENEFITS

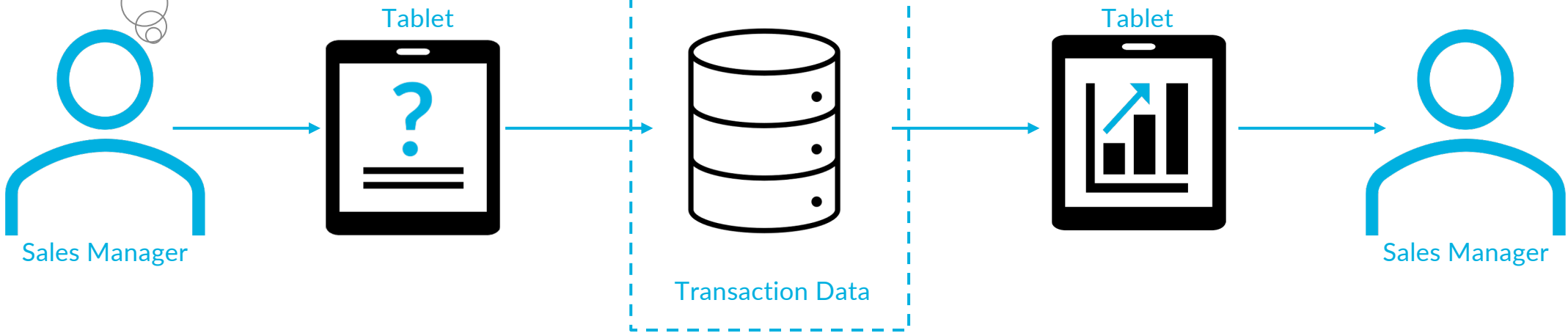
- Step-by-Step task workflow
- Improved employee satisfaction
- Clearer communication

Forecasting, Planning and Pricing

What is my forecasted volume and revenue for next month for my category? How many price changes do I need to make?

WHAT DO LLMs DO?

The system uses LLMs to translate natural language into an SQL query and pulls the required data



BENEFITS

- Access to data with no technical expertise required
- Fewer resources required
- Enhanced user experience



Case Study

Frontline Worker Co-Pilot

Challenge

Managing frontline workers presents numerous challenges, such as coordinating varying skill levels, ensuring consistent performance, retaining valuable employees, and handling efficient knowledge transfers

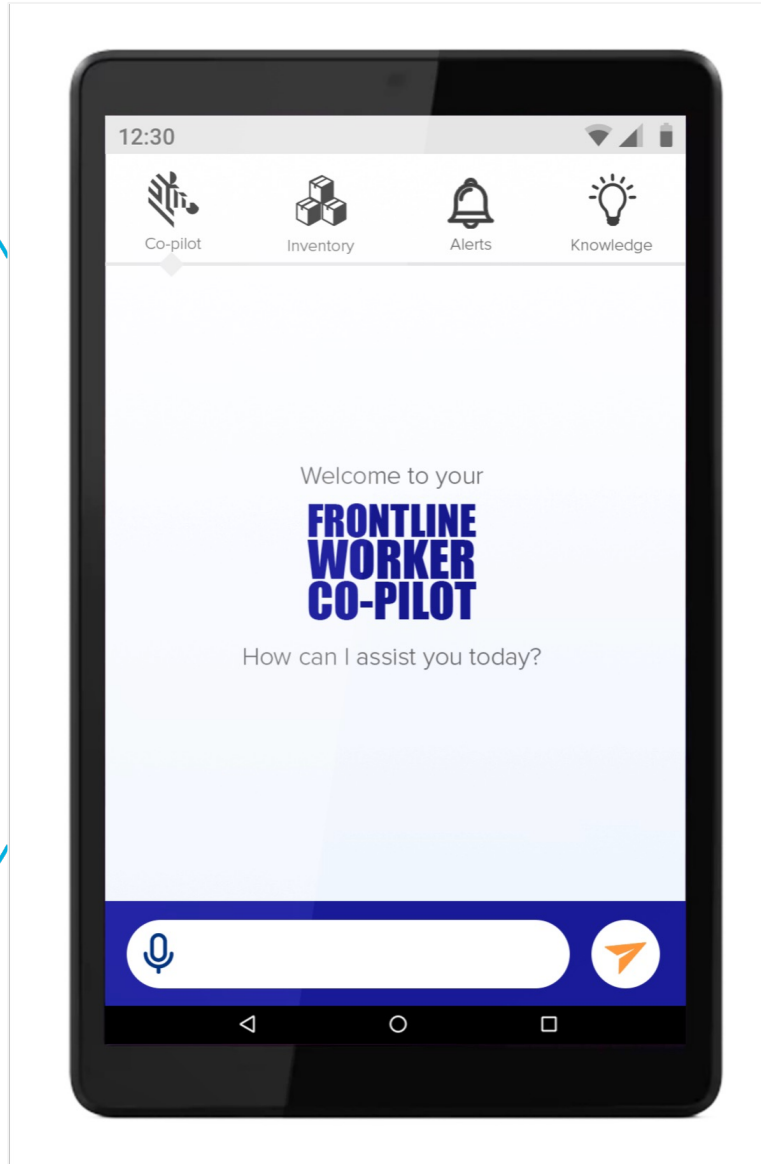
Solution

GenAI-powered frontline workers co-pilot, improving work effectiveness by delivering know-how suggestions, and step-by-step workflow to less experienced workers

Frontline Worker Co-Pilot

Real-time **support**
for employees

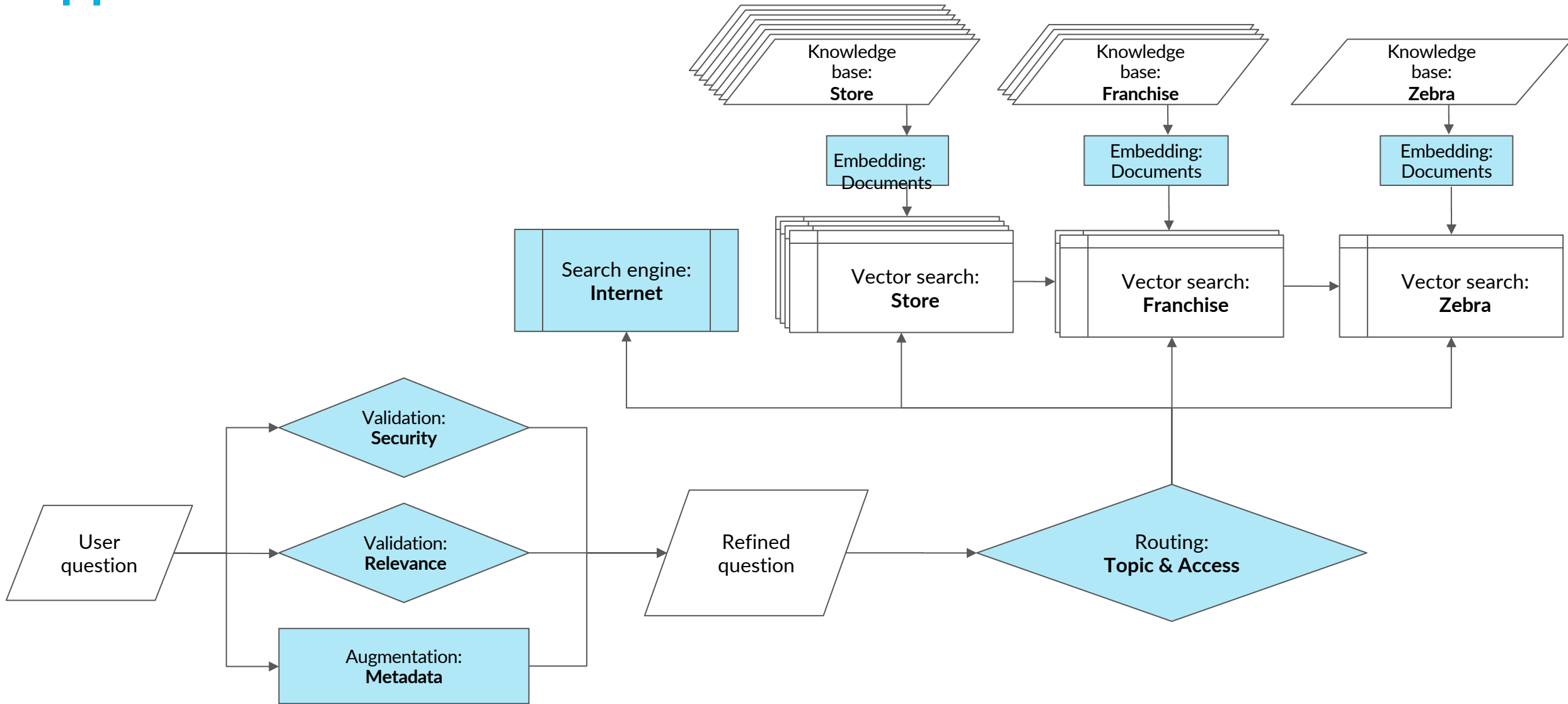
Answers based on
internal and external data



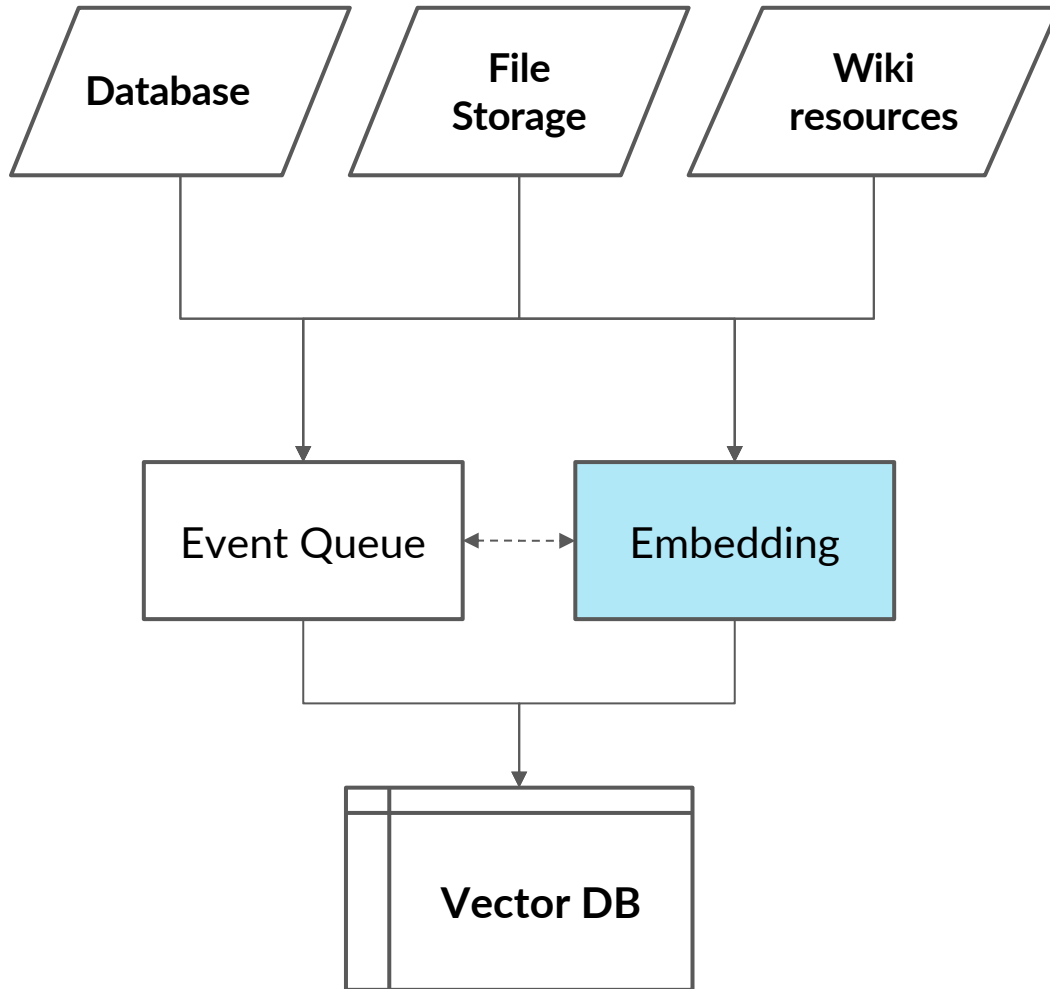
More efficient **communication**
between employees

Better customer service
and higher **customer satisfaction**

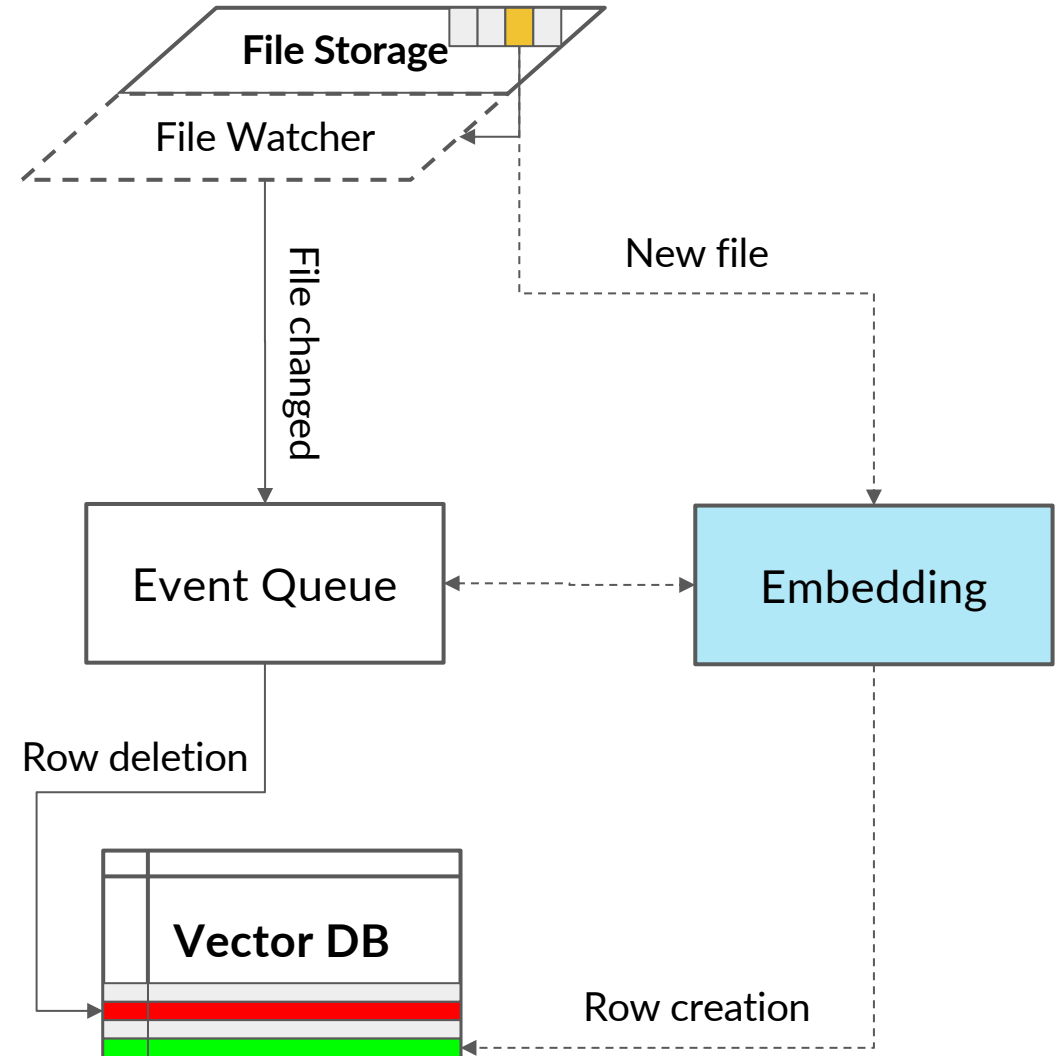
Application Architecture



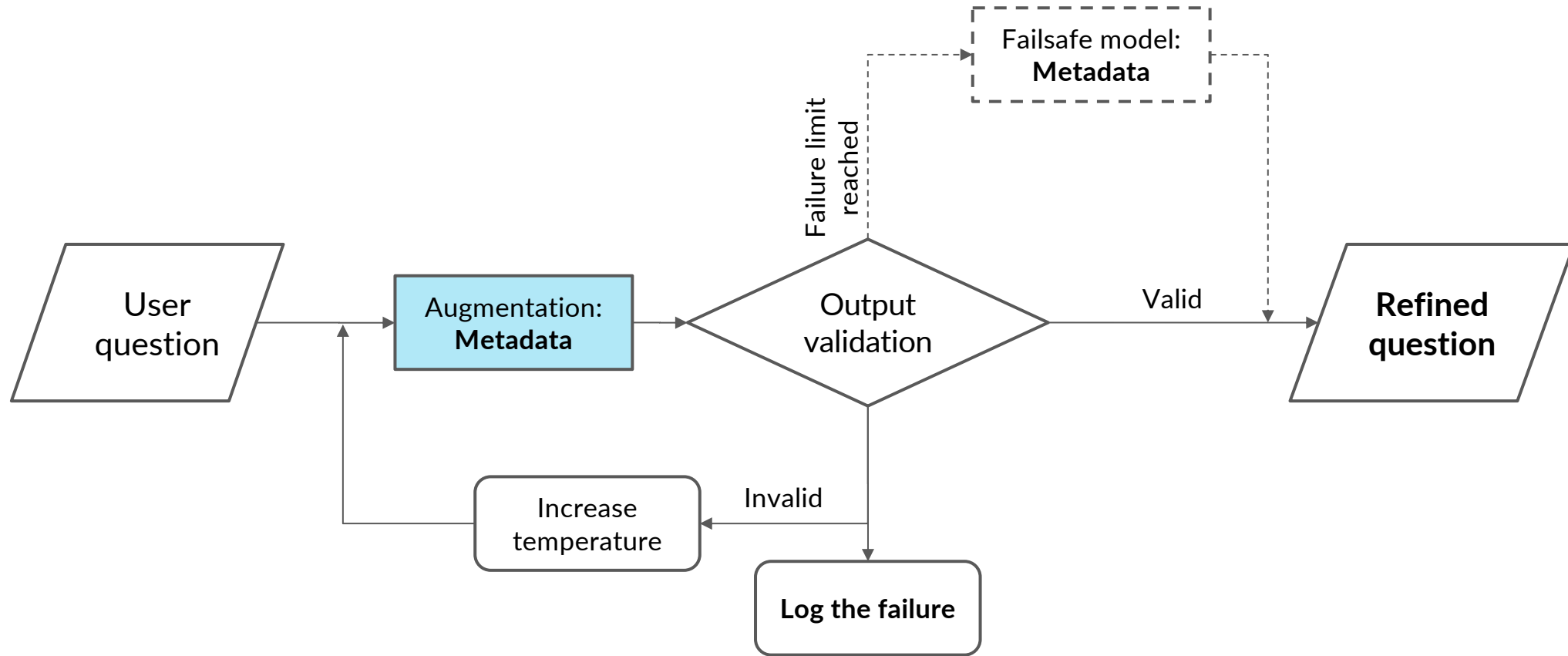
Datasource Integration



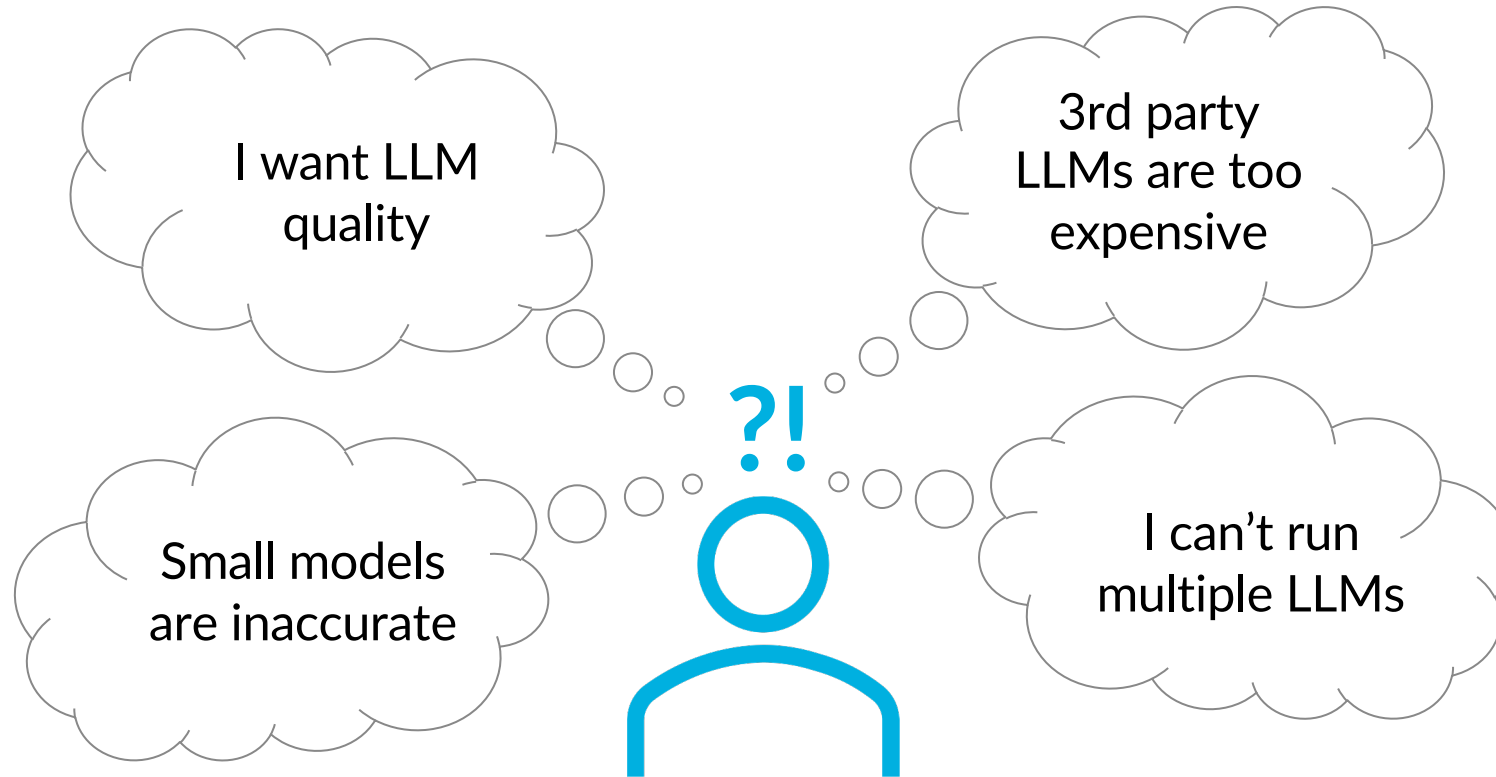
Details - Filesystem



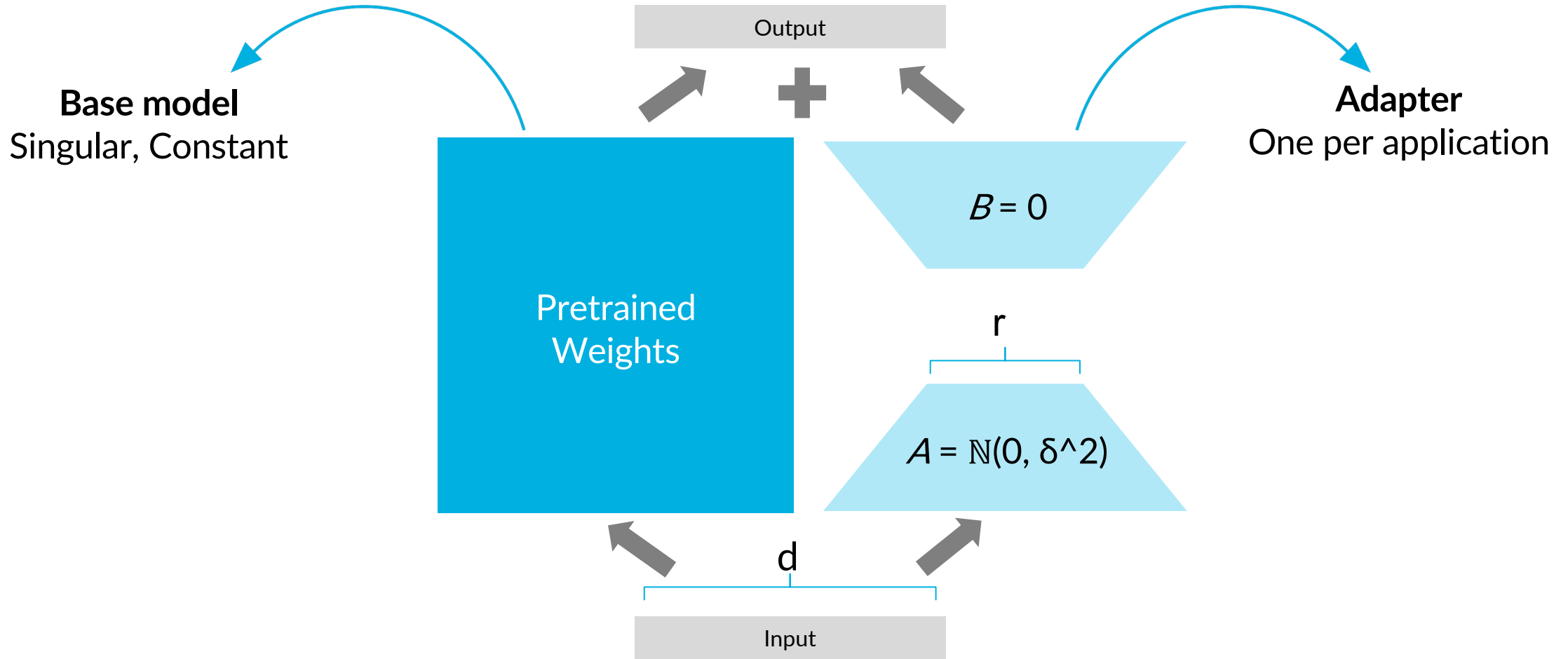
LLM Output Failsafes



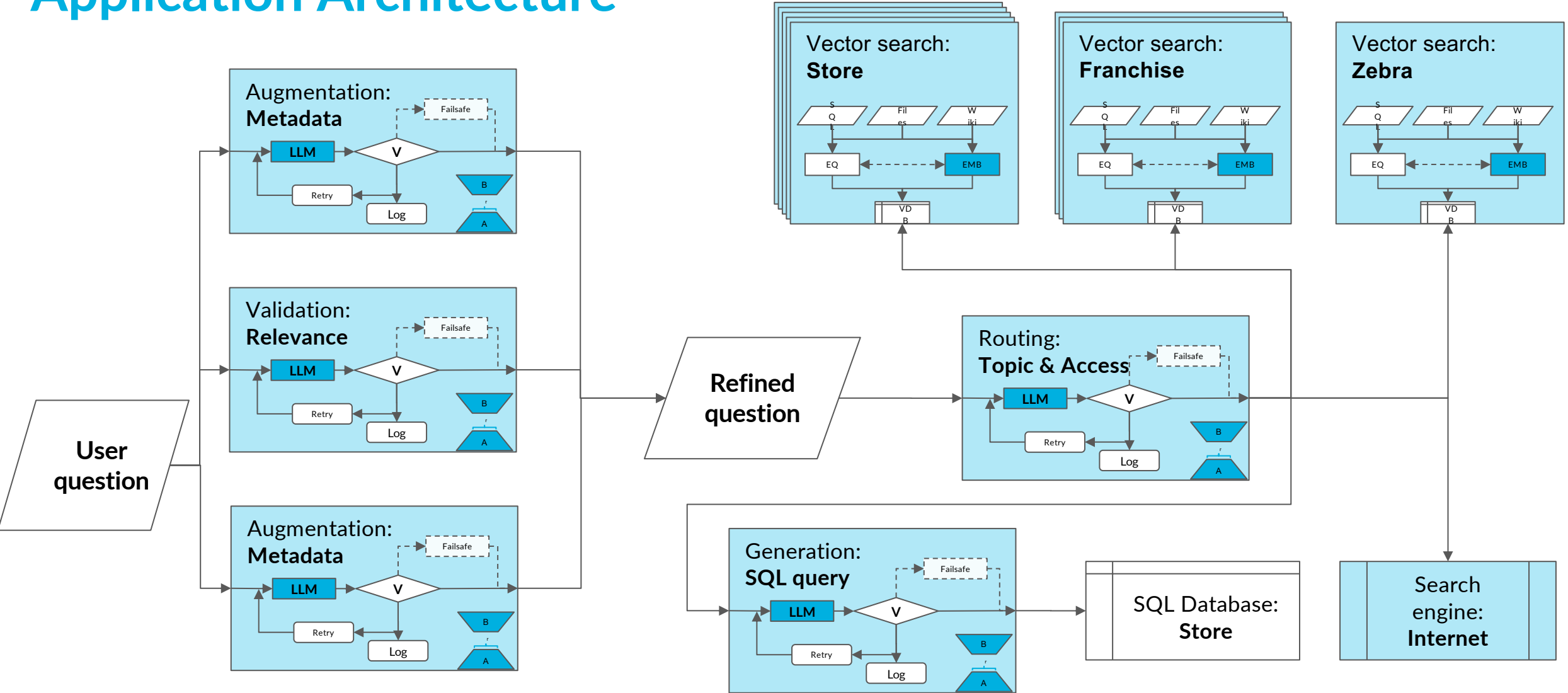
Too Many LLM Applications



One Model Can Be Multiple Models



Application Architecture



deepsense.ai
BIG DATA SCIENCE

Thank you

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