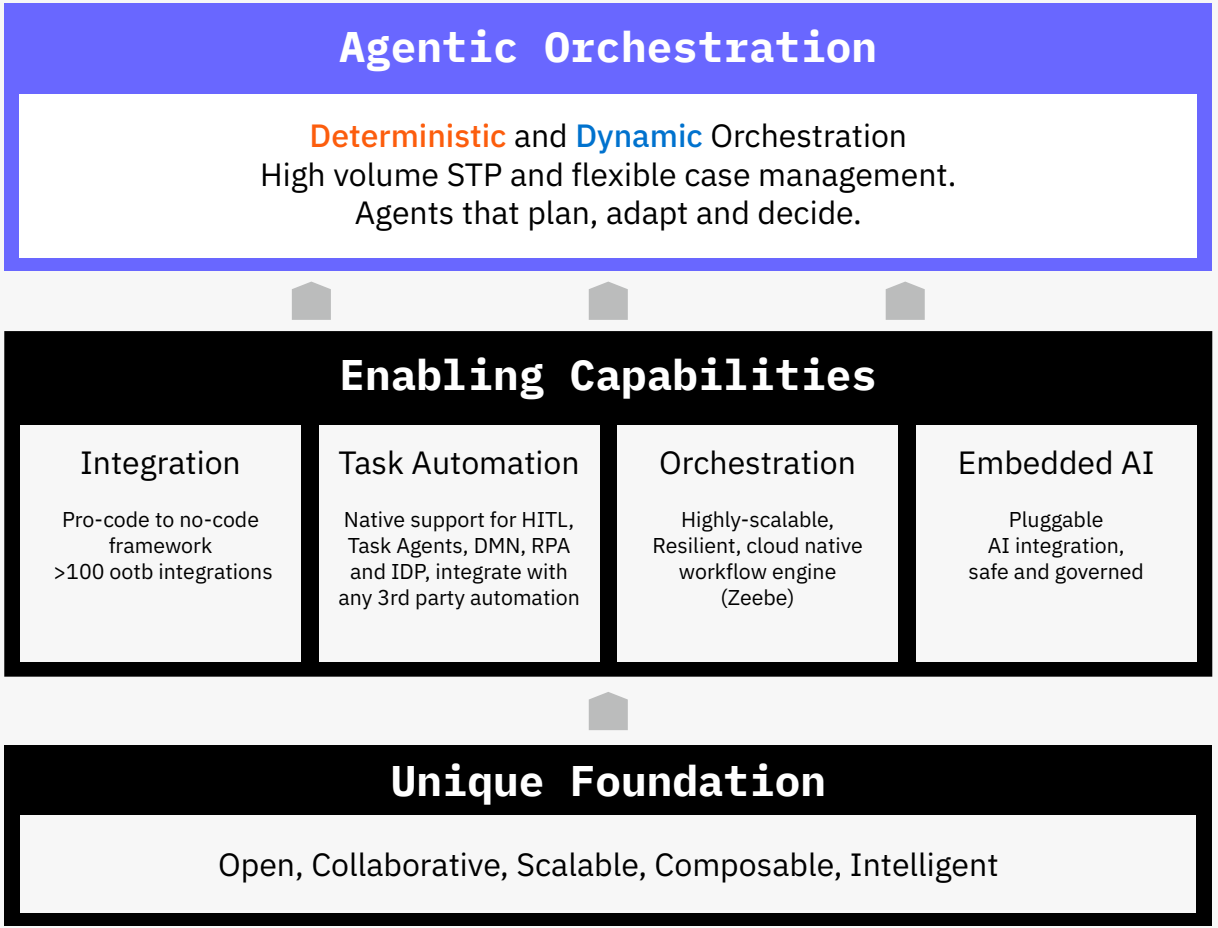
CAMUNDA CON 2025 AMSTERDAM

Keynote

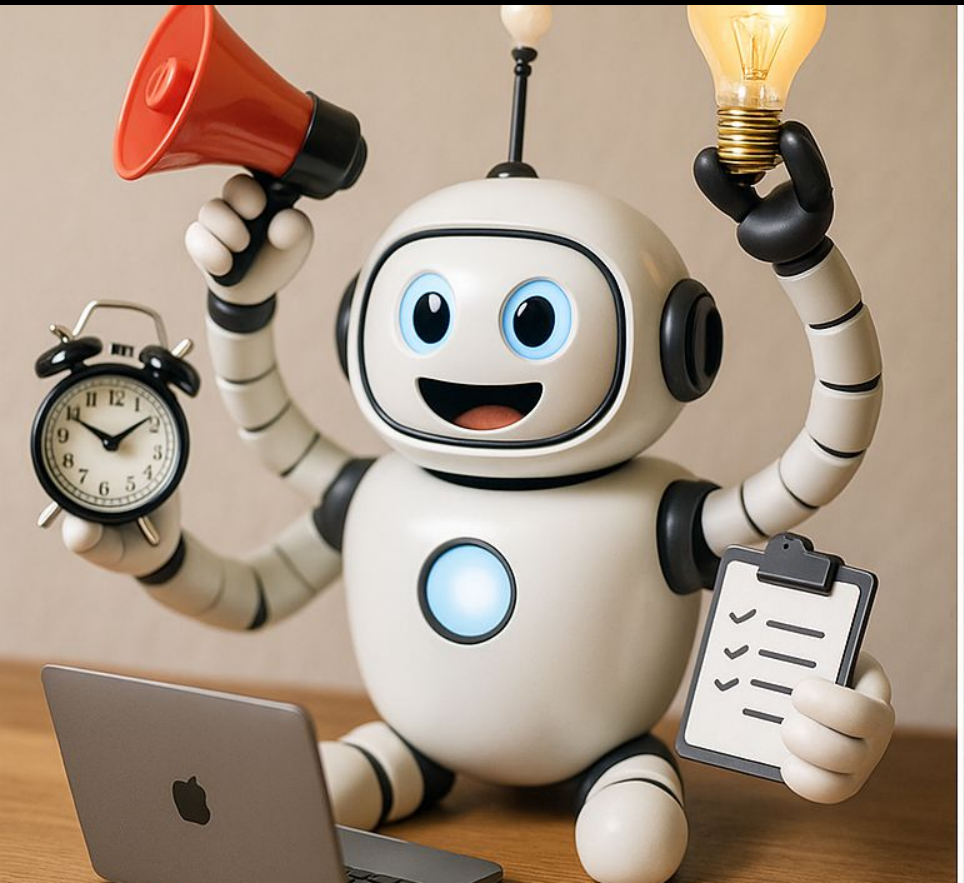
Bernd Ruecker

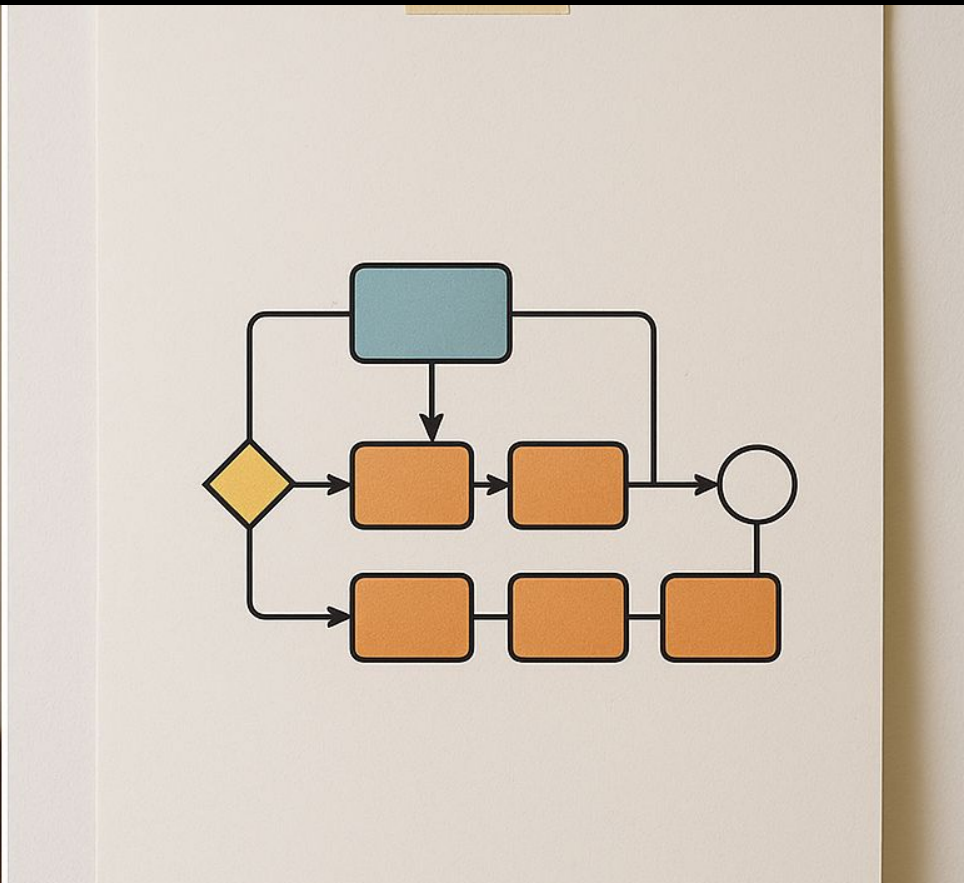
Bastian Koerber

How Camunda Enables Agentic Orchestration



Demo time!

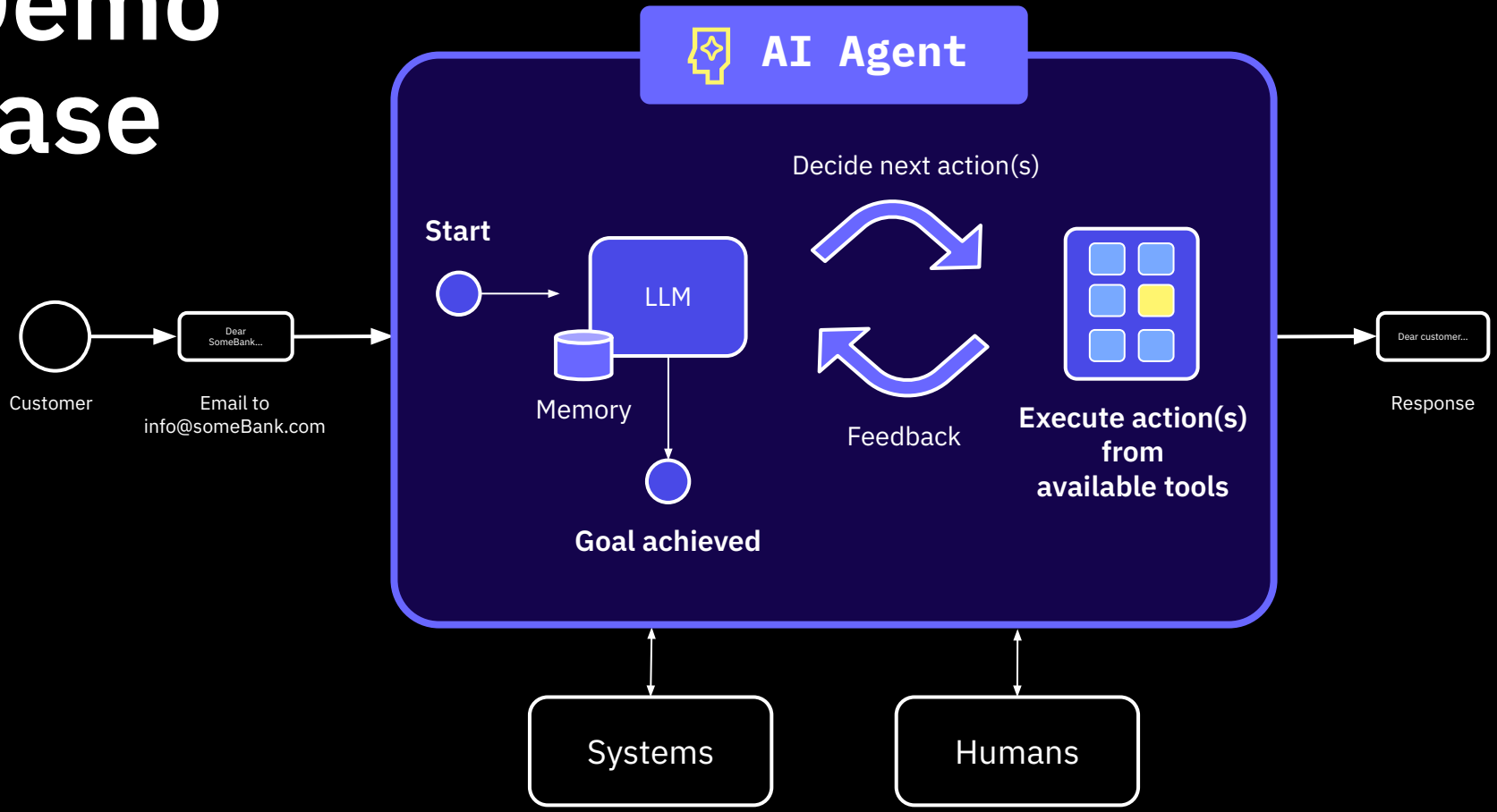




Demo case


Dear SomeBank...
Dear customer...
Customer
Email to info@someBank.com
Response

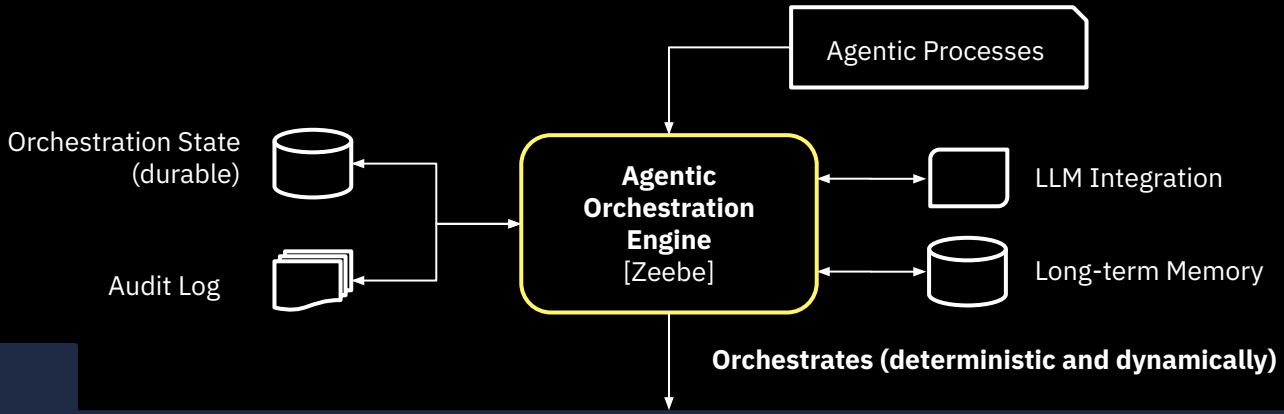
Demo case


AI Agent
Start
LLM
Memory
Goal achieved
Decide next action(s)
Feedback
Execute action(s) from available tools
Dear SomeBank...
Customer
Email to info@someBank.com
Dear customer...
Response
Systems
Humans

Live demo

What did we just see?

Agentic Orchestration



tools

Humans in the Loop

- Supervisor, Task Worker, ...

AI-based Automation Patterns

- Agents
- AI computer use
- ...

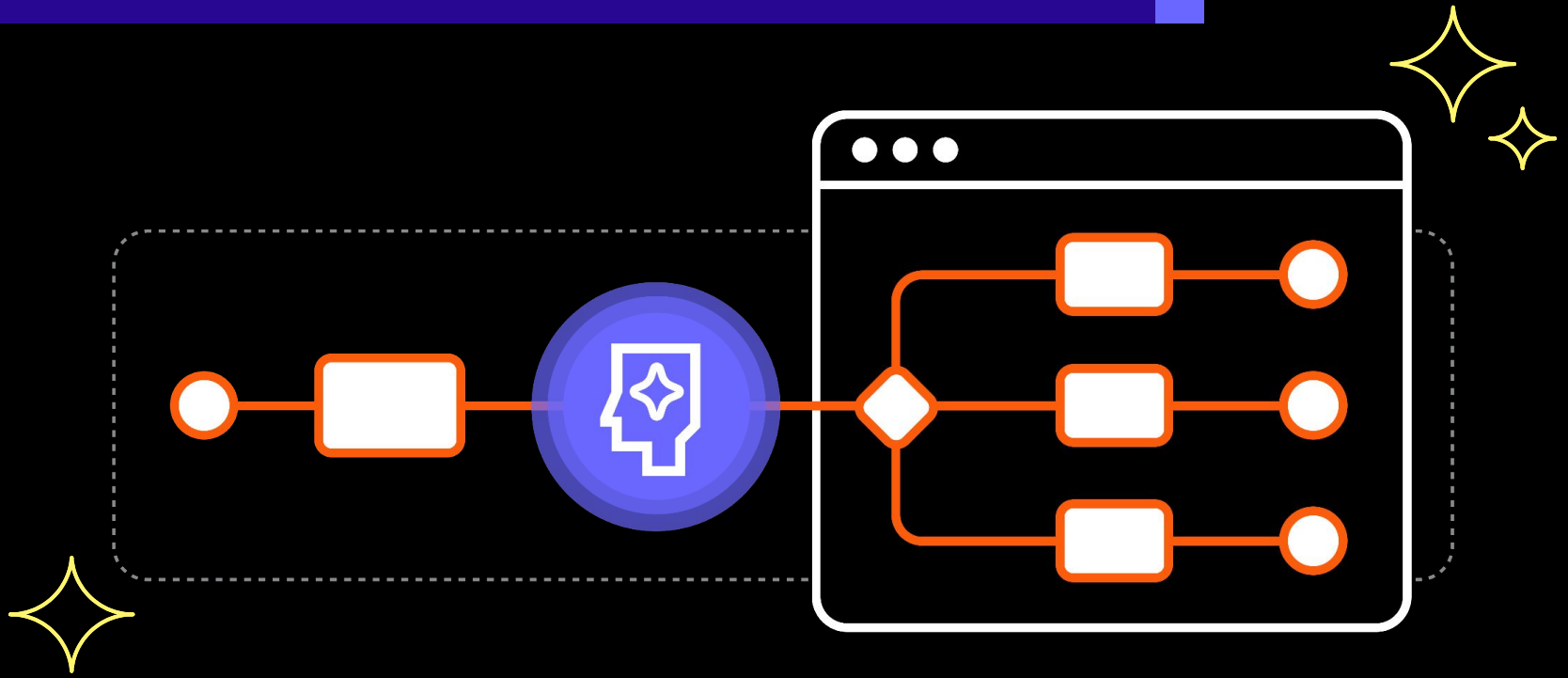
Traditional Automation Patterns

- RPA
- Document Automation
- Decision Automation
- ...

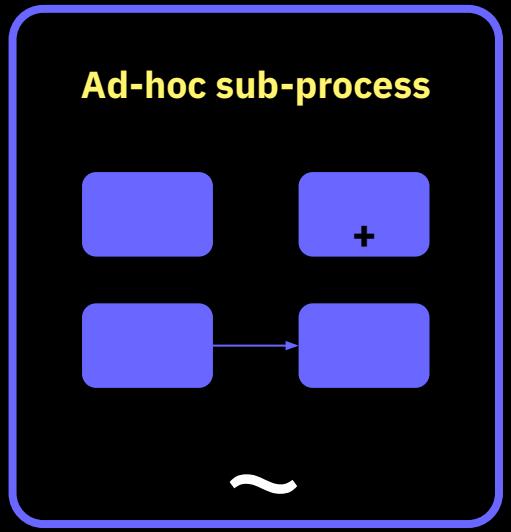
System Integrations (APIs, Events, Documents, Data)

- REST
- Messaging
- MCP
- SOAP
- IMAP
- SMTP
- ...

AI Agents thrive within BPMN, not as stand-alone apps



Ad-hoc sub-process



Capabilities

- Exposes a palette of tasks without prescribing sequence or which task must run.
- Agent (human or AI) decides at runtime which tasks to execute and in what order.
- Can contain nested subprocesses (ad-hoc or event-based)
  → enables multi-agent planning and real-time reactions.
- Persists state and progress in Zeebe
  → safe for long-running, interruptible work.

Use Cases:

- Human case-management
- AI task- or case-agents

THINKING
REASONING

REMEMBERING
Short term & Long term

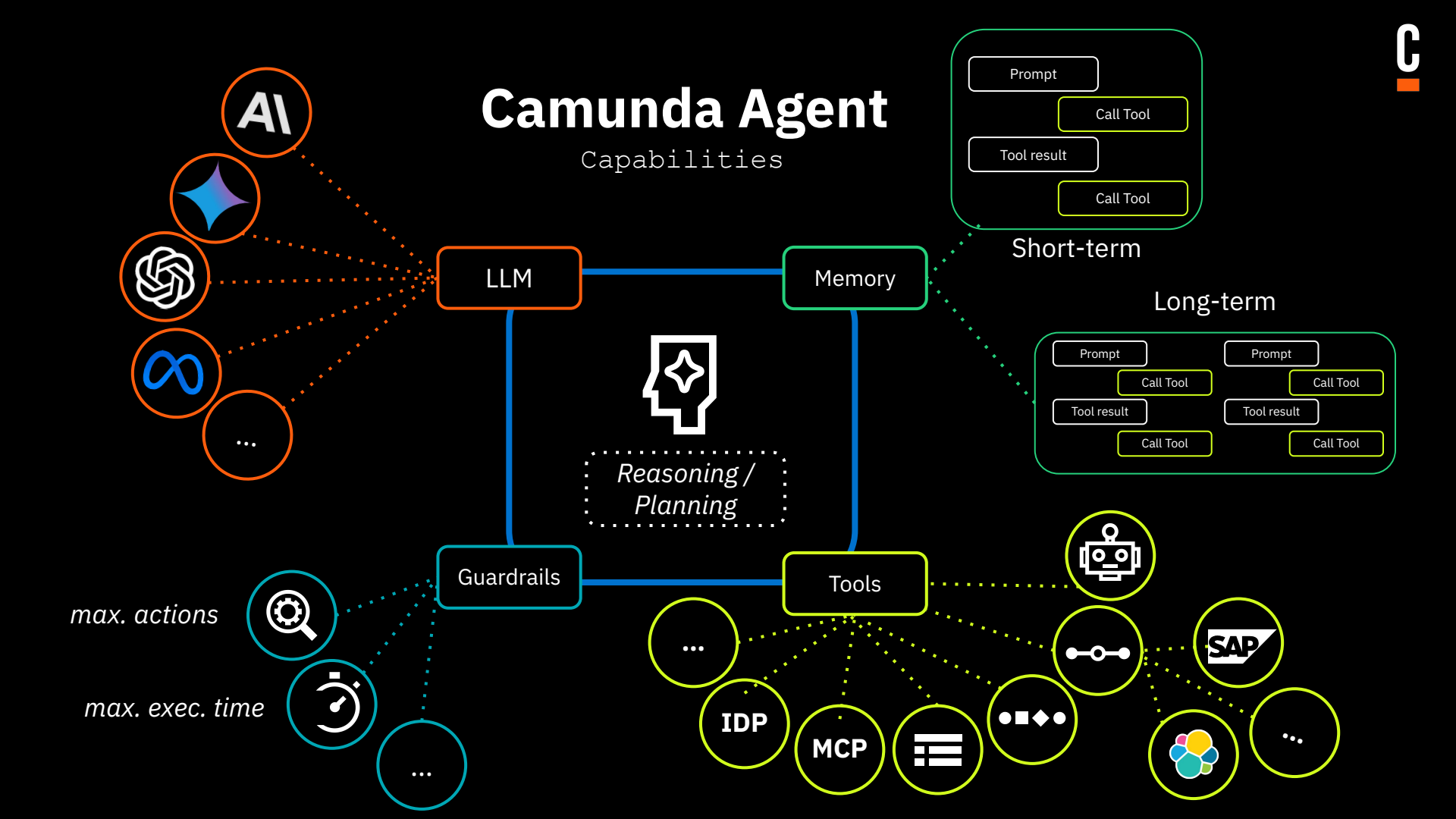
AI Agents

TAKING
ACTIONS

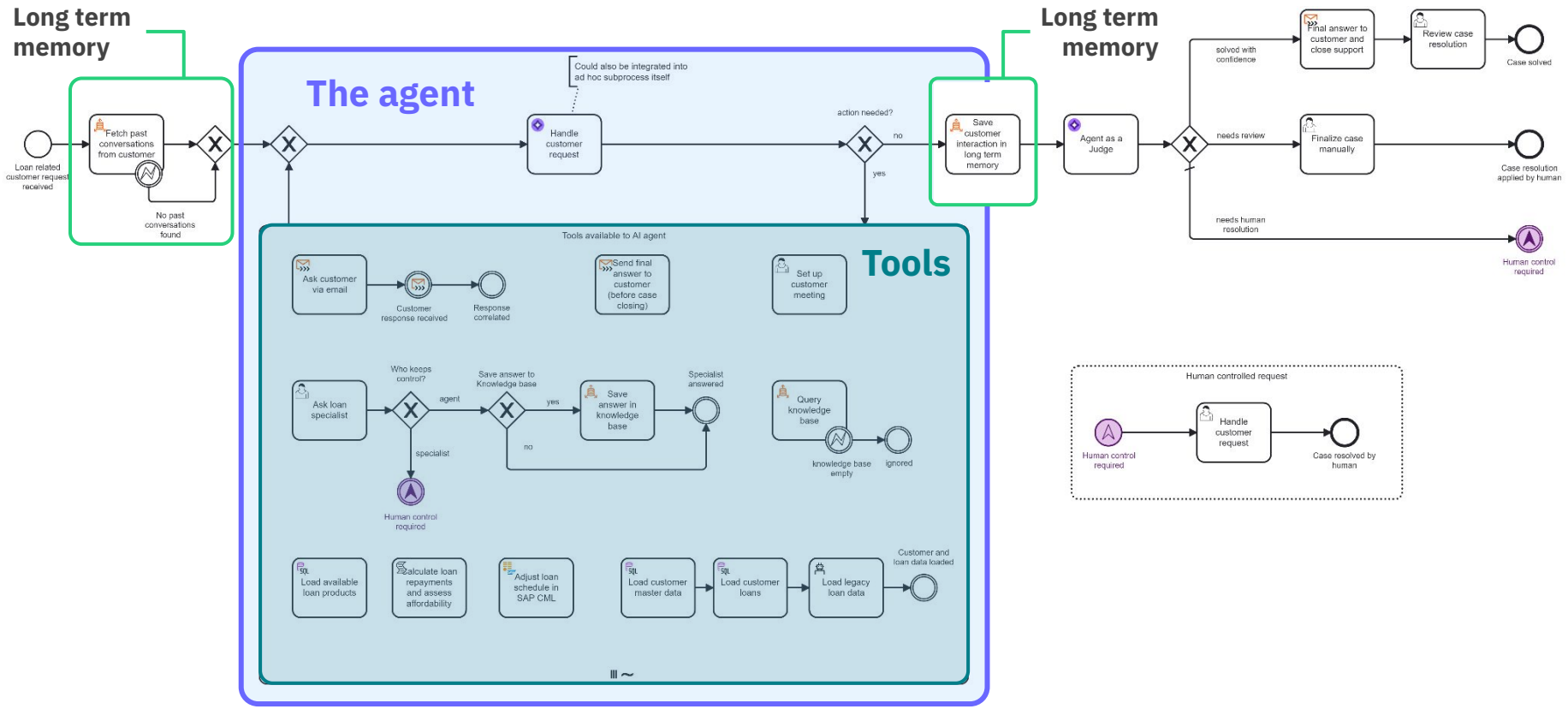
REACTING TO
EVENTS

Camunda Agent

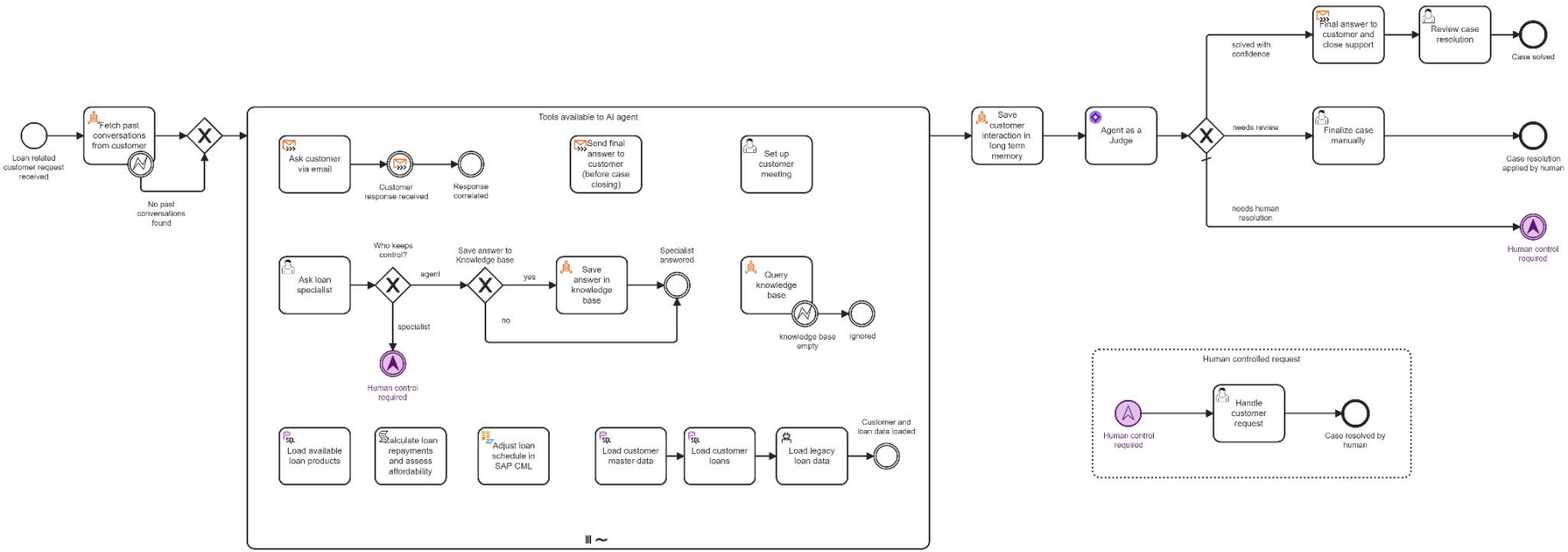
Capabilities



Back to the loan support agent...



Possible simplification

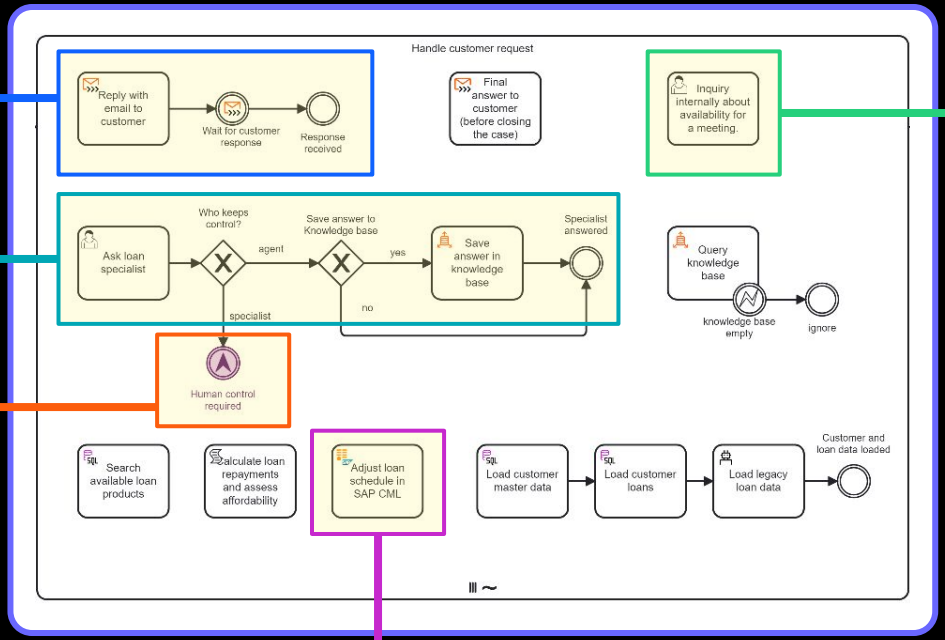


Ad hoc subprocesses are powerful

Conversations with correlation

Sequences of tasks, subprocesses, and call activities

BPMN super powers (here: escalation event)

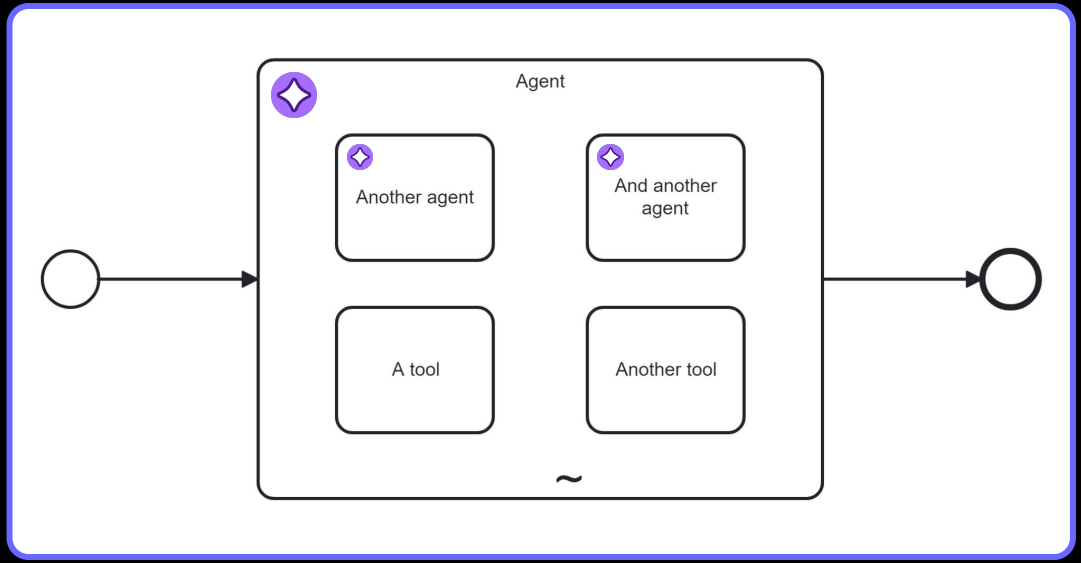


Human in the loop

Connectors

More patterns: **Multi-Agent Orchestration**

- Tools can be agents themselves
- Sub-agents plan *locally*
- Parent agents coordinate *globally*
- Enables distributed and hierarchical orchestration

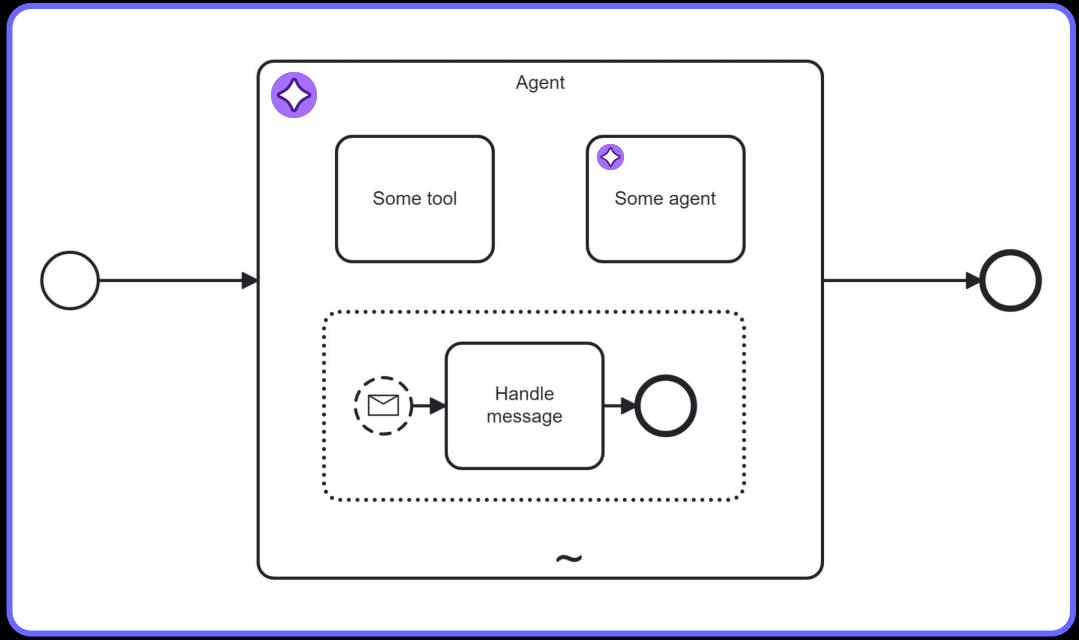


More patterns: **Event-Based Reactivity**

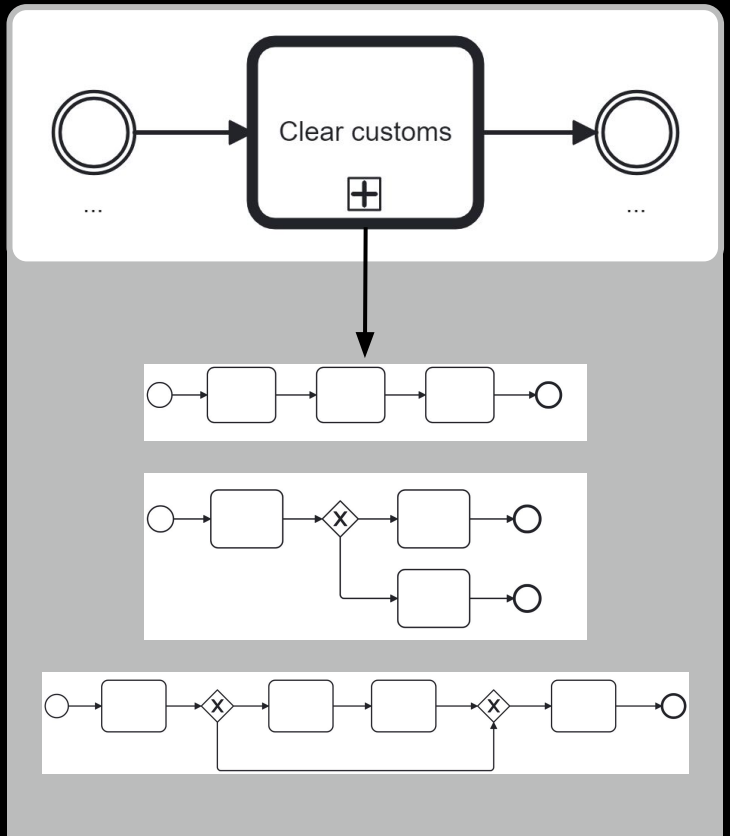
- ✔ Events can be received *anytime*

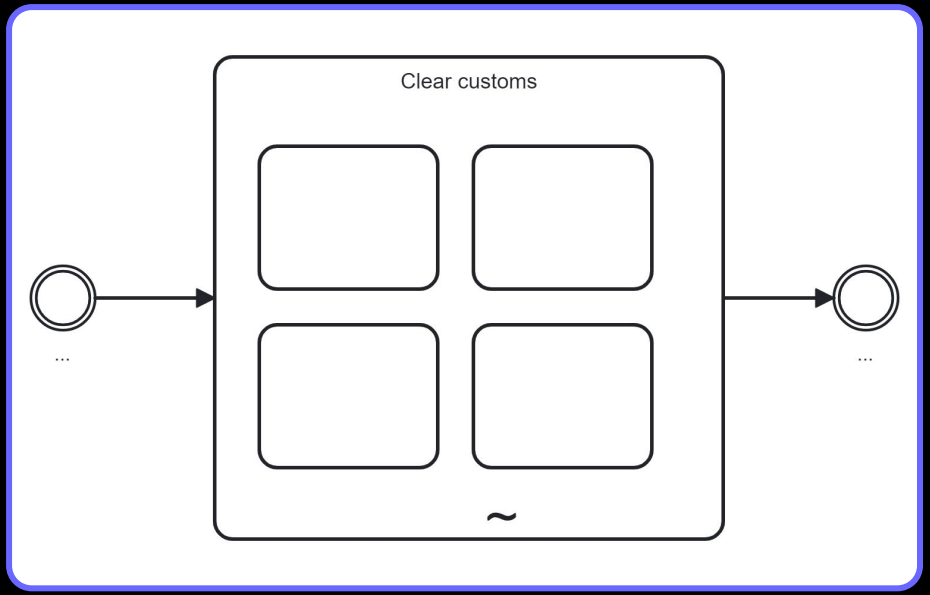
  For example a child agent could decide to feed new information into the next LLM loop, to interrupt tools and/or to terminate the agent

- ✔ Agents can *collaborate* with each other



Simplifying process variants





Building agents in Camunda

The agent is configured with LLM provider, prompt, and additional features

Model

Provider

AWS Bedrock

Specify the model provider to use

Region *fx*

eu-central-1

Specify the AWS region

Model *fx*

anthropic.claude-3-5-sonnet-20240620-v1:0

Prompt

System Prompt *fx*

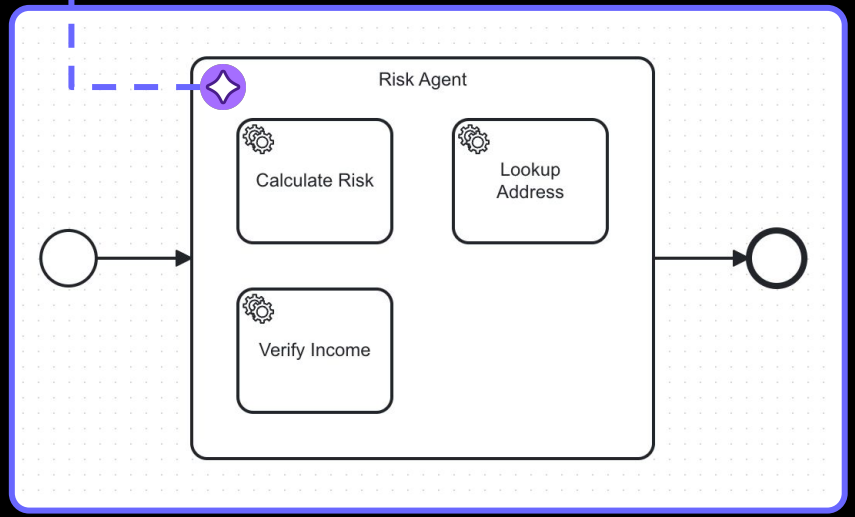
You are a helpful, financial risk evaluation agent agent which can answer a wide amount of questions based on your knowledge and an optional set of

Specify the system prompt

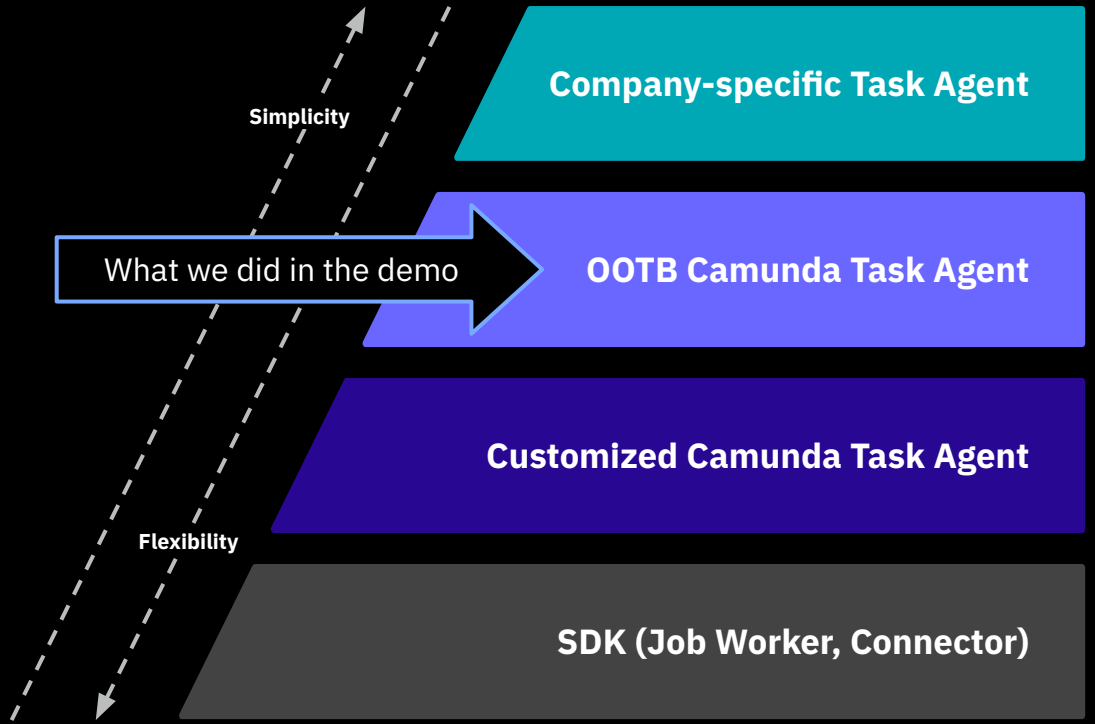
User Prompt *fx*

```
= if (is defined(followUpInput)) then followUpInput
  else inputText
```

Specify the user prompt



Multi Layer Coding Experience



Build a company-specific generic Agent
(e.g. tied to the preferred LLM provider and model)
by JSON-configuration without coding

Configure an out-of-the-box Camunda Agent

Customize a Camunda Agent Connector
(based on Langchain4J)
on the Java-level

Build your job worker / connector

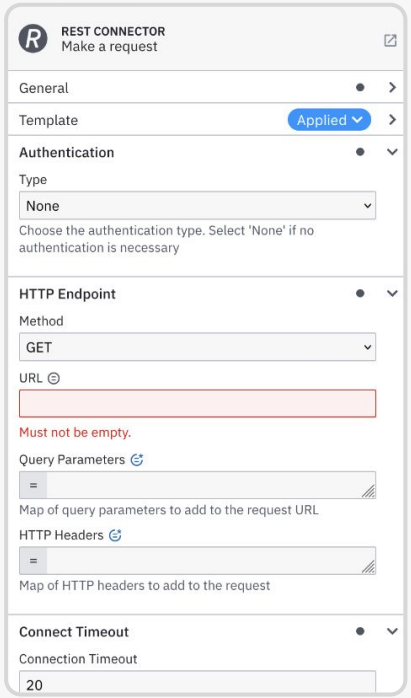
Multi Layer Coding Experience

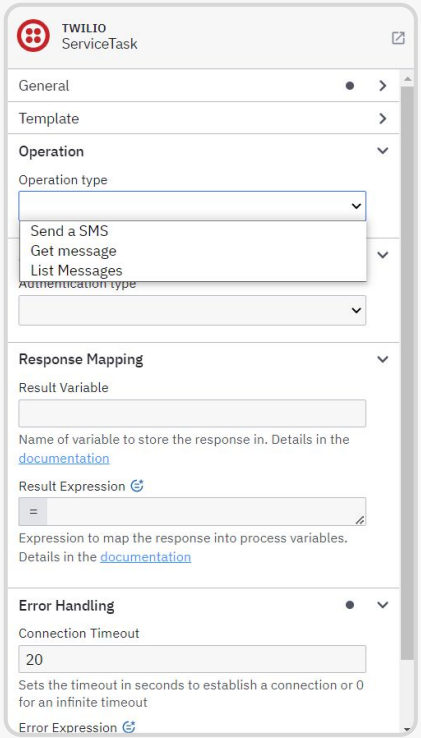
Pro code → **Protocol connector** → **Generic system connector** (requires JSON configuration of REST connector) → **Specific capability connector** (requires JSON configuration)

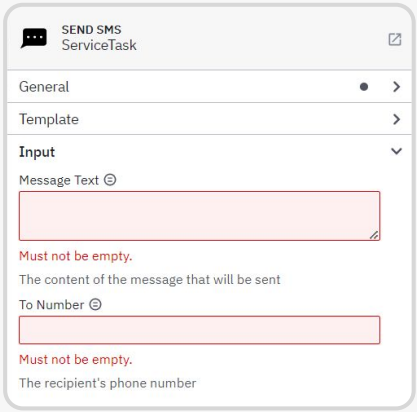
```
@JobWorker(type = "call-rest")
public Map executeRestCall(final ActivatedJob job
    HttpRequest request = HttpRequest.newBuilder(
            .uri(URI.create("https://someUrl.org/
            .GET()
            .build();

    HttpResponse<String> response = send(request)

    return newVariable("response", response);
}
```

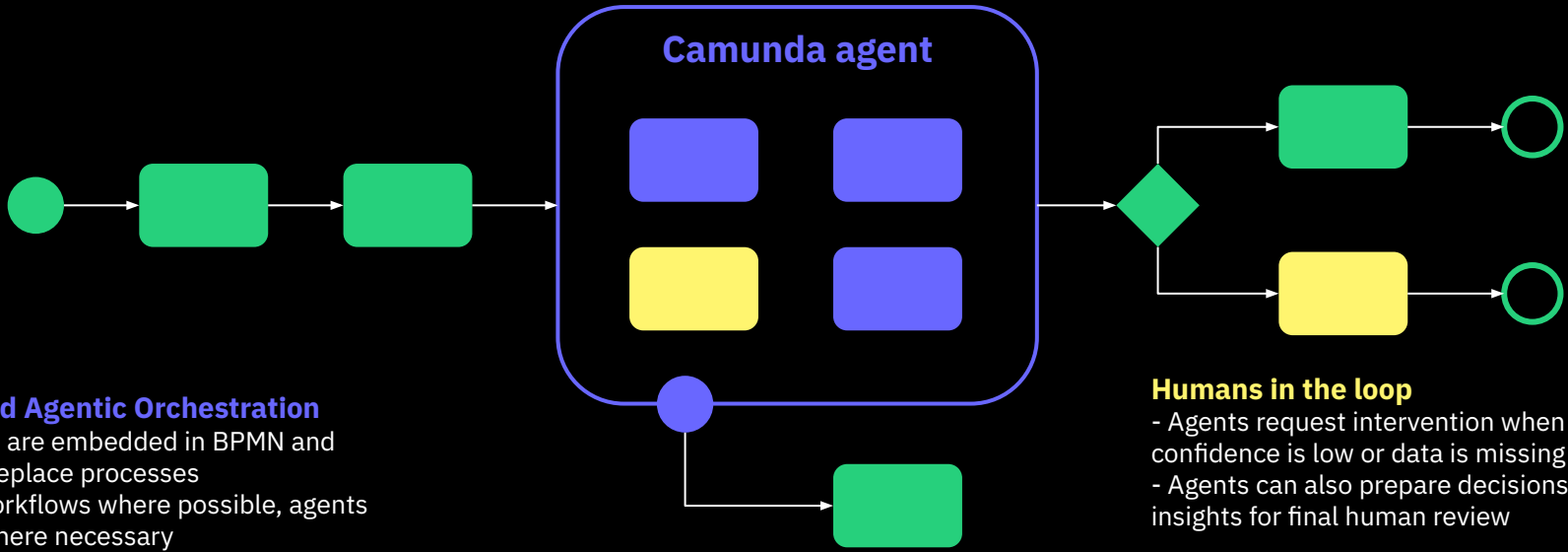






Our Approach to Agentic Orchestration

Blend deterministic and dynamic process execution to balance control with flexibility



Unified Agentic Orchestration
Agents are embedded in BPMN and don't replace processes
Use workflows where possible, agents only where necessary

Multi Layer Coding Experience
Blend pro-code power with no-code modeling in one unified approach
Customize with frameworks like LangChain for robust, tailored AI

One-Model Approach
Use BPMN ad-hoc subprocesses to introduce AI-driven tasks within deterministic workflows, ensuring compliance and flexibility.

Humans in the loop
- Agents request intervention when confidence is low or data is missing
- Agents can also prepare decisions and insights for final human review

Deterministic | Control
- BPMN defines the process flow in advance
- Ensures predictable outcomes with clear guardrails

Your journey to the Agentic Enterprise

Process Orchestration Maturity Levels & Drivers

4 **Strategic, Scaled Adoption**

3 **Distributed Adoption**

2 **Broader Initiative**

1 **Single Project**

0 **No Process Orchestration**

Vision

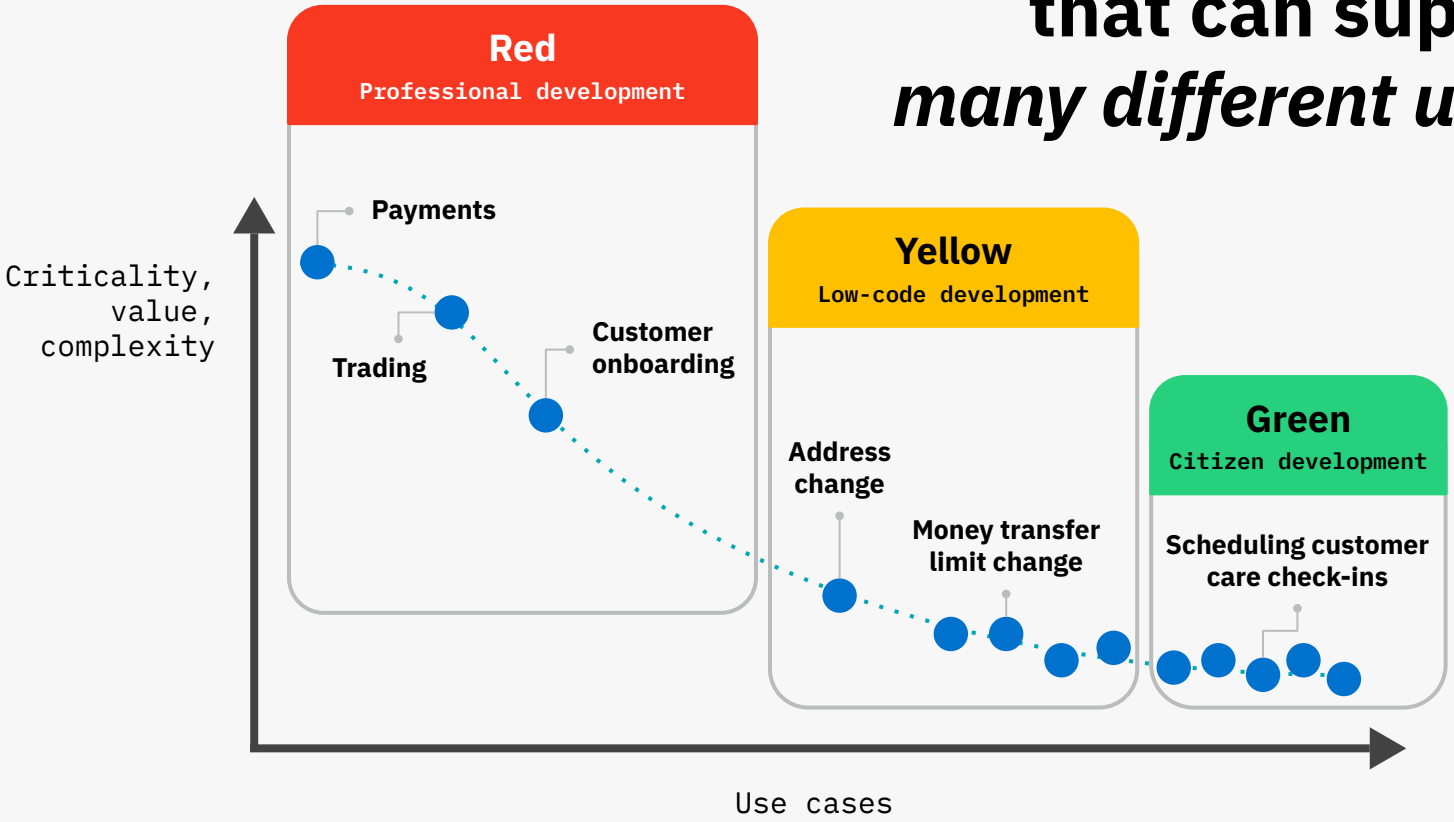
People

Technology

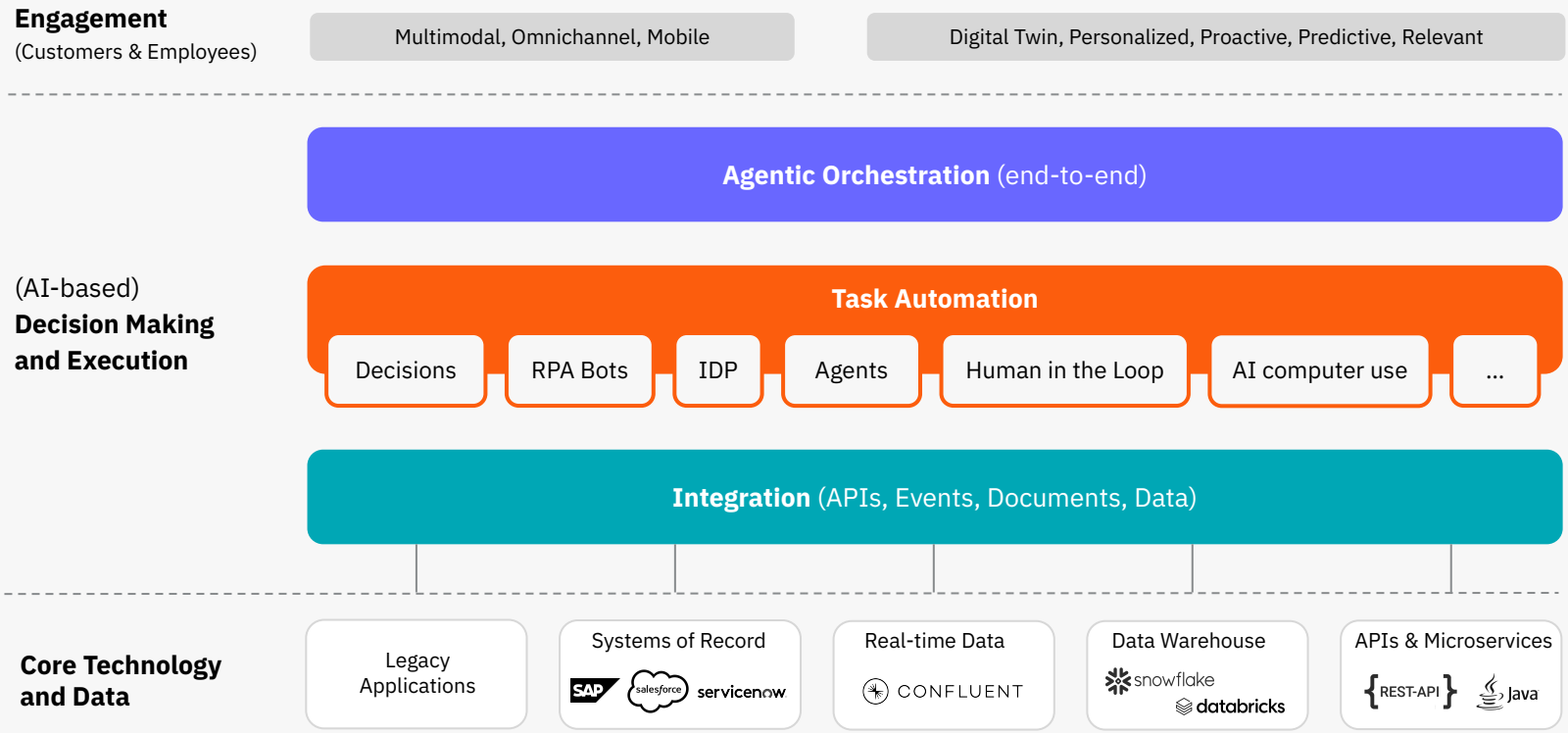
Delivery

Measurement

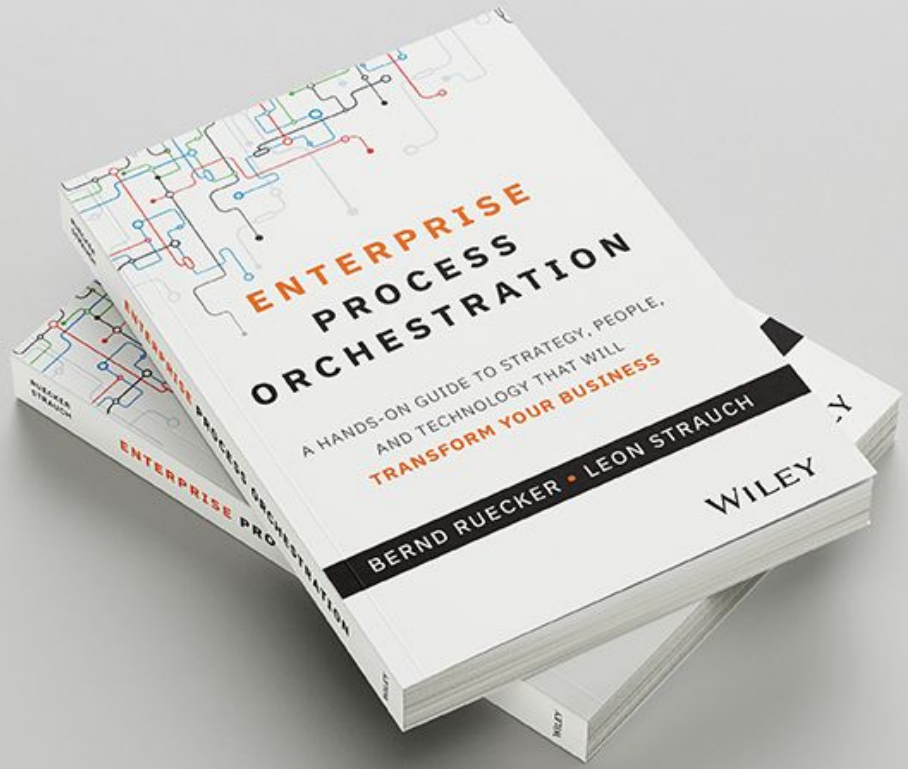
You need a platform that can support *many different use cases*



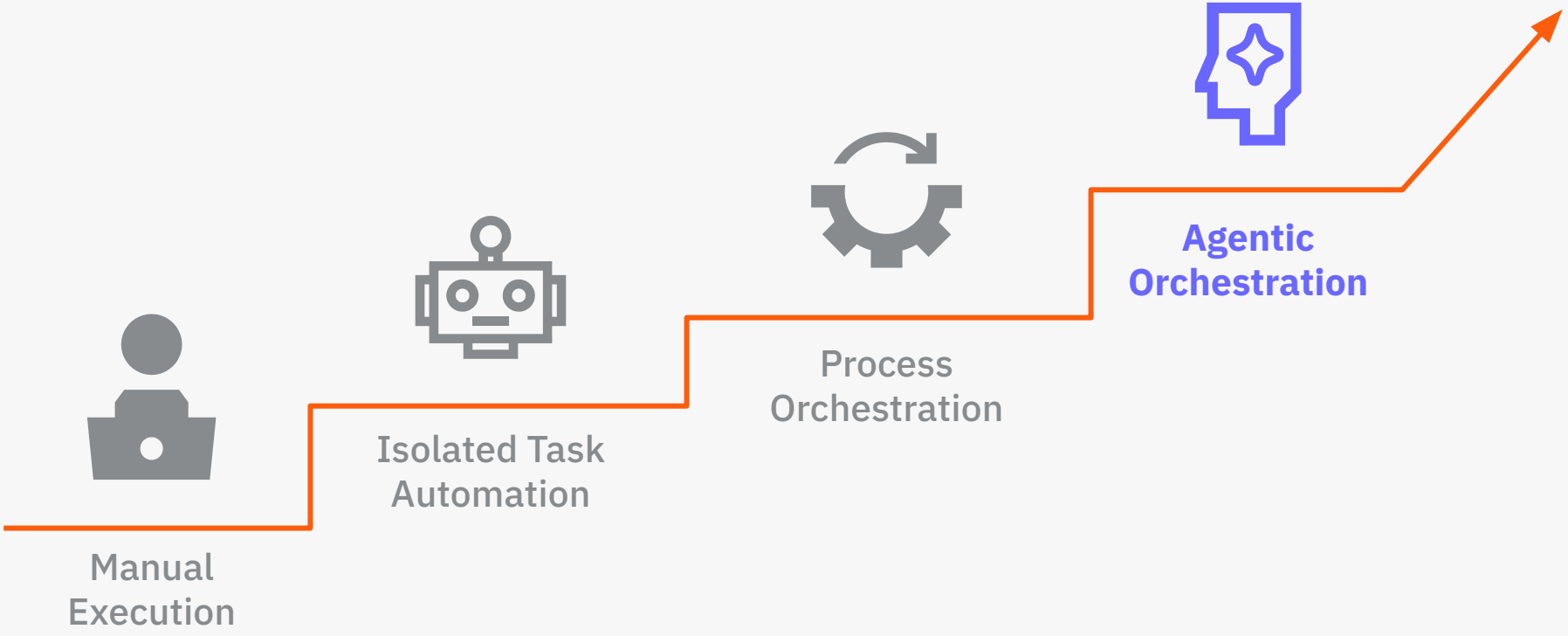
The big picture



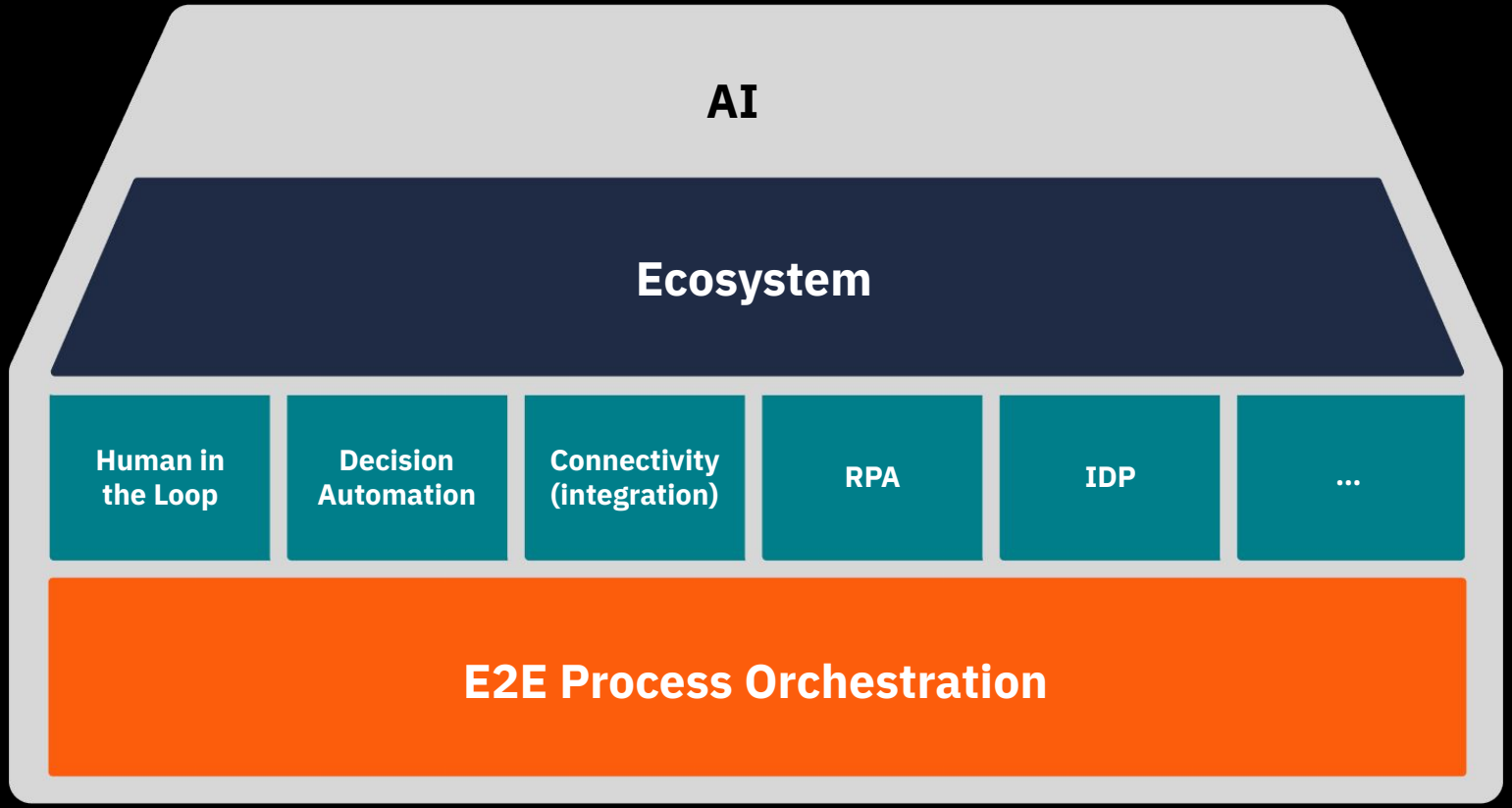
Get your copy of our newly released book



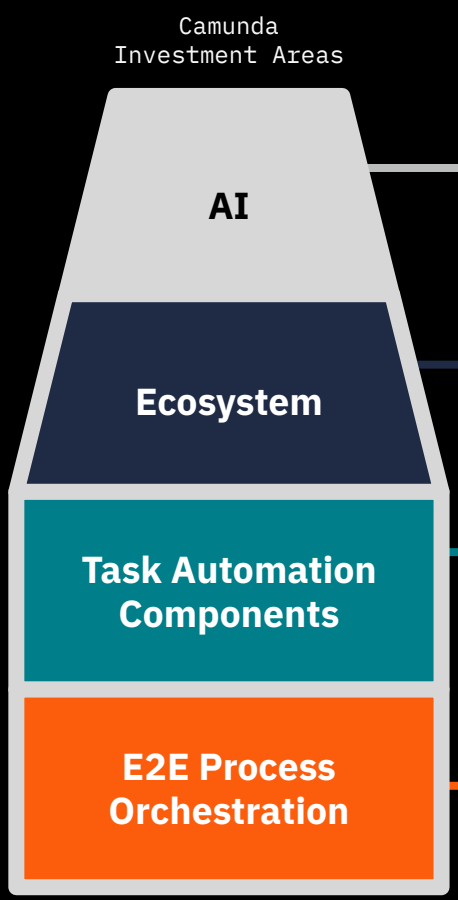
The Evolution of Process Automation



Camunda Investment Areas



8.8 Release highlights



Fast Track to Orchestrated Process

- FEEL expression playground with copilot

Agentic Orchestration

- Multilayer AI Agent Builder (Pro Code to No Code)
- Advanced Agent Capabilities (Short term, Long term Memory (RAG), MCP)

Camunda SAP Integration

- SAP Eventing Integration
- Role Based task integration to SAP Task Center

Camunda Service Now Integration

- ServiceNow Integration GA (General availability)

Reusable Building Blocks

- Reuse any task as a building block
- Managed lifecycle for building blocks

Git Sync

- Azure DevOps sync
- Basic native git support for Desktop Modeler

IDP

- Structured extraction

Orchestration Cluster

- Unified deployment artefacts with lower memory and latency
- High-availability deployment for all apps
- Easier installation for self-managed environments with a unified configuration

Scalable Operations

- Improved operational guidance and reference architecture
- Multi-Region Improvements

Unified Developer Experience

- Single **Camunda REST API** for the orchestration cluster
- Single **Java and Spring SDK**
- E2E testing library - **Camunda Process Test**
- **Enterprise-grade security** by securing all REST API endpoints and applying new resource-based permissions
- React to task lifecycle events with **Task Listeners**

Try AI Agents now

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AI Email Support Agent

End-to-end email orchestration with AI

Creator: Camunda / Bastian Körber

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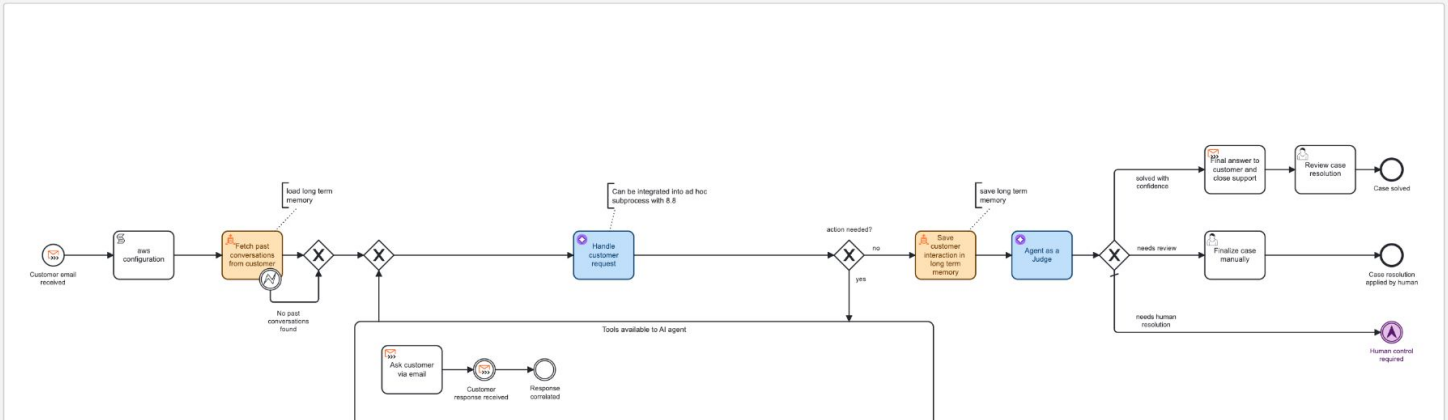
Overview



Thank You

Bernd Ruecker
Co-Founder and Chief Technologist
bernd.ruecker@camunda.com

in

Bastian Koerber
Vice President, Product Management
bastian.koerber@camunda.com

in

Learn more at **camunda.com**