



**TRG
SCREEN**

The challenges of Exchange Compliance and how Technology & AI can help

May 2024

www.trgscreen.com

Aaron Garforth



Chief Content Officer at TRG Screen

Responsible for the Exchange Compliance offerings:

PEAR – ACT – ADS

Experience:

12+ Years at the London Stock Exchange

Experience of the vendor and user community

Co-founder of Axon Financial Systems focussed on Exchange Compliance

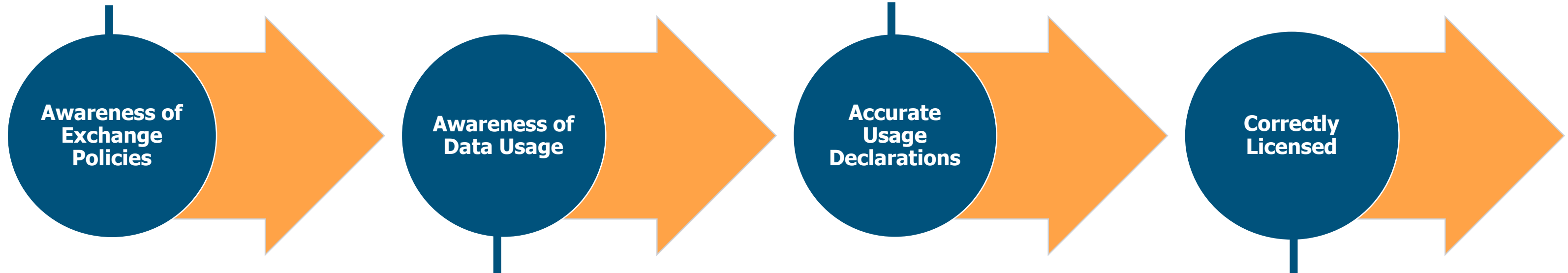
What do we mean by Exchange Compliance?



Complying with the published Exchange rules when consuming market data

Many clients do not have a direct relationship with Exchanges and it can be difficult to find the rules and policies.

By combining knowledge of policies and the usage of data within your organization you can declare accurately.



Tracking all forms of data usage within a firm is key to being compliant.

Clients that are aware of the licensing requirements can map this to their usage and ensure they are appropriately licensed.

The complexity of the current landscape



Changes across the 240+ markets within PEAR in 2023:

2,075 Licence Updates

232 Announcements Issued

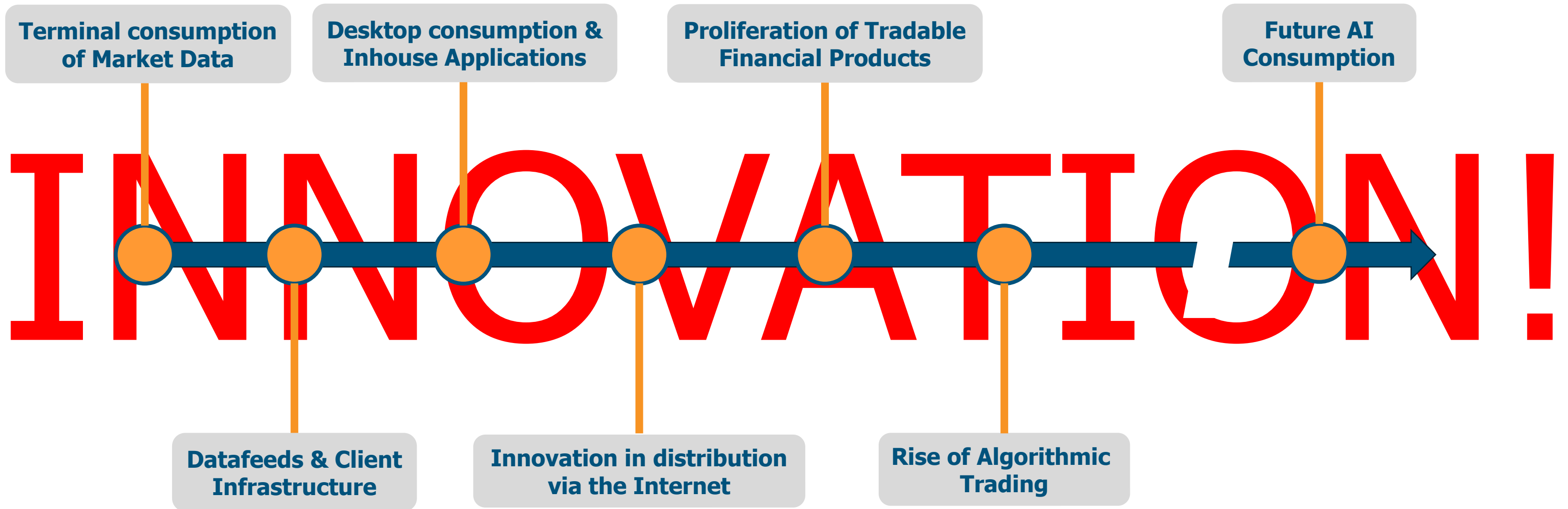
587 Data Charge updates

192 Policy Updates

73 New Realtime Products

56 Documents reviews

How did we get here?



Up to date



Now in 2024 the following terms and concepts are familiar:

“Unit of Count”

“Non Display Use”

“Quote Metering”

“Redistribution of Data”

“New Original Work”

“Non Professional Usage”

How can we handle this complexity



Standardisation – Breaking contractual & policy elements down and placing them in “Buckets” i.e. adding Meta Data Tags.

Unit of Count

- Natural User
- User per Source
- Per Instance
- Per Instance Per Application

Non Display Usage

- Algorithmic Trading
- Quantitative Analysis
- Order Pegging
- Smart Order Routing
- Risk Management
- Fund Administration
- Portfolio Management

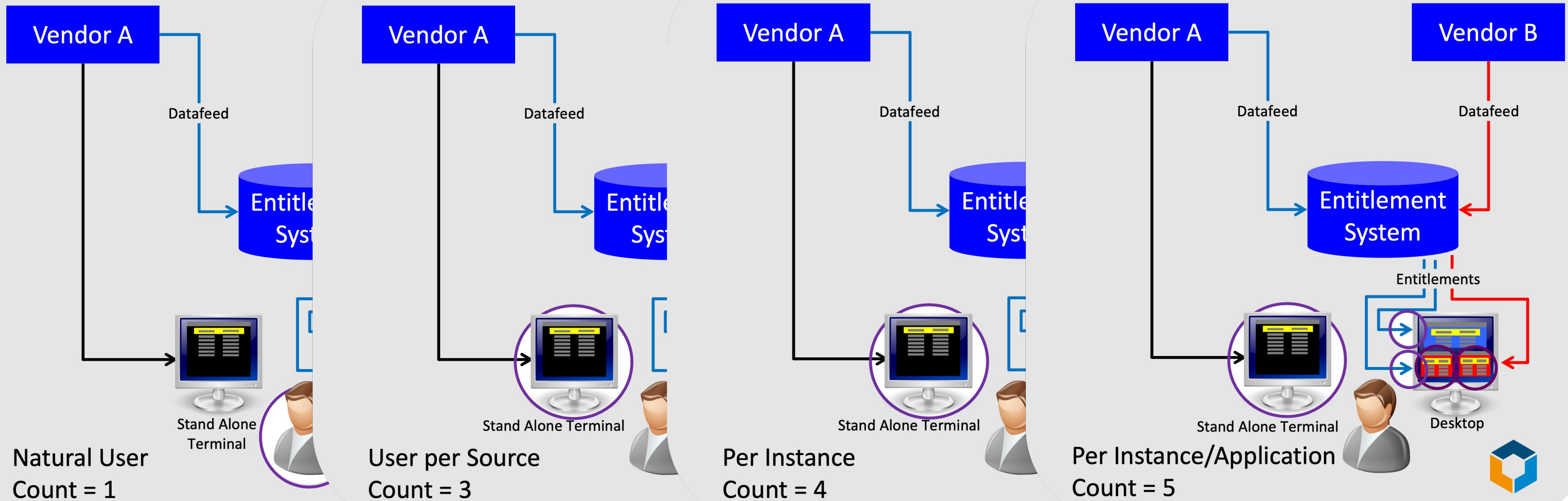
Derived Data Usage

- Indices Calculation
- Tradable instrument Calculation
- Non Tradable Instrument Calculation

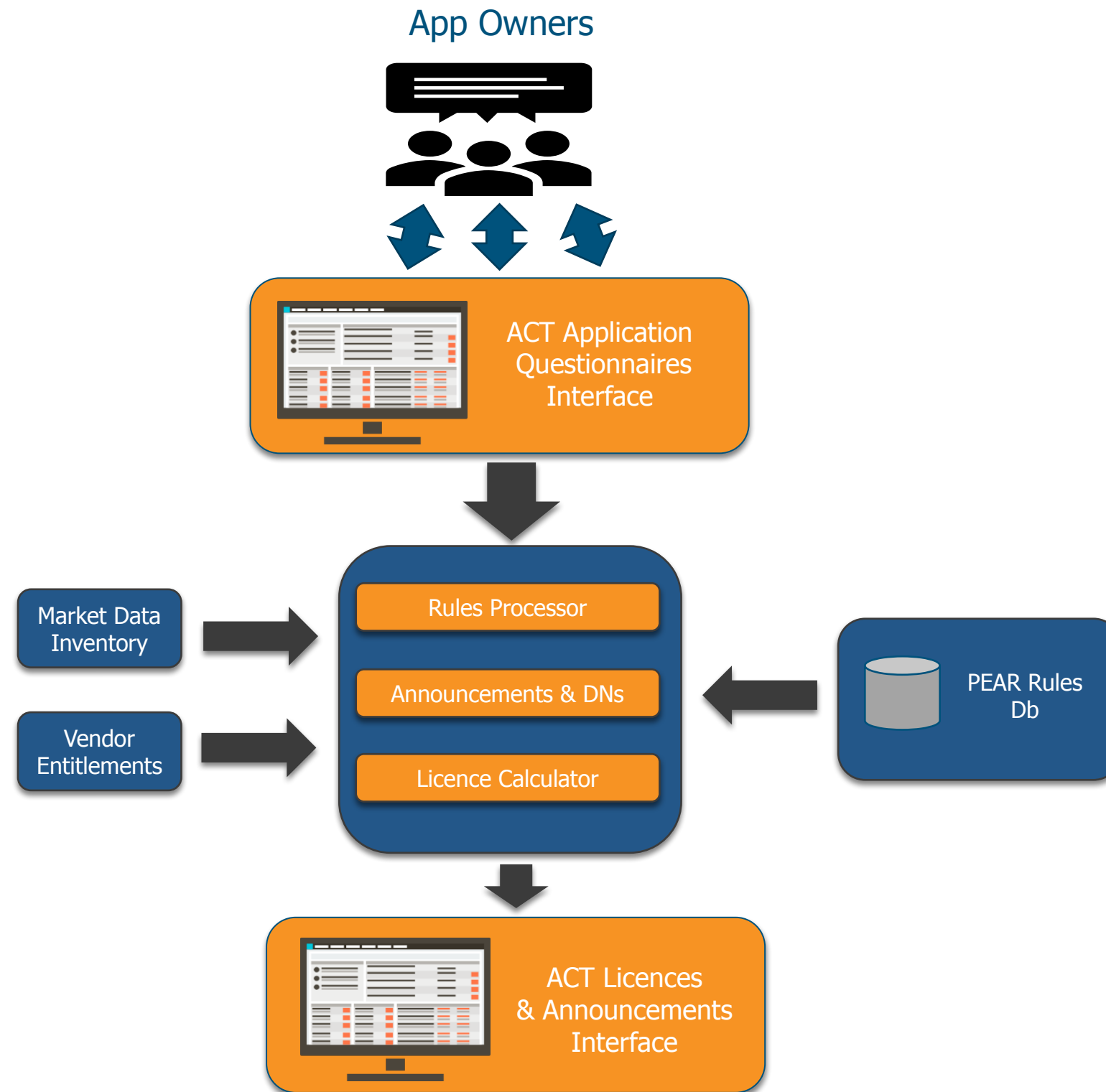
A working example – Unit of Count



When addressing this Standardisation we look at all the possible options as there will usually be a limited number of possibilities



Using this in the workflow – ACT example

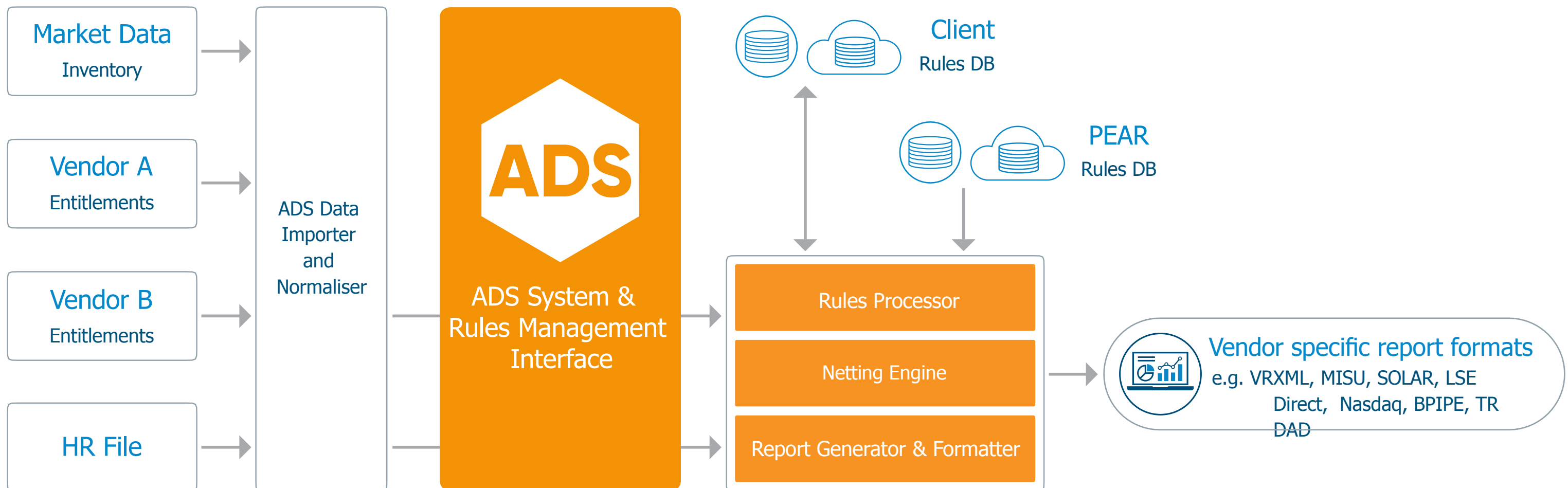


By combining the standardized rule set with a knowledge base of internal usage we can automate the process of identifying required licences and analyze the impact of policy changes.

Using this in the workflow – ADS example



Feeding in the rules regarding Unit of Count, Fee Waivers etc. we can ensure accuracy of usage declarations and optimize potential savings from favorable policies such as optional Netting Schemes.



The Future – Harnessing Gen AI



TRG Screen are currently developing Generative AI solutions for Exchange Compliance in 2 areas:

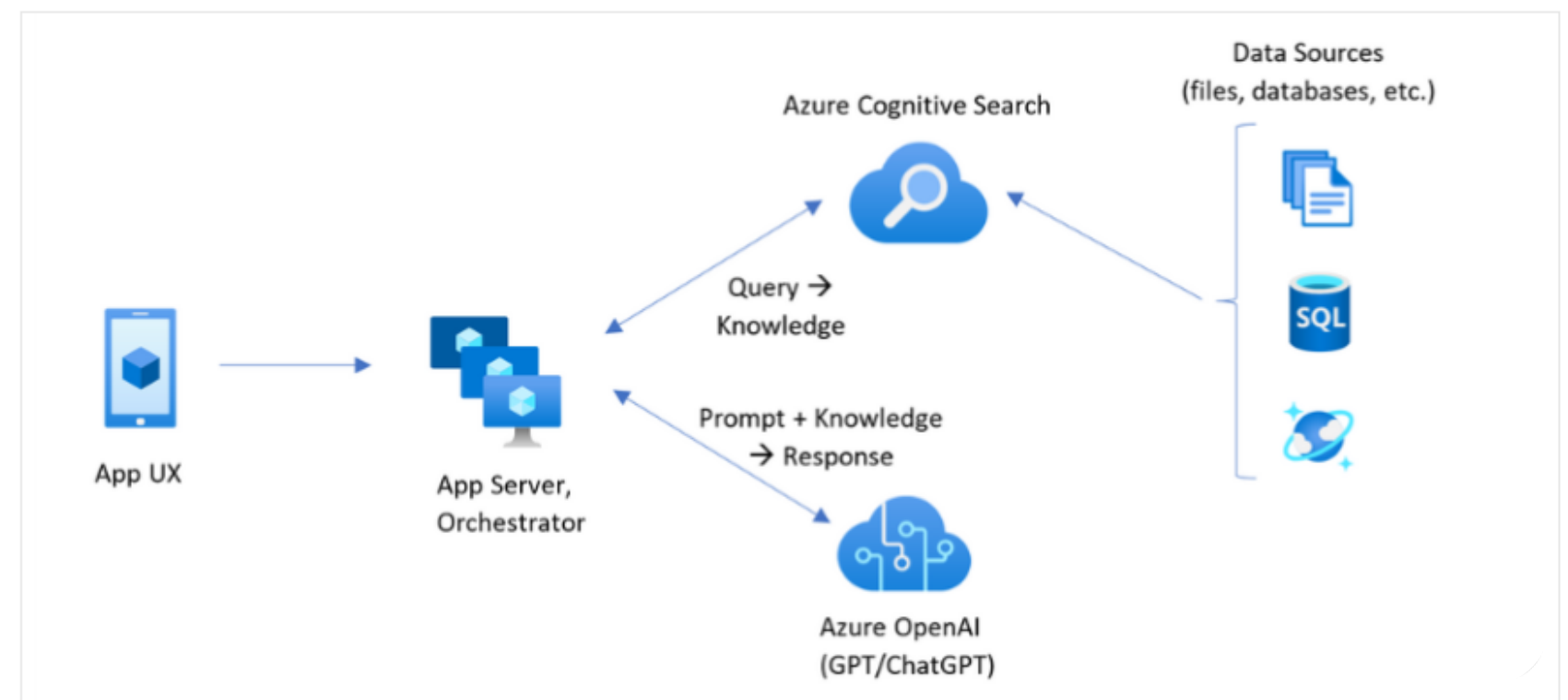
- **Providing a Natural Language interface to the PEAR platform**
 - Allow users to ask questions and receive answers in plain language without the need to click through multiple screens.
- **Leveraging Gen AI to summarize & digitize contracts**
 - Gain efficiencies in the processes that maintain the content in PEAR and develop a technology that could in the future be extended to other types on contract.

Our Gen AI solutions



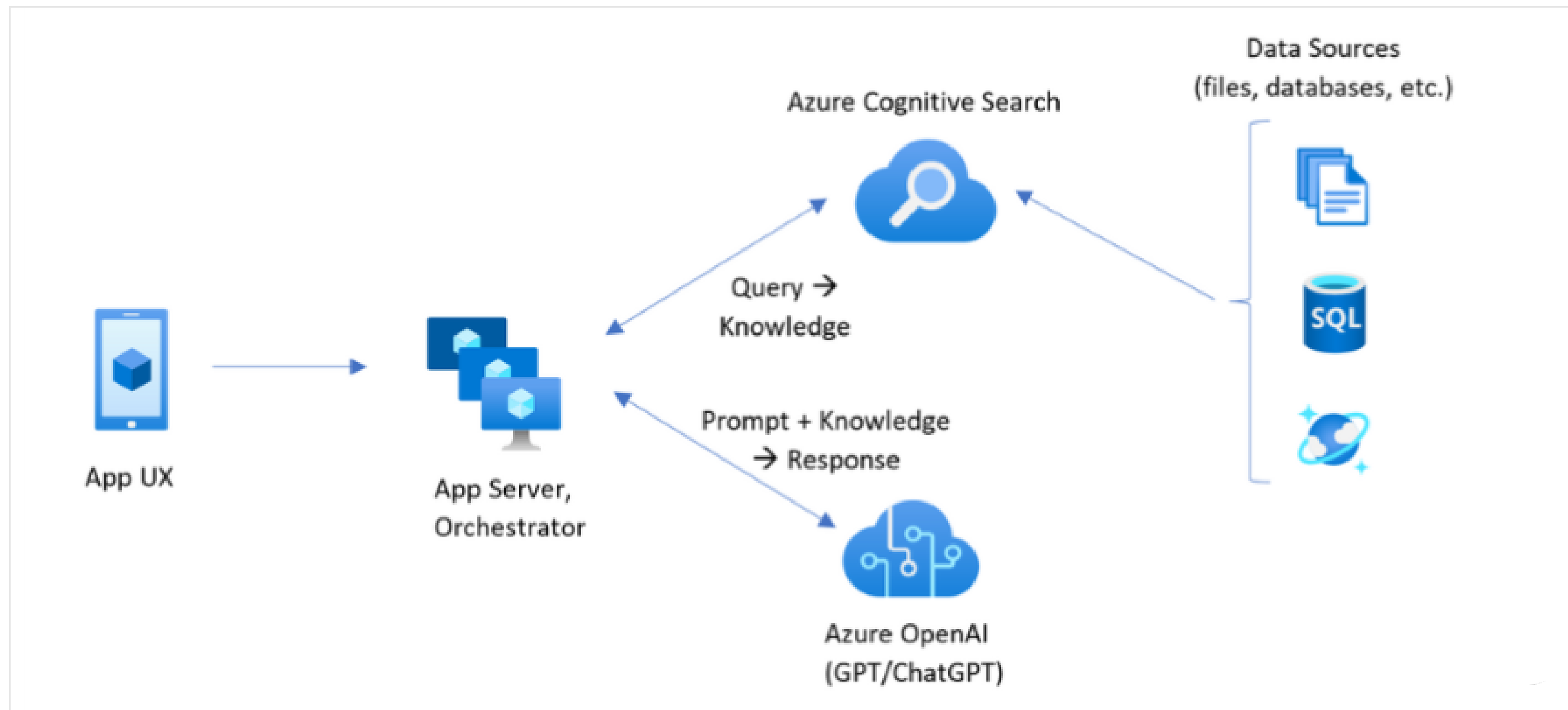
We are utilizing **Microsoft Azure Open AI** solutions along with Retrieval-Augmented Generation search functionality and use both **GPT-3.5** and **GPT-4.0**

The RAG approach allows us to inject our learning and know how from last 10 years.



We have and are developing ever more specific **prompts** that are used to focus the LLM.

Retrieval-Augmented Generation



Gen AI - POC Examples



Natural Language Interface example from the London Stock Exchange

PEAR AI

Role	Content
User	How much does UK Level 1 data cost?
Assistant	<p>The cost of UK Level 1 data varies depending on the user type. For Non-Member it costs 49.37 GBP, for Non-Member - Per User it costs 56.82 GBP, for Member it costs 44.12 GBP, for Member - Per User it costs 50.75 GBP, for Private Investor it costs 4.1 GBP and per Query it costs 0 GBP.</p> <p>PEAR Product: UK Level 1</p> <p>Possible products:</p> <ul style="list-style-type: none">◦ UK Level 1 (London Stock Exchange Group)◦ UK Level 1 - Delayed (London Stock Exchange Group)

Ask a question:

Gen AI – POC Examples



Natural Language Interface example from the London Stock Exchange

PEAR AI

Role	Content
User	What is the price difference between UK Level 1 Member and UK Level 1 Non Member?
Assistant	<p>The price difference between UK Level 1 Member and UK Level 1 Non Member is 5.25 GBP.</p> <p>PEAR Product: LSE UK Level 1</p> <p>Possible products:</p> <ul style="list-style-type: none">◦ UK Level 1 (London Stock Exchange Group)◦ UK Level 1 - Delayed (London Stock Exchange Group)

Ask a question:

Gen AI - POC Examples



Contract Summarization example from the London Stock Exchange

PEAR AI

Role	Content
User	What is the delay period for Market Data to be considered delayed?
Assistant	The delay period for Market Data to be considered delayed is 15 minutes after publication, but before midnight on the day of its original publication. If Level 1 or 2 Data is delayed by 15 minutes or more prior to dissemination and display, Data Charges are not payable, subject to the Redistributor holding a Delayed Data and/or After Midnight Data Redistribution licence, or a Real Time Data Redistribution licence which includes rights to redistribute on the relevant channels. [reference1.pdf][reference2.pdf]

Ask a question:

Gen AI - POC Examples



Contract Summarization example from the London Stock Exchange

PEAR AI

Role	Content
User	What period can a Market Data Audit cover?
Assistant	The minimum audit period for a market data audit is five (5) years unless the Customer has been audited in the last 5 years, in which case the audit period will be from the end of the period investigated in the previous audit. [source: schedule-e-market-data-audit-2024.pdf]

Ask a question:



QUESTIONS?

