

# RetainIQ™ ARO – Clean Orchestration

## Deliverable #3 – Agentic AI & IBM Watsonx Orchestrate Usage Statement

**Built With:** IBM Watsonx Orchestrate + AskOrchestrate

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### Overview

RetainIQ™ ARO – Clean Orchestration is a three-agent system designed to demonstrate how agentic AI and IBM Watsonx Orchestrate can automate complex data-to-decision workflows through sequential collaboration, reasoning, and contextual transfer.

Each agent in the system performs a specialized function—data cleaning, strategy planning, and playbook generation—while sharing structured JSON outputs with the next agent using Watsonx's built-in data mapping and orchestration framework. This setup transforms a traditionally linear, manual marketing process into an autonomous agentic pipeline, operating with explainable logic and validated outputs.

### 1. Data Mapper Agent – Precision Normalizer

**Objective:** Convert raw, inconsistent customer data into standardized, machine-readable format.

**IBM Watsonx Role:** Acts as the entry point agent in the orchestration, executing a schema-free cleanup pipeline.

#### Functionality:

- Cleans malformed or incomplete customer JSON records.
- Standardizes key fields (id, email, ltv, risk\_score, last\_activity\_days, status).
- Eliminates duplicates and reports statistics (raw, cleaned, malformed counts).

**Output:** mapped\_json – A structured dataset that becomes the shared input for the Planner Agent.

### 2. Planner Agent – Strategic Segmenter

**Objective:** Derive actionable customer segments and corresponding retention strategies.

**IBM Watsonx Role:** Functions as the reasoning and decision-making agent, applying business logic dynamically based on cleaned inputs.

#### Functionality:

- Analyzes ltv, risk\_score, and engagement recency.
- Creates 3–5 non-overlapping segments (e.g., High-Value, Low-Risk; At-Risk, High-Value; Low-Value, High-Risk).
- Assigns tailored strategies to each group.

**Output:** plan\_json – A fully reasoned segmentation and strategy blueprint, used by the Playbook Agent.

### 3. Playbook Agent – Execution Designer

**Objective:** Transform strategy plans into executable retention playbooks.

**IBM Watsonx Role:** Operates as the final synthesis agent in the orchestration, combining reasoning with practical marketing application.

### **Functionality:**

- Converts plan\_json segments into detailed campaigns with message themes, CTAs, delivery channels, cadence, and KPIs.
- Produces validated output verified through AskOrchestrate for structural integrity.

**Output:** playbook\_output\_json – The final artifact representing a ready-to-deploy retention strategy.

### **Orchestration Logic in IBM Watsonx**

- **Data Flow:** Each agent's output is automatically mapped to the next agent's input using Watsonx's Auto Map Data Objects capability.
- **Execution Order:** Data Mapper → Planner → Playbook (sequential orchestration).
- **Validation Layer:** AskOrchestrate confirms that all outputs are complete, JSON-compliant, and logically consistent.
- **Interface:** Entire orchestration executed via IBM Watsonx UI with clear logs, run IDs, and JSON export history for auditability.

### **Agentic AI Innovation**

RetainIQ™ ARO – Clean demonstrates true agentic intelligence—each agent exhibits reasoning, autonomy, and interdependence, forming an emergent system capable of continuous learning and reusability. Unlike static automations, this orchestration allows flexible reasoning across agents, transparent decision-making, and full traceability of every generated output.

The result: a system that exemplifies how IBM Watsonx Orchestrate can operationalize agentic AI for real-world business workflows—not just to perform tasks, but to think, collaborate, and create.