Generative AI Competency

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- **Deep Dive into our Solutions and their Success Stories**

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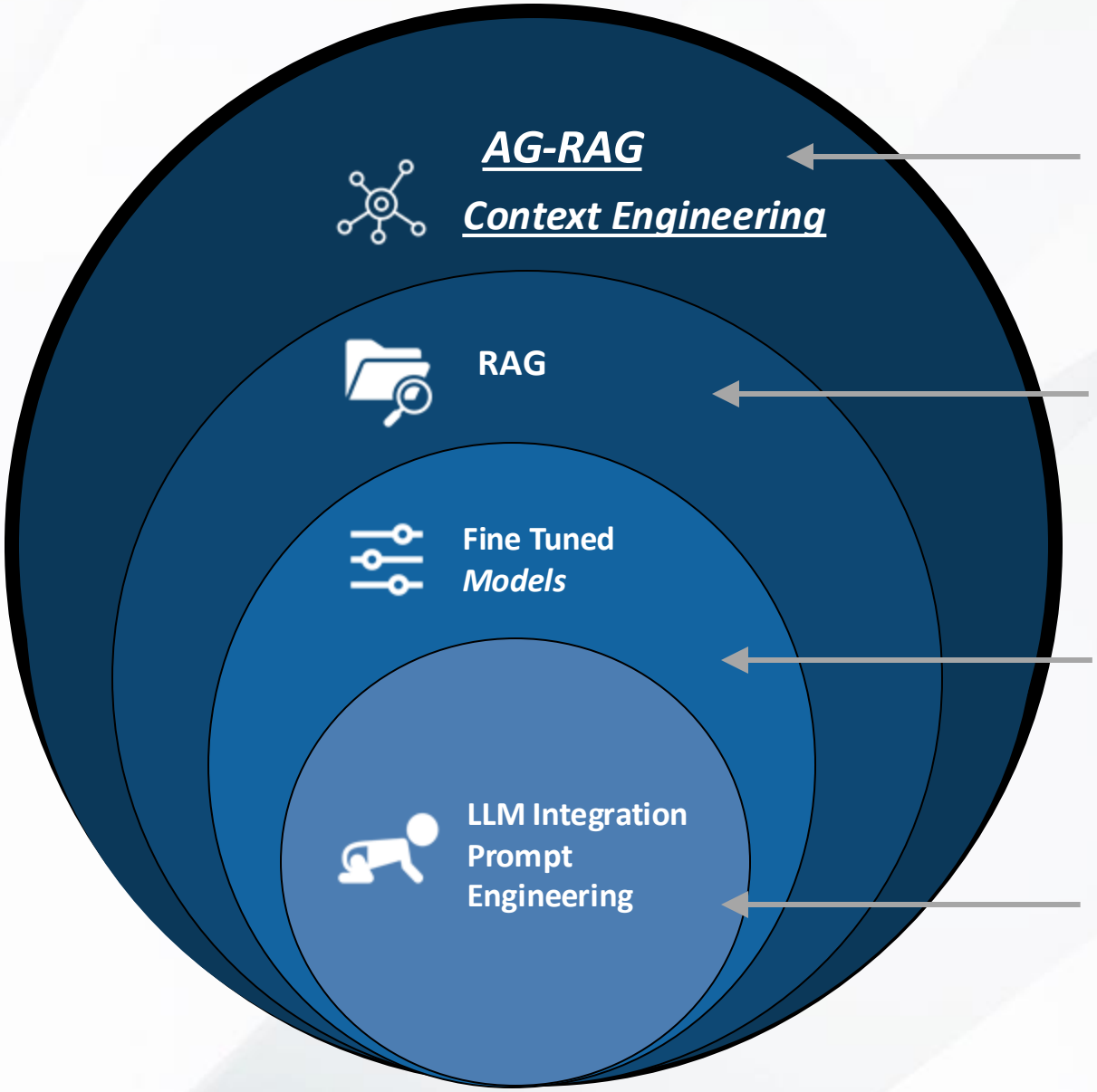
Delivering Production Quality AI – Agentic Graph RAG and Context Engineering



- *Extensive Context Engineering for production level Accuracy*
- *All forms of business information accessible through AI generated code and Queries*
- *Grounded and cost effective*

- *Widely used in business but only limited for textual content*
- *Real time and cost effective*
- *Does not hallucinate/Grounded*

Open Book Approach

- *Trained with Domain or specific use case*
- *Expensive & Slow*
- *Suffers from hallucinations*

- *Trained on External Data*
- *Very Slow and very expensive*
- *Suffers from hallucinations*
- *Limited use in Business and no understanding of business context*

Closed Book Approach

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Our AI Journey

Year	Key Milestones
Q1 2022	1st GenAI Project Initiated - Drug discovery use case for pharma leader using Graph RAG approach
Q4 2022	RAG + Graph RAG based implementations – Support bot for UN agency
Q1 2023	Launched Knowledge assistant platform for enterprises , Extensive Document processing using GenAI
Q2 2023	Launched Generative analytics platform for enterprises, implemented data bot for UN agency
Q3 2023	Cognitive process automation – Automated longtail debt collection for a leader in travel industry
Q3 2023	Architected Agentic Graph RAG based Solutions
Q4 2023	Launched KAPS – Generative AI adoption framework with Graph based context engineering for businesses
Q1 2024	Support bots for clients with multi-modal capabilities chat, voice, video
Q2 2024	GenAI driven Data solutions like MDM , Data migrations etc.
Q3 2024	E2E Agentic Migration for Cobol to Java – Implemented code migration assistant for Engineering leader
Q1 2025	50+ GenAI / Agentic AI projects delivered

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AI Solutions, Strategy & Frameworks

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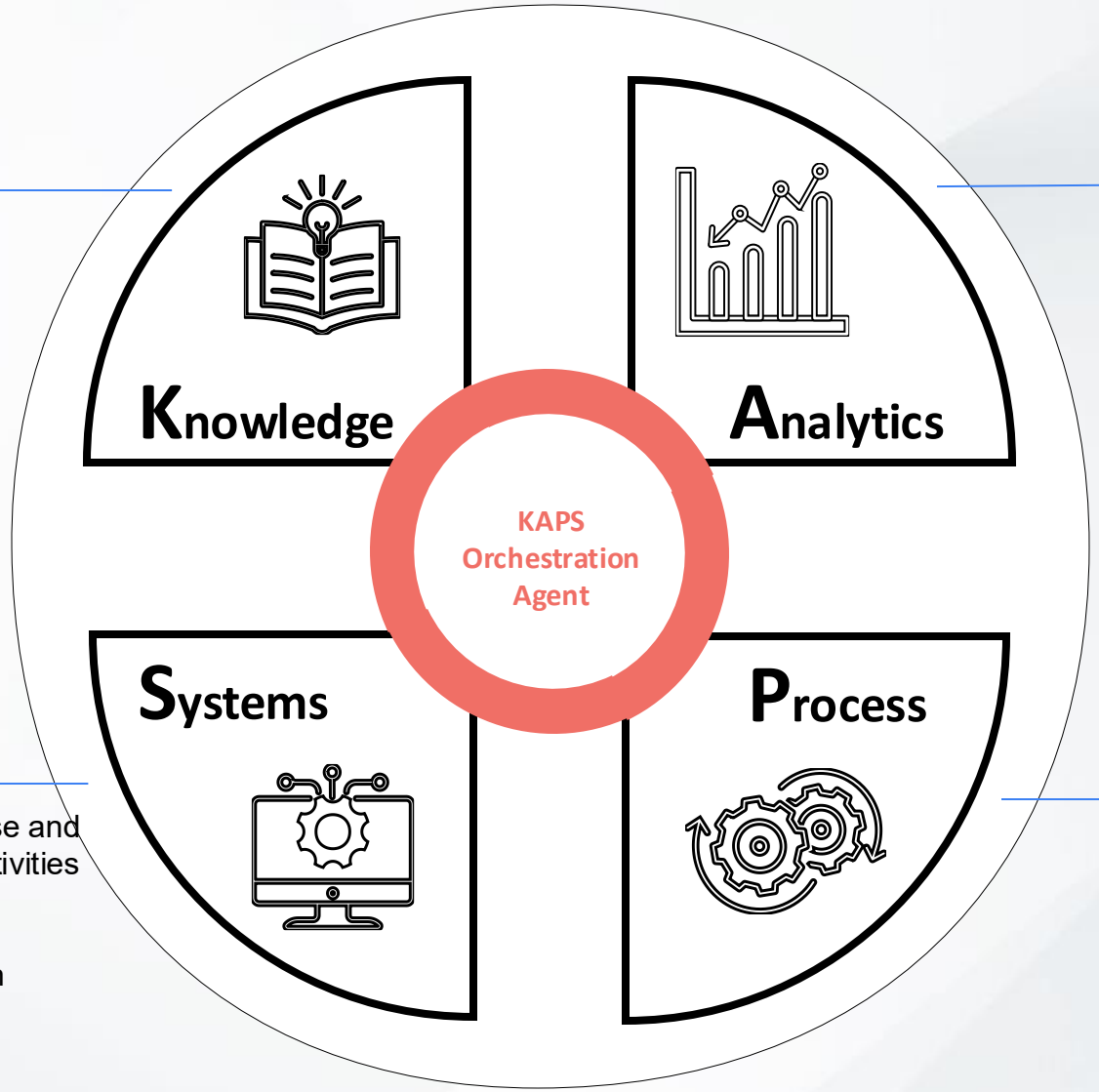
KAPS : Our Generative AI Adoption framework

KAPS Framework systematically categorizes the business use cases into four specialized portfolios. These portfolios are supported with tailored architectural components, facilitating the seamless execution of diverse use cases with agility and efficiency

Knowledge Agents

The agents work with unstructured content to deliver use cases like:

- Conversational assistants
- Data extraction tools
- Document Generation
- Customer Support



Analytical Agents

The agents work with structured data and various databases to enable tools like:

- Data exploration tools
- Reports and dashboards
- Right Answers / DataBots

System Agents

The agents are trained on code base and SDLC artifacts to support SDLC activities like:

- Code Documentation & Migration
- Test Case Generation
- Code scanning and auto fixing
- Support/Managed Services

Process Automation Agents

The agents are trained on cognitive tasks of the business processes to achieve:

- Cognitive Process automation
- AI driven process redesign
- Data Curation & Quality improvements

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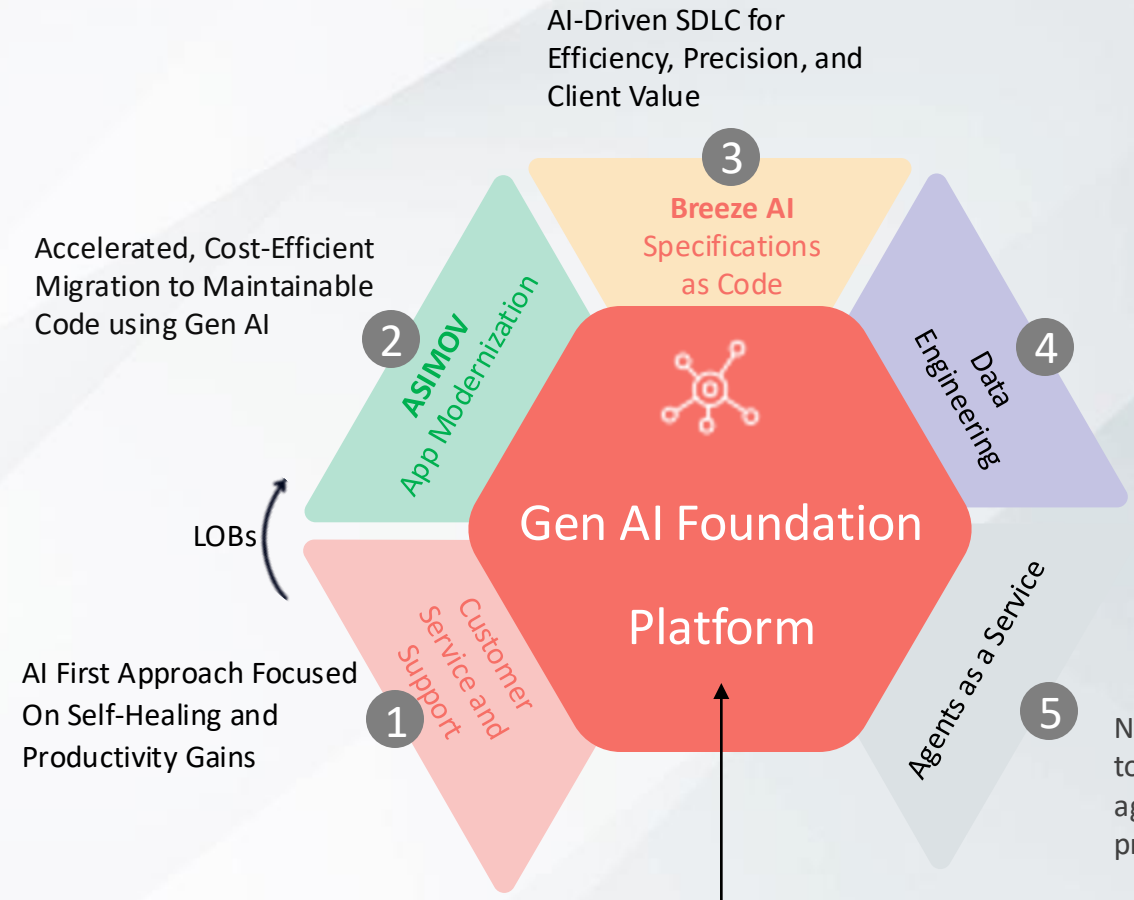
Our Solutions

Transforming Business Lines Through Generative AI Leadership

Innovation-Driven R&D
Accelerators delivering speed, efficiency, and measurable business impact at scale.

KAPS: Accelerated AI Adoption Framework
Structured methodology to fast-track Generative AI implementation enterprise-wide.

Gen AI In A Box: Secure, On-Premise AI Solutions
Collaborations with Dell and Lenovo for scalable, secure, and cost-efficient deployments.



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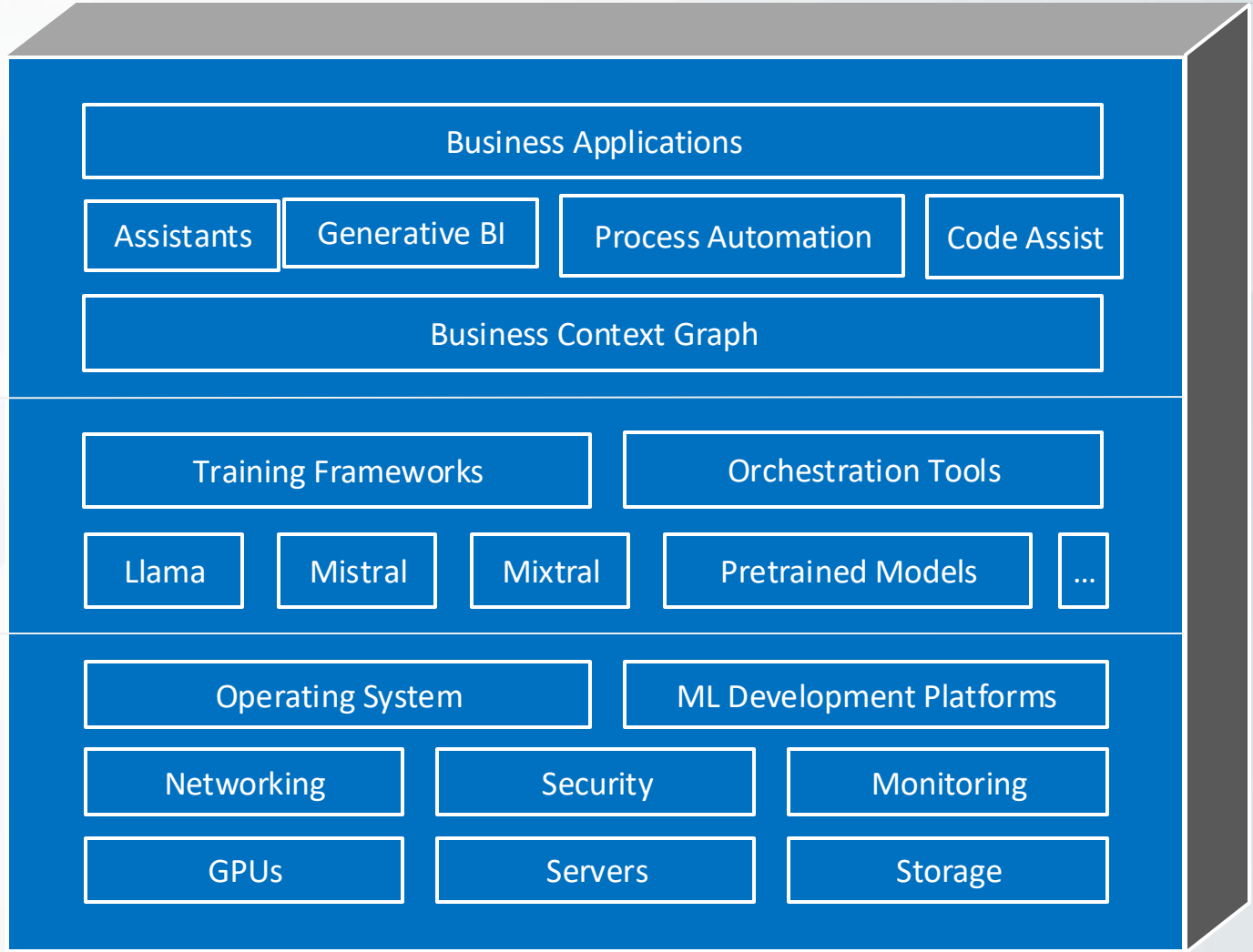
Gen AI in a Box Offering

For cost-efficient, high-throughput Generative AI deployments

Business Apps & Tech Blueprint:
Ready-to-deploy applications, Gen AI implementation accelerators, and technology blueprints

LLM Infrastructure & Models:
LLM infrastructure and variety of open source and pretrained models

Hardware:
Optimized hardware for on-premise hosting available through partnership with Lenovo/Dell



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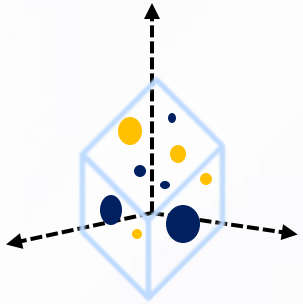
Evolution of Agentic Graph RAG

Vector Search (RAG)



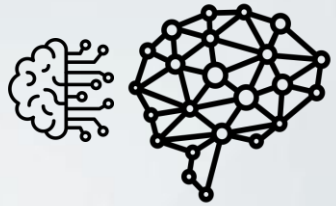
Find relevant documents and content for user queries.

Graph-RAG

Find entities associated to relevant content and patterns in connected data.

Vector Search
+
Knowledge Graph Retrieval

Agentic Graph RAG



Build “agentic" apps leveraging LLM Function / Tool calling grounded by Knowledge Graph.

Leverage KG, graph algorithms and machine learning to discover new relationships, entities, and groups for advanced Graph-RAG.

Suffers with hallucination → **Improved Accuracy** → **Production Quality Solutions**

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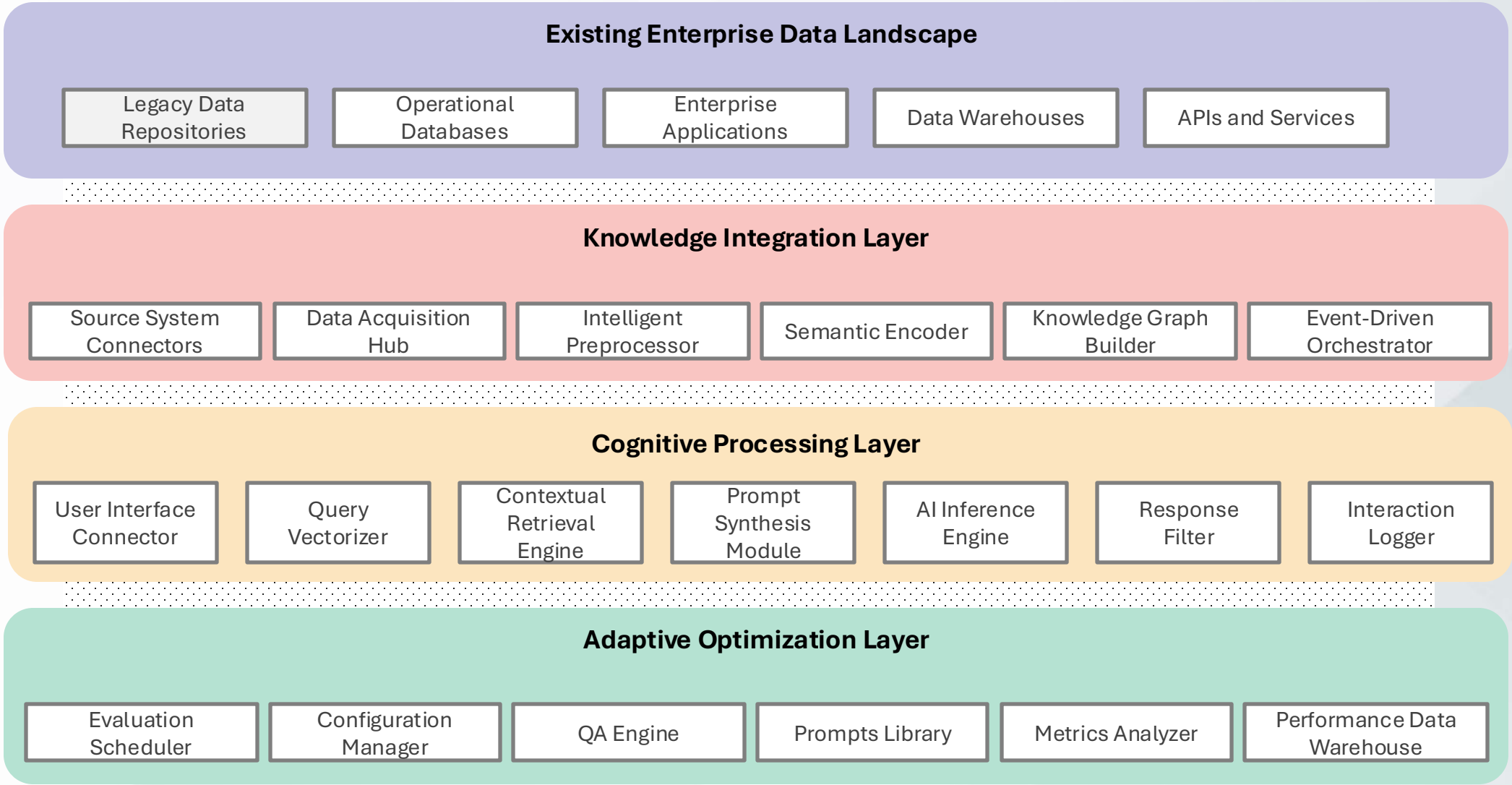
Overview of Accion's Gen AI Blueprint

Proven and comprehensive blueprint for scalable Gen AI deployment in enterprises



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Tech Stack

LLM Model

- OpenAI Models
- Anthropic Models
- Gemini
- Llama
- Mistral
- Qwen
- Nvidia Nemotron

LLM Orchestration

- Core LangChain
  - langchain
  - langchain-core
  - langchain-community
  - langchain-experimental
- LangChain Integrations
  - langchain-openai
  - langchain-anthropic
  - langchain-google-genai
  - langchain-neo4j
  - langchain-weaviate
- LangGraph
  - langgraph
  - langsmith (monitoring)
  - langserve (deployment)

Databases

Graph Database

- Neo4j Vector Index
- APOC procedures
- Graph Data Science Library

Vector DB

- **Weaviate**
  - weaviate-client
  - Weaviate Cloud Service (WCS)
  - Docker deployment
  - Kubernetes deployment

PostgreSQL with Vector

Other Vector DBs

- Pinecone
  - pinecone-client
- Qdrant
  - qdrant-client
- Chroma
  - chromadb

ML Ops

- Model Deployment
  - Docker
- Docker containers
- Docker Compose
  - Kubernetes
- K8s manifests
- AWS SageMaker
- Google Vertex AI
- Azure ML
- Monitoring & Observability
  - LangSmith (LangChain monitoring)
  - MLflow

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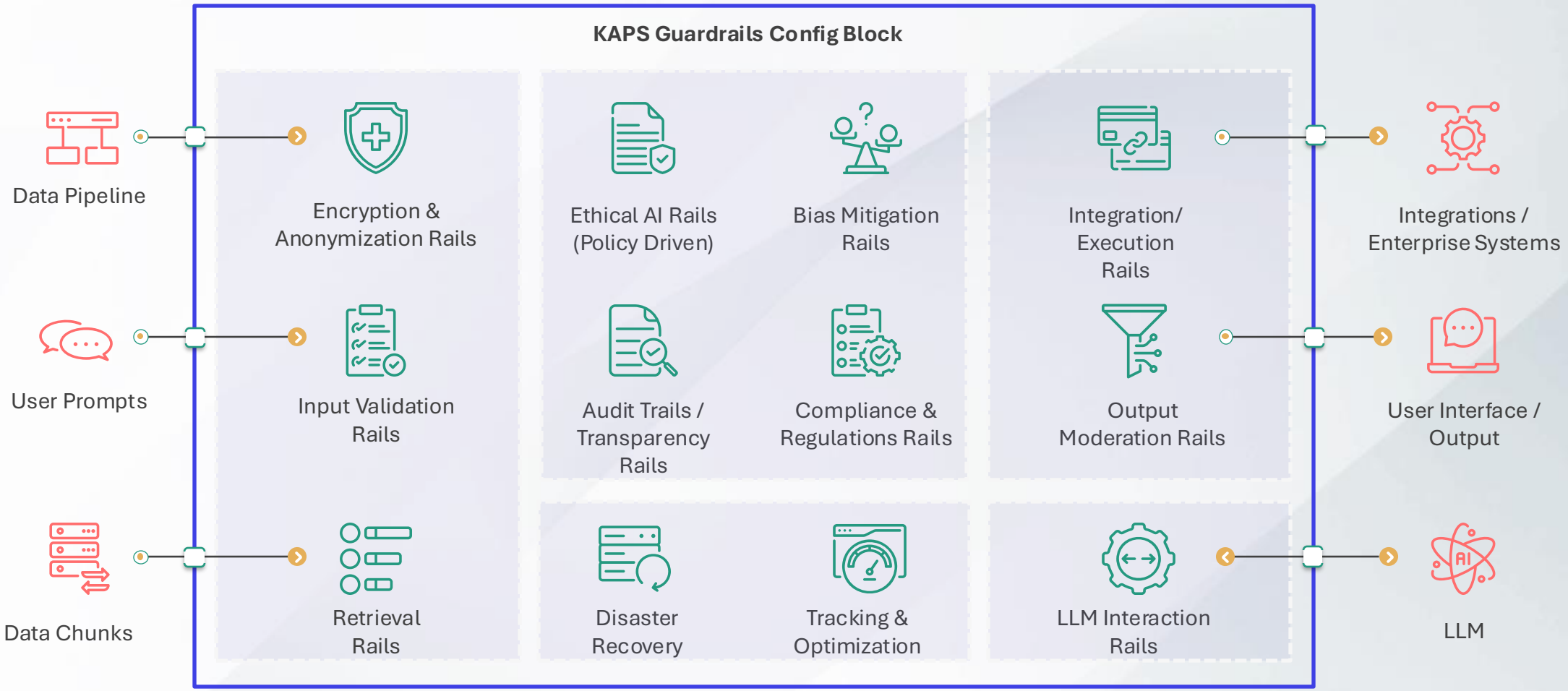
Strategic Guardrails Framework



Respective cloud provider's solutions or open-source options like NVIDIA NeMo Guardrails can be used for implementations

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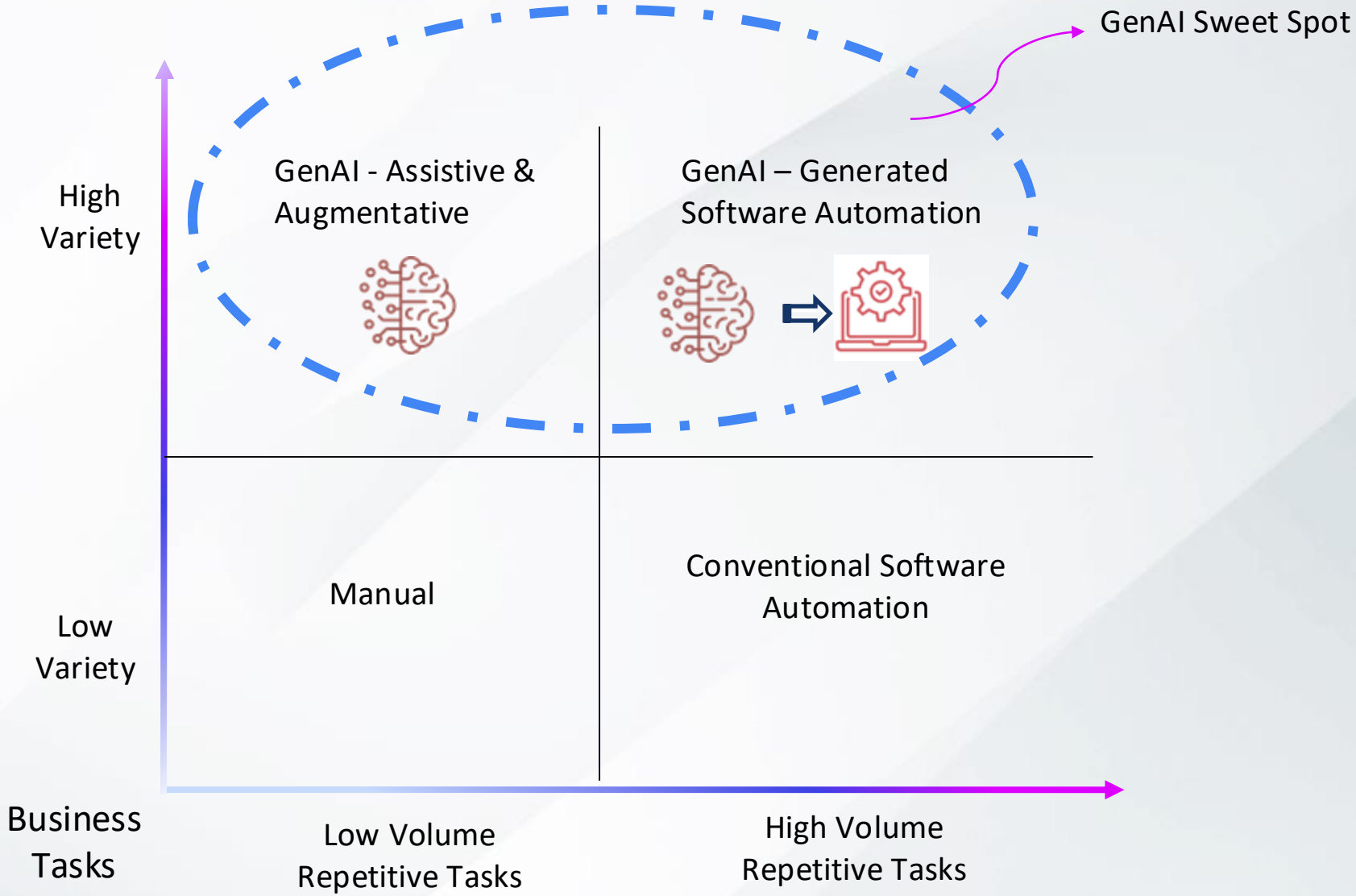
POV on GenAI Applicability



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Business Use Case Analysis Framework

Use Case Description
Objective is to utilize generative AI to assist in compiling, cross-referencing, and reviewing changes to complex documents

Business Value and Complexity
• Business Value – High/Medium/Low: (improved productivity, saved cost etc.) • Customer Value – High/Medium/Low: (User experience, adoption etc.) • Complexity – High/Medium/Low: (complex workflows, business rule complexities, system integrations etc.)

Data Details		
	Internal Sources	**External Sources**
	Data Sources - Internal - List of internal Data Sources	Data Sources - External - List of external data sources

Necessary Data, Partners, Tools and Technology		
	Internal	**External**
Partners	IT, Document Control, Risk Management	N/A
Tools	Tools for integration.	N/A
Other	N/A	N/A

Why Do This? Expected Outcomes and Benefits
Write the outcomes you expect from this POC What are the outcomes you intend to achieve from this POC

Sponsor / Key Contacts
- Submitter Name: - Sponsor: TBD - Key Contacts (Function & IT): TBD

Approach. What is the plan?
1. Plan of how this development can be achieved.

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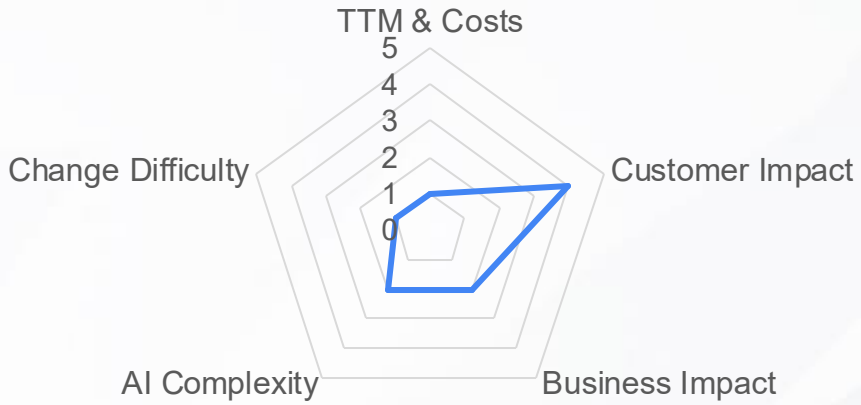
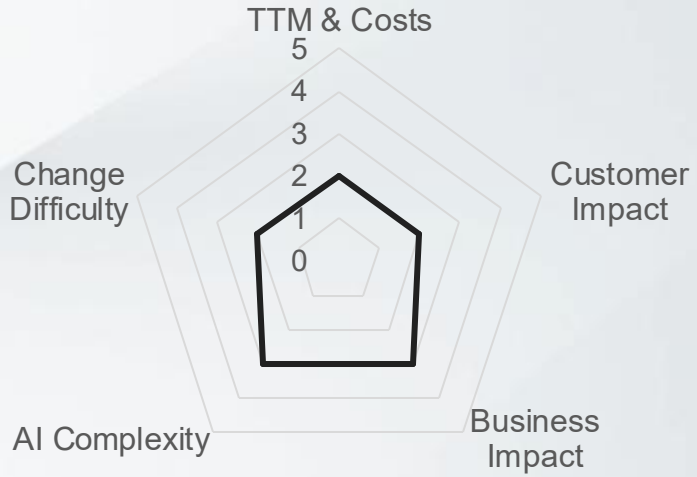
Strategic Pathways for Generative AI Adoption Through KAPS

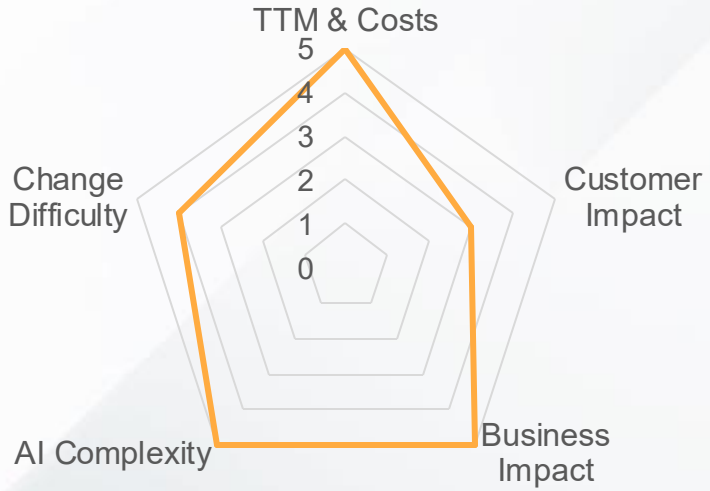
Knowledge - Low Hanging Fruits



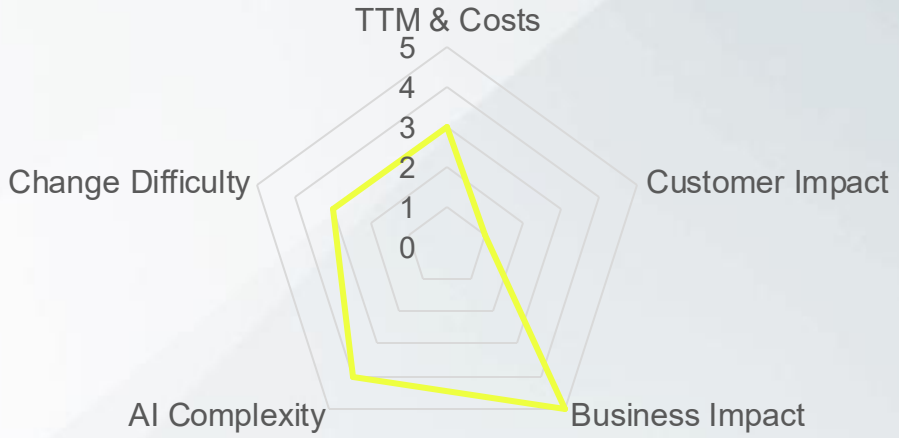
Data – Quick Wins



Systems – Transformative Programs



Process Automation – Strategic Investments



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Our Gen AI Powered Solutions

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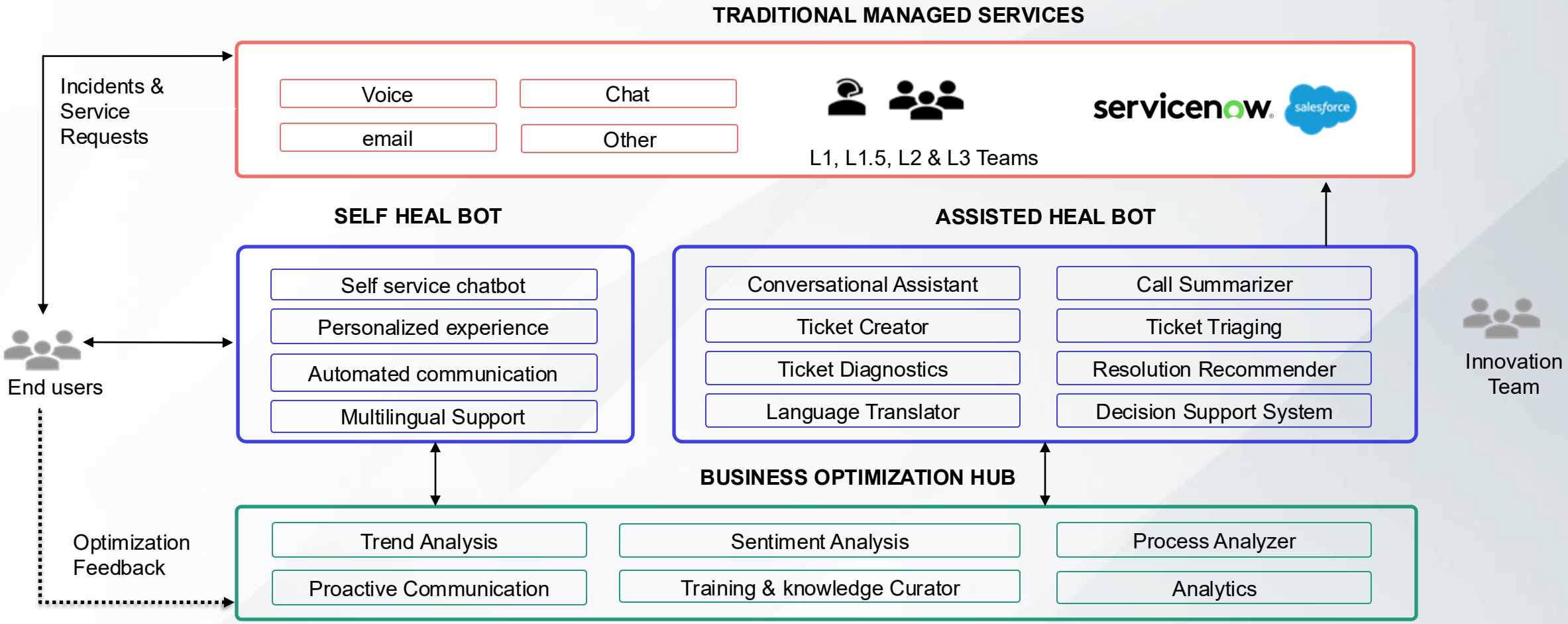
1. Autonomous Support Solution



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2. Legacy Migration Solution -Powered by ASIMOV

Inputs

- Documentation
- Code Base
- Coding Guidelines
- Design Patterns
- Sample Codebase
- Target Architecture / UI

Process

Ingest → Enrich → Translate → Refactor → Recompose → Fix → Test & Run

Outcome

Source Code

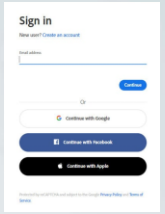
Source Graph nodes

Intermediate Graph nodes

Target Graph nodes

Target Code

Manual Fix



Working Application

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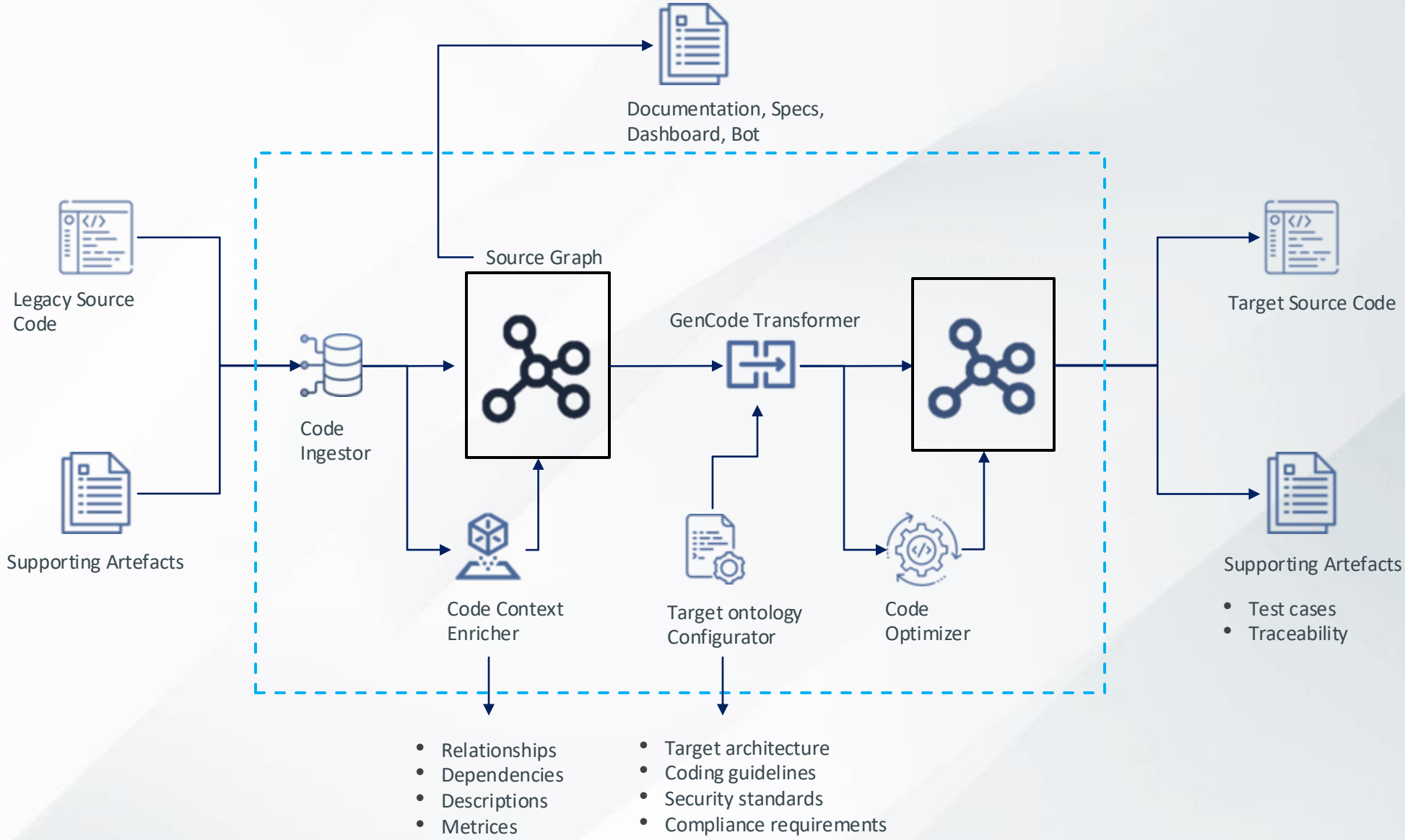
ASIMOV – Our Agentic Framework for Legacy Migration



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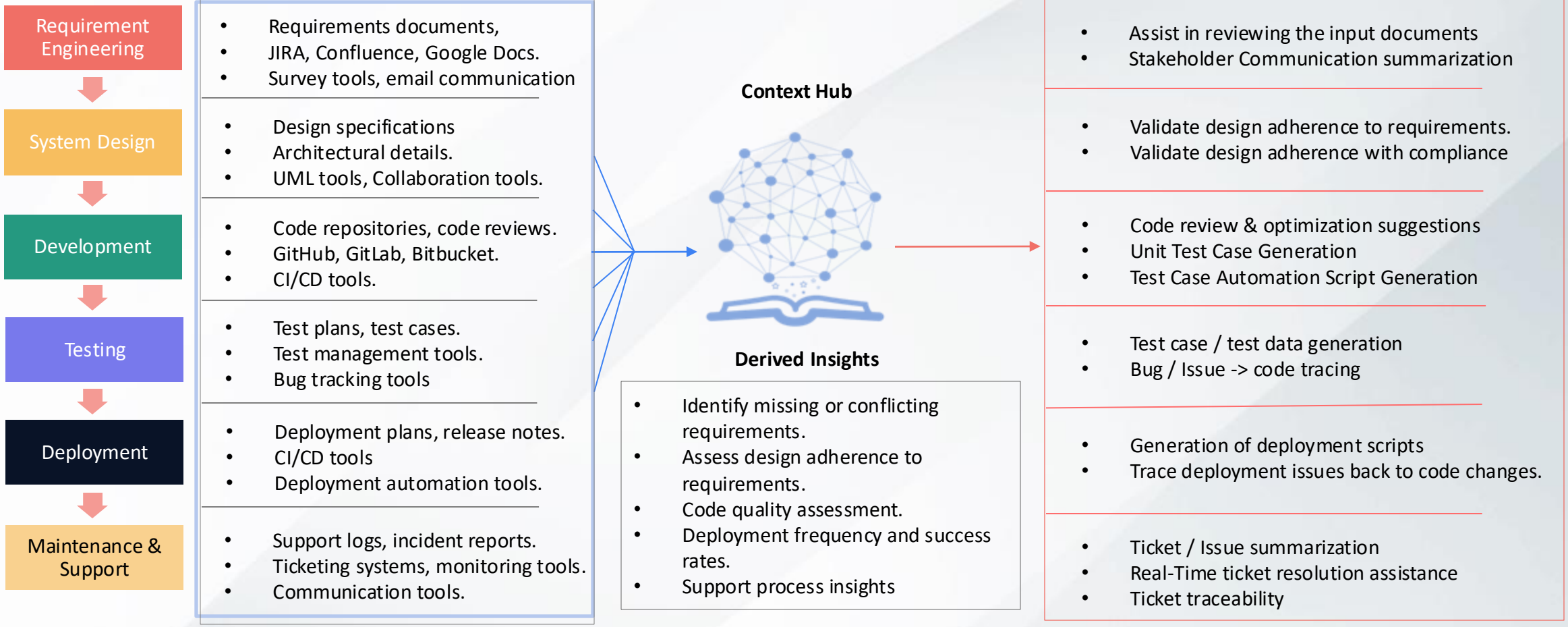
3. Breeze AI - SDLC Transformation



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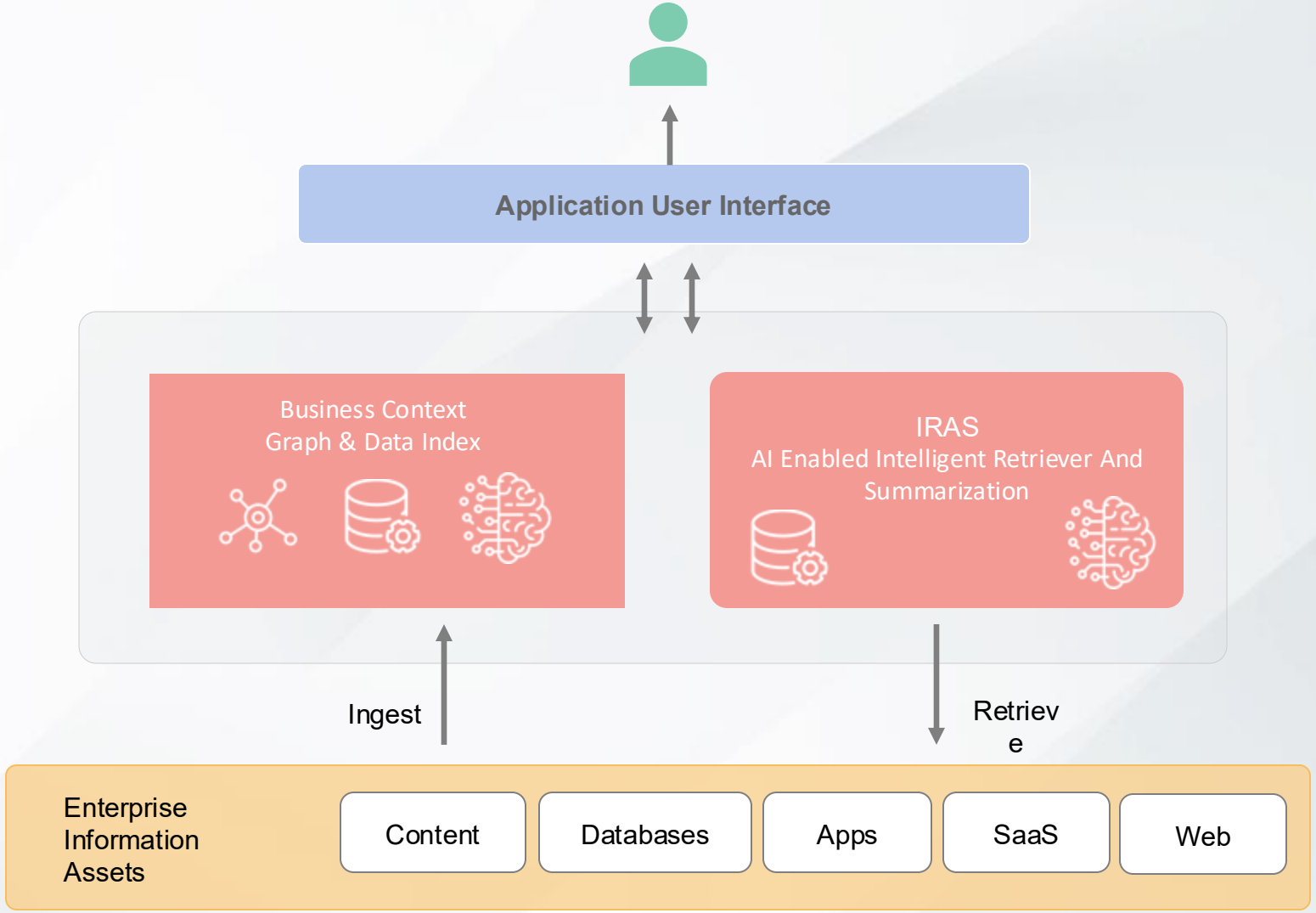
4. Enterprise Data Transformation With AI



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5. Agent As A Service – Our Agentification Framework

As a service, we enable product Agentification through **non-invasive** implementation, by **building on existing system**, and by scaling agents incrementally **with minimal disruption**—guided by the **Model Context Protocol (MCP)** for seamless integration.

Product Architecture Today	Layers Of Agentic AI In Products	Primary Role Of Agent
User Interface	Conversational Assistive Agents	**Solves**: Steep learning curve & user training challenges.
Business Logic	Adaptive Onboarding Agents	**Solves**: Error-prone configurations & onboarding inefficiencies.
Data/Analytics	Intelligent Insights Agents	**Solves**: Rigid, one-size-fits-all reporting.
Workflow	Autonomous Cognitive Agents	**Solves**: Alert fatigue & missed critical actions.
Integration/APIs	Process Orchestration Agents	**Solves**: Fragmented integrations & inefficient workflows.

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Thank You

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