

Agentic Orchestration

Long-Running AI Agents in
Enterprise Architectures

Bernd Ruecker

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A fundamental transformation

“

“Agentic AI systems are poised to not only become the backbone of the knowledge economy but will completely redefine how organizations operate and compete.”

FORRESTER®

”

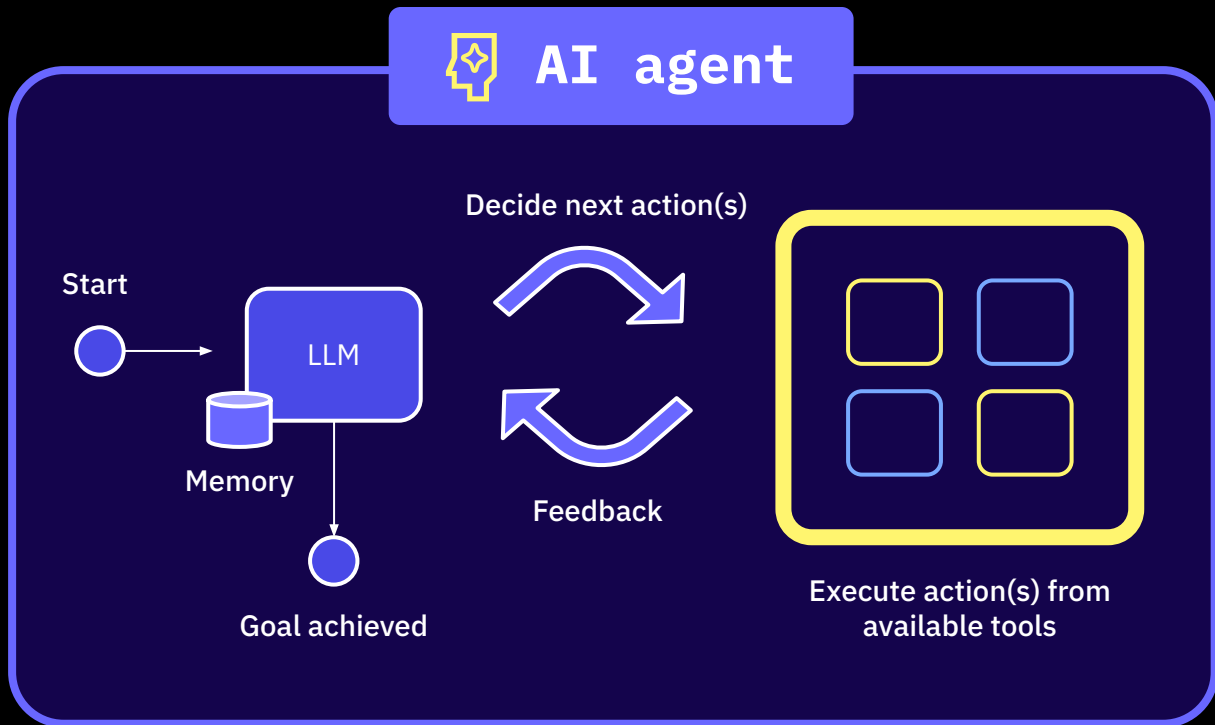
I am sorry...



**What is
Agentic AI?**

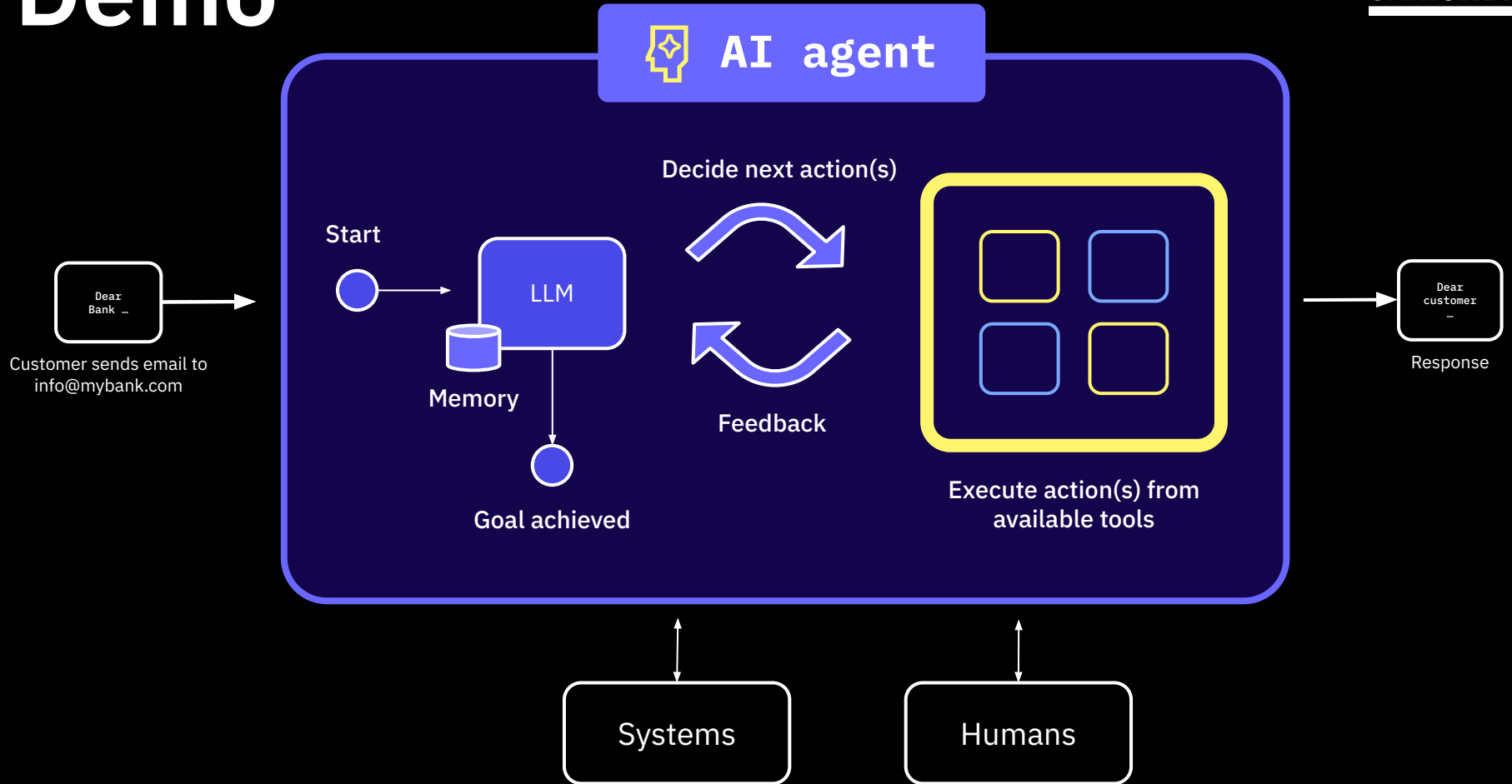
AI Agents

Perform
multiple steps
to achieve a
complex goal.
They
orchestrate!



Demo

CAMUNDA



Live demo



Building agents with BPMN

CAMUNDA

AI AGENT
Account Support

General

Name
Account Support

Model provider

Provider
OpenAI

Specify the LLM provider to use.

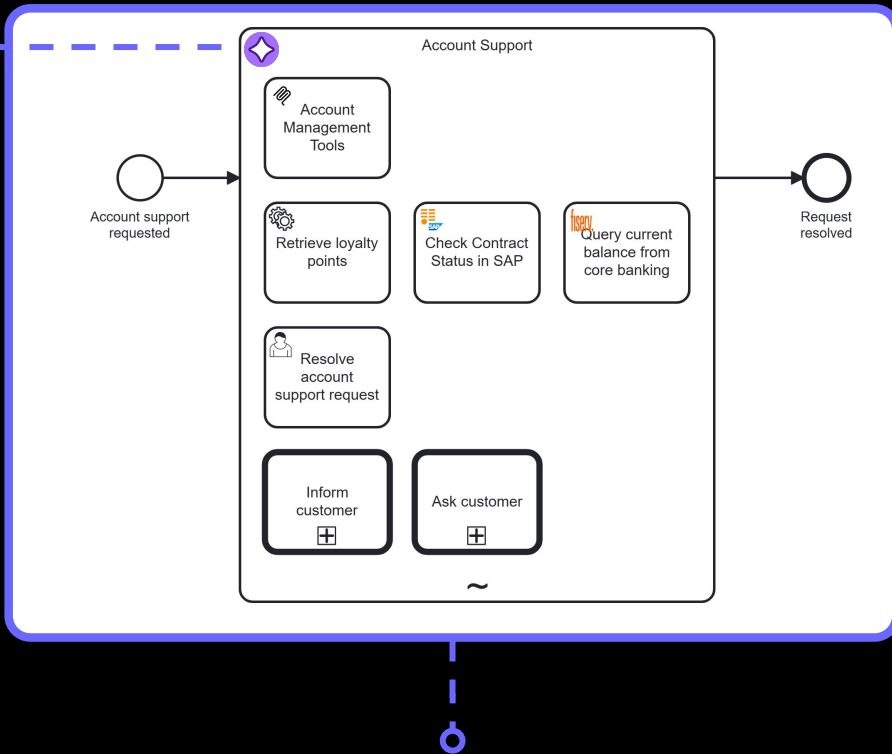
OpenAI API key *fx*
{{secrets.OPEN_API_KEY}}

System prompt

System prompt *fx*

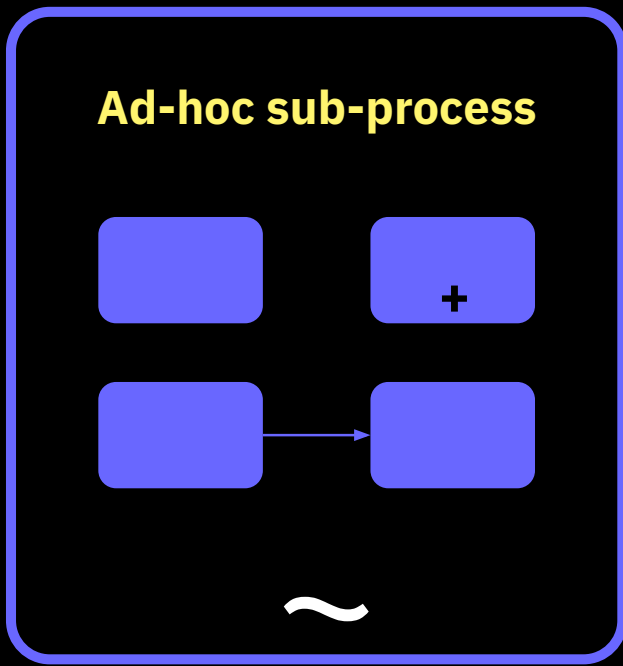
= "You are TaskAgent, a helpful chat agent that handles customer conversations using domain knowledge and the tools provided at runtime."

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



Agents can be long running

Ad-hoc sub-process — Why it's perfect for Agentic Orchestration



Capabilities

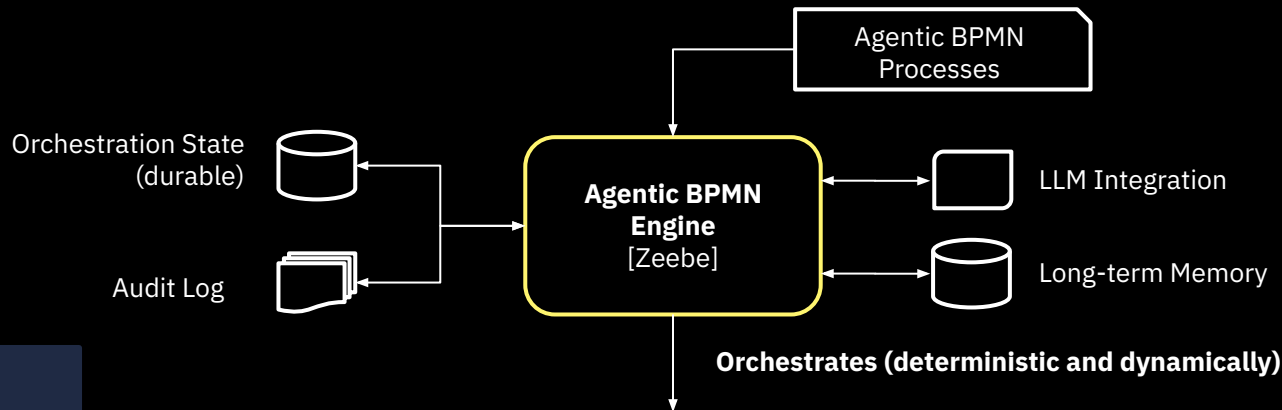
- Exposes a palette of tasks without prescribing sequence or which task must run.
- Agent (human or AI) decides at runtime which tasks to execute and in what order.
- Can contain nested subprocesses (ad-hoc or event-based) → enables multi-agent planning and real-time reactions.
- Persists state and progress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

Use Cases

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

Agentic BPMN Engine (Camunda 8.8)

CAMUNDA



tools

Humans in the Loop

(Supervisor or 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

A2A

SOAP

IMAP

SMTP

...

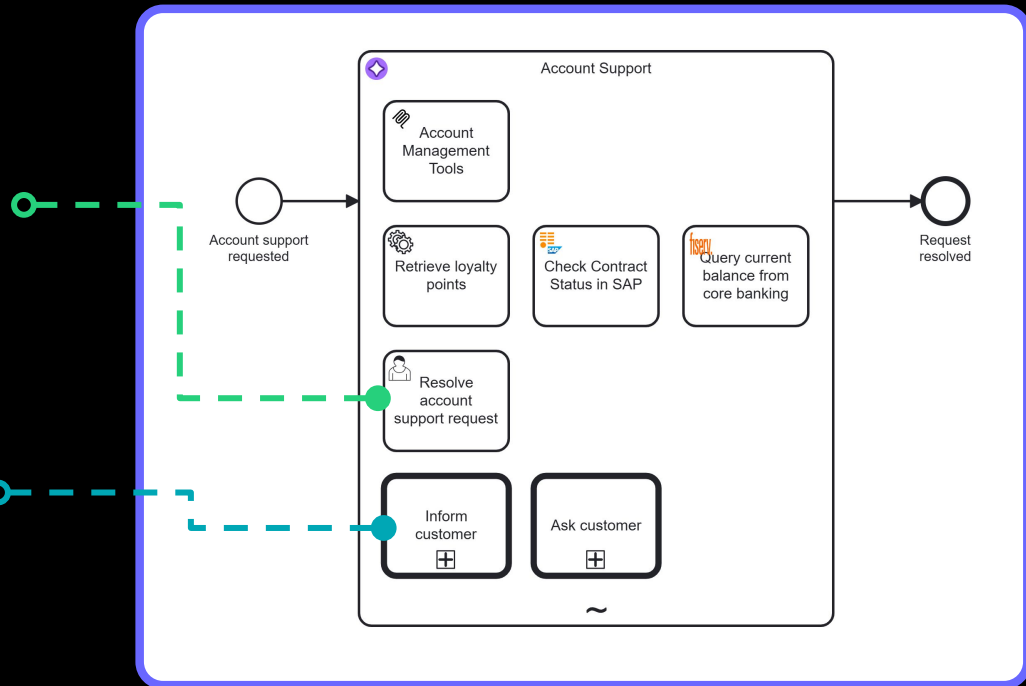
Building agents in BPMN

Omnichannel employee engagement:

Agents can interact with the employees

Omnichannel customer engagement:

Agents can interact with the customer



Meet employees where they are

CAMUNDA



Stay focused



Act fast



Collaborate in
context



Improve
efficiency

Examples

Camunda Tasklist

The screenshot shows the Camunda Tasklist interface. On the left, there's a sidebar with 'All open tasks' and a filter for 'Loan underwriting'. The main area displays the task details for 'Loan underwriting' (Loan Application). It includes a 'Customer' section with ID: 851098765, Name: Brandon Case, and Email: brandon.case@gmail.com. Below that is a 'Loan' section with Amount: USD 50,000.00 and Terms: 48 months. At the bottom is a 'Risk assesment' section with a 'Risk class' dropdown set to 'Low' and a 'Risk assessment' text box containing the text: 'Based on the applicant's credit history, income stability, and debt-to-income ratio, the overall risk assessment is Low.'

MS Teams

The screenshot shows the Camunda interface within the MS Teams environment. The top navigation bar includes 'Chat', 'Home', 'Tasks', 'Processes', and 'Incidents'. The main content area displays the 'Loan underwriting' task details, including the customer information, loan details, and risk assessment. The interface is clean and modern, with a focus on the task details.

SAP

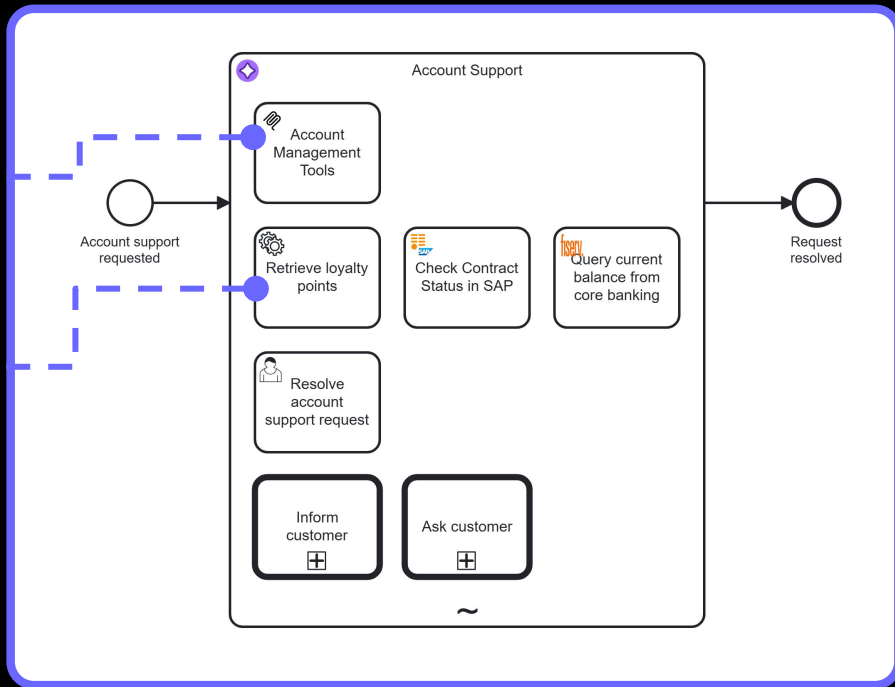
The screenshot shows the Camunda SAP BTP Plugin interface. The top navigation bar includes 'Camunda SAP BTP Plugin'. The main content area displays the 'Loan underwriting' task details, including the customer information, loan details, and risk assessment. The interface is clean and modern, with a focus on the task details.

Building agents in Camunda



MCP can be used locally or remote. Tools are discovered dynamically, but can be governed.

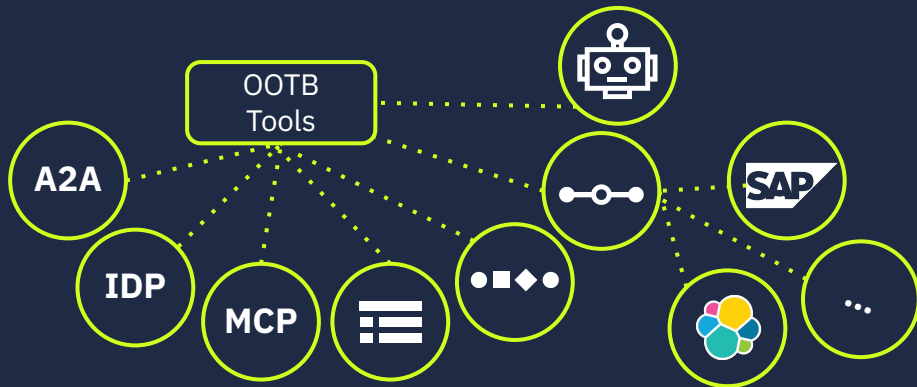
Everything available in BPMN and Camunda can be a tool



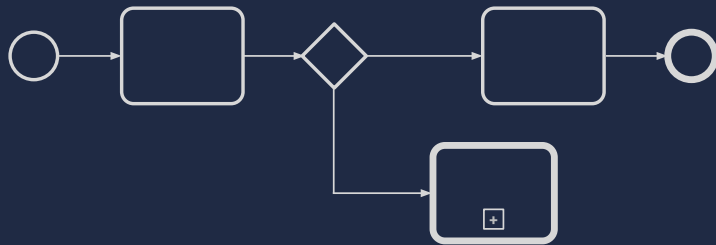
Everything can be a tool

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Camunda OOTB Automations



BPMN Process as tool



Classic Protocols

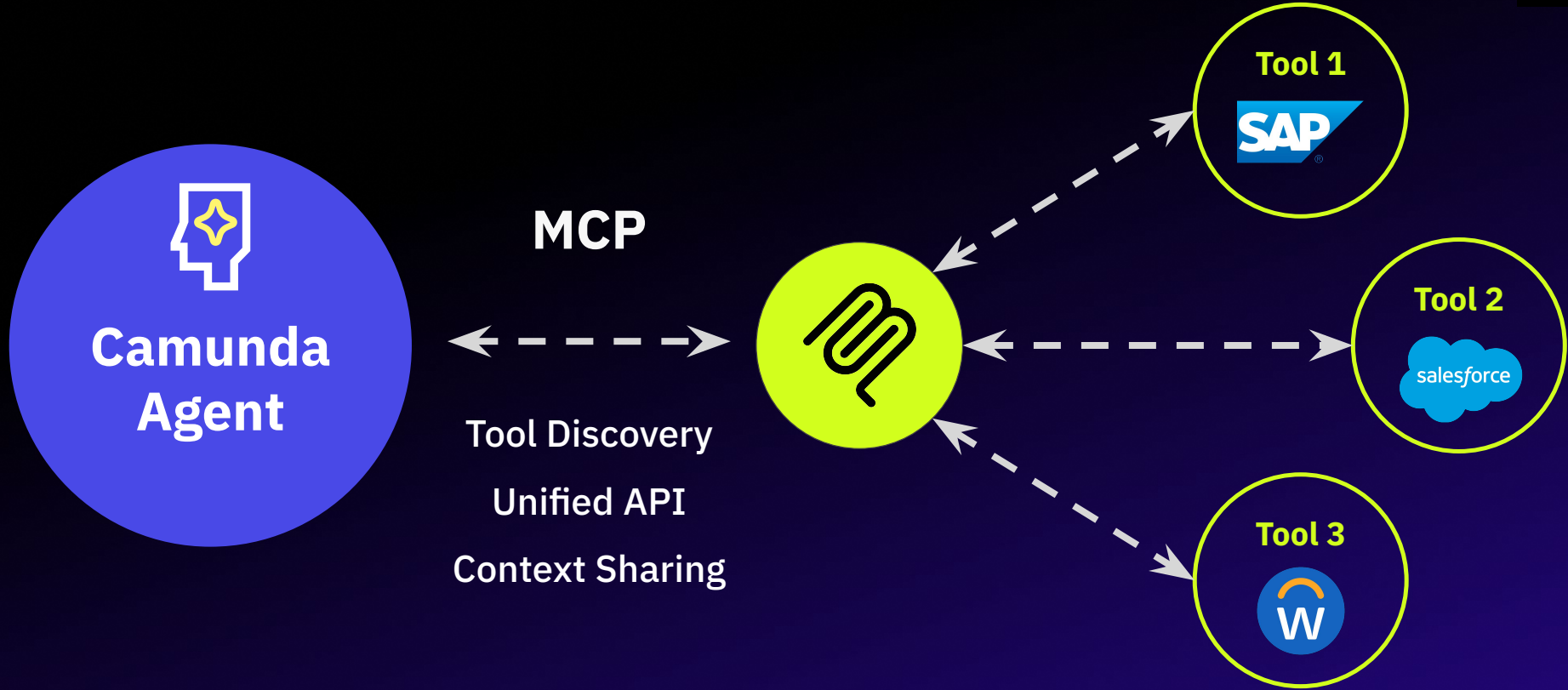


Pro Code Job Worker as tools



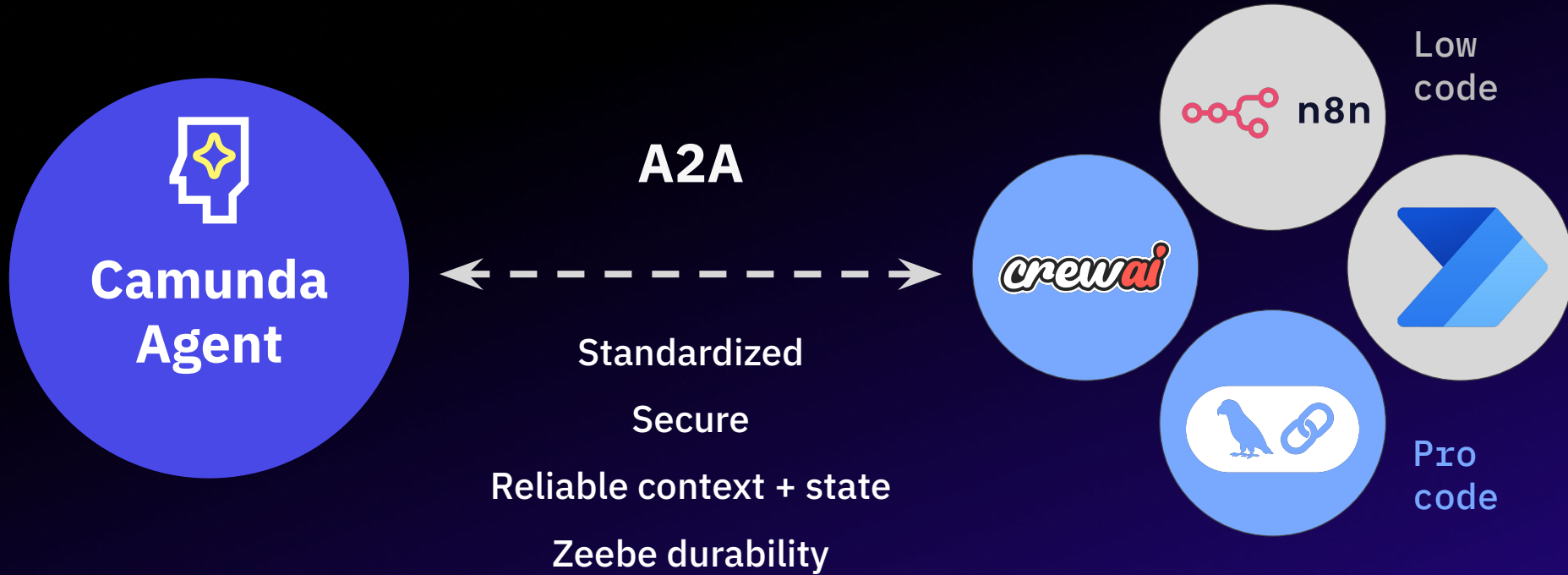
MCP Model Context Protocol

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A2A Agent to Agent

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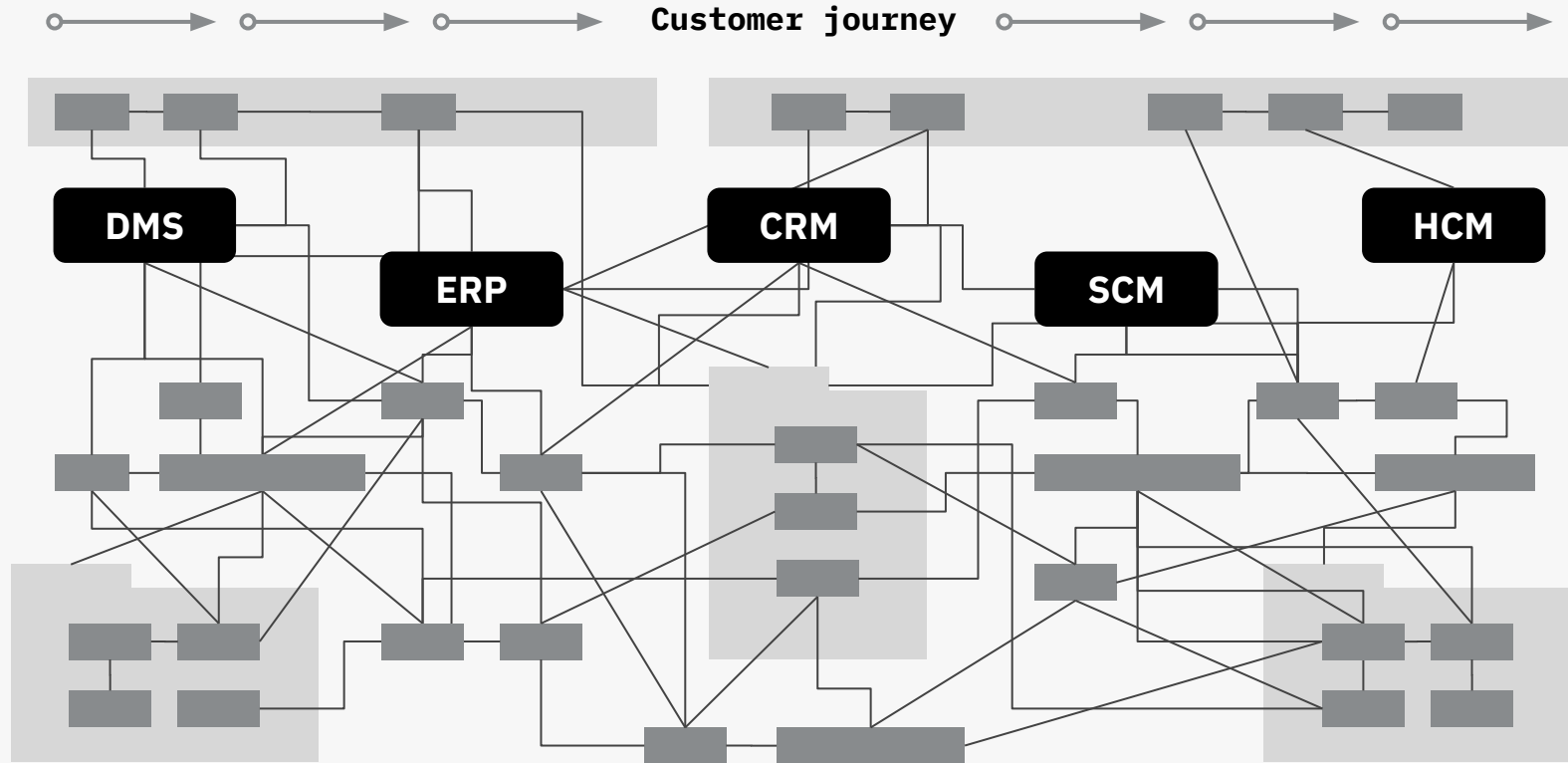


Scaling agents in the **enterprise**

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Just throw in agents?



Unleash the agents?

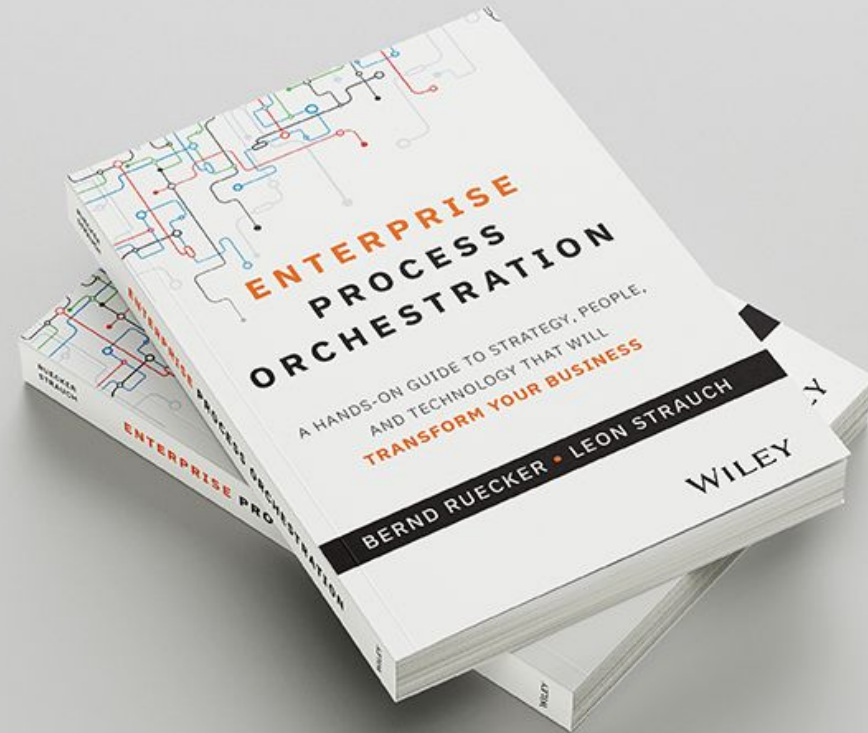


Learn from proven patterns:

Enterprise Process Orchestration

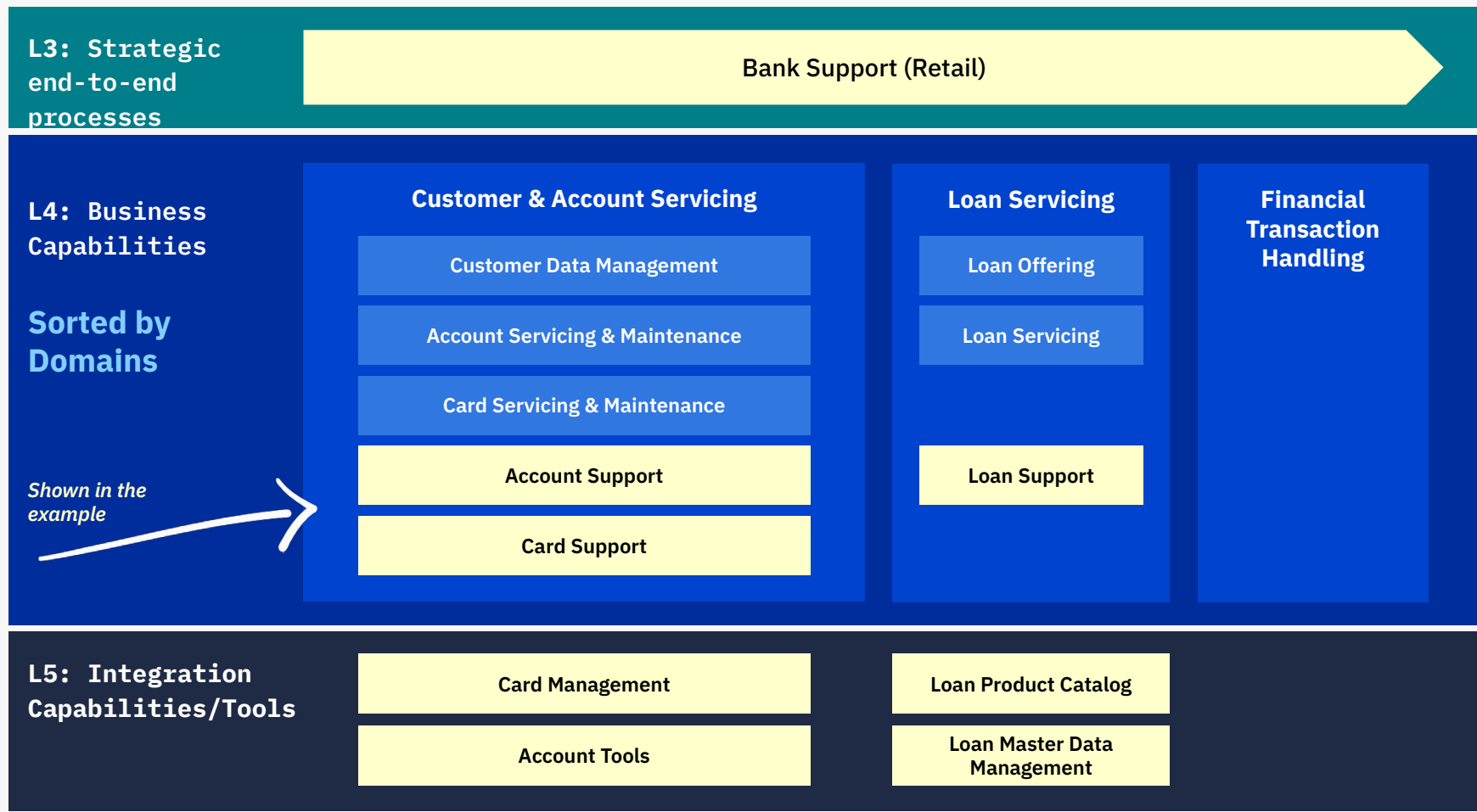
Topics include:

- Process orchestration as a centerpiece for IT strategies
- Enterprise architecture
- Business architecture
- Team topologies
- Platform play and adoption acceleration



Business architecture

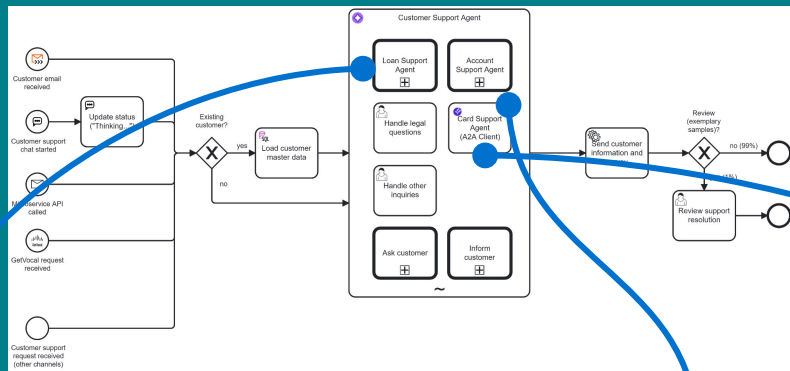
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Demo

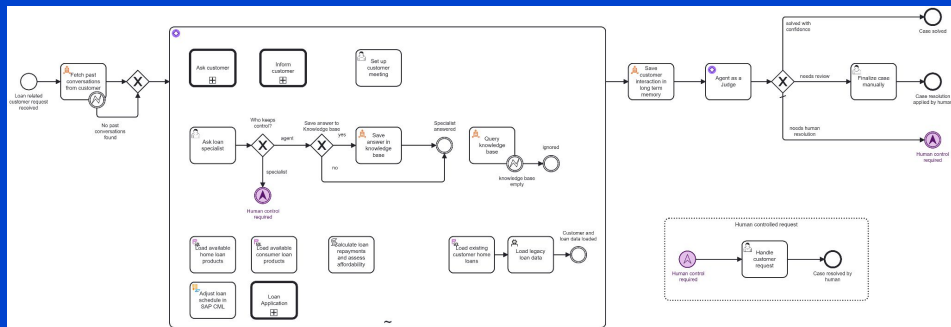
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L3: Banking Support Agent

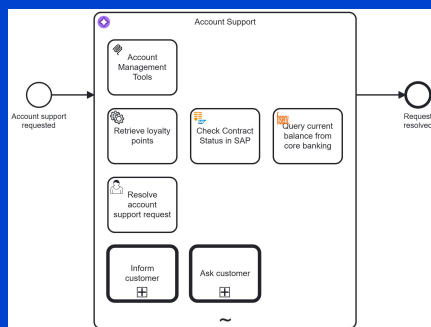


Invocations via
BPMN, API, A2A, ...

L4: Loan Support Agent



L4: Account Support Agent



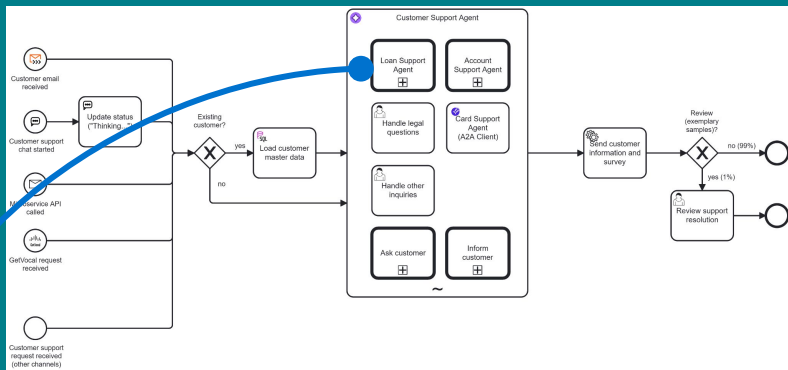
L4: Card Support Agent

 **LangChain**

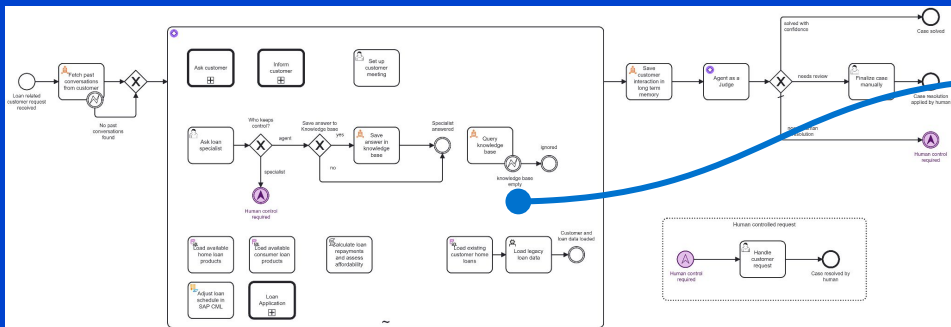
Demo

CAMUNDA

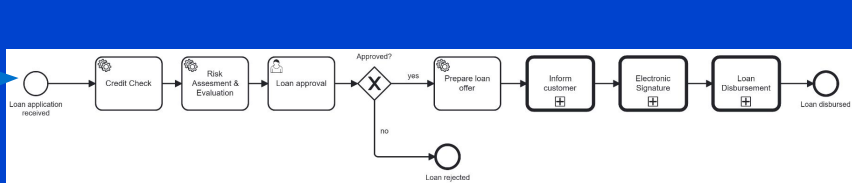
L3: Banking Support Agent



L4: Loan Support Agent



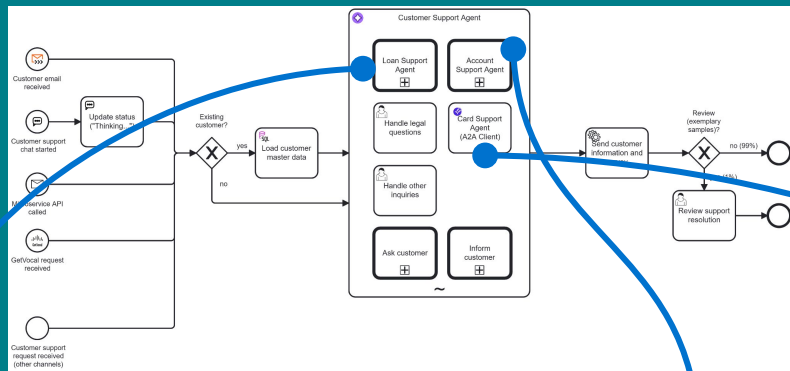
L4: Loan Application Process



Demo

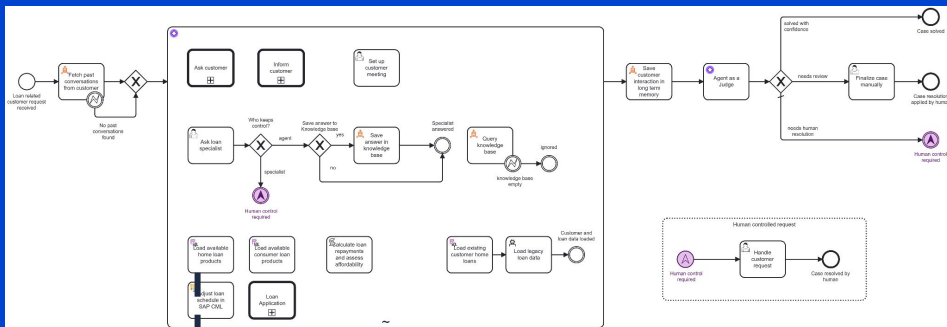
CAMUNDA

L3: Banking Support Agent



Invocations via
BPMN, API, A2A, ...

L4: Loan Support Agent

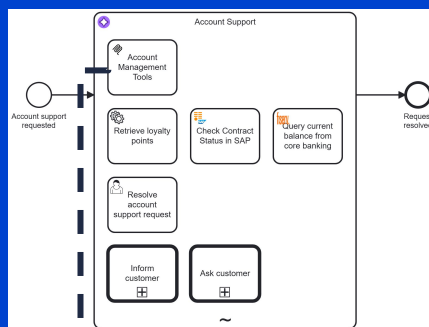


Via Camunda Connectors

Loan Product Catalog

...

L4: Account Support Agent



Via MCP server



Customer Account Tools

L4: Card Support Agent

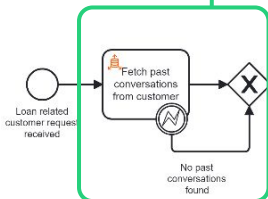


Live demo

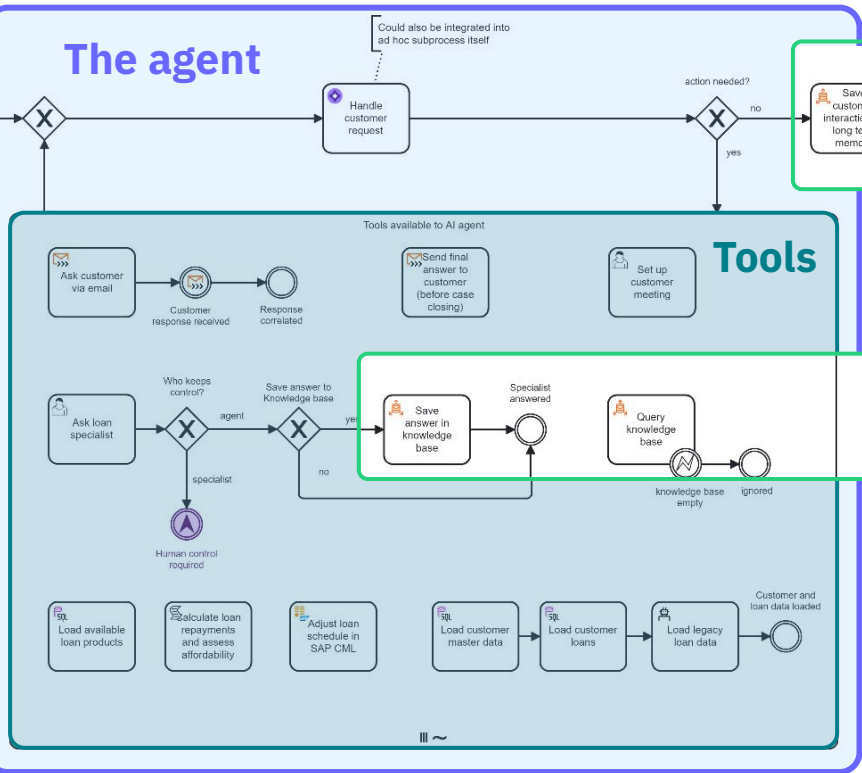


The Loan Support Agent

Long term memory

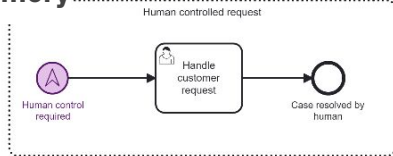


The agent

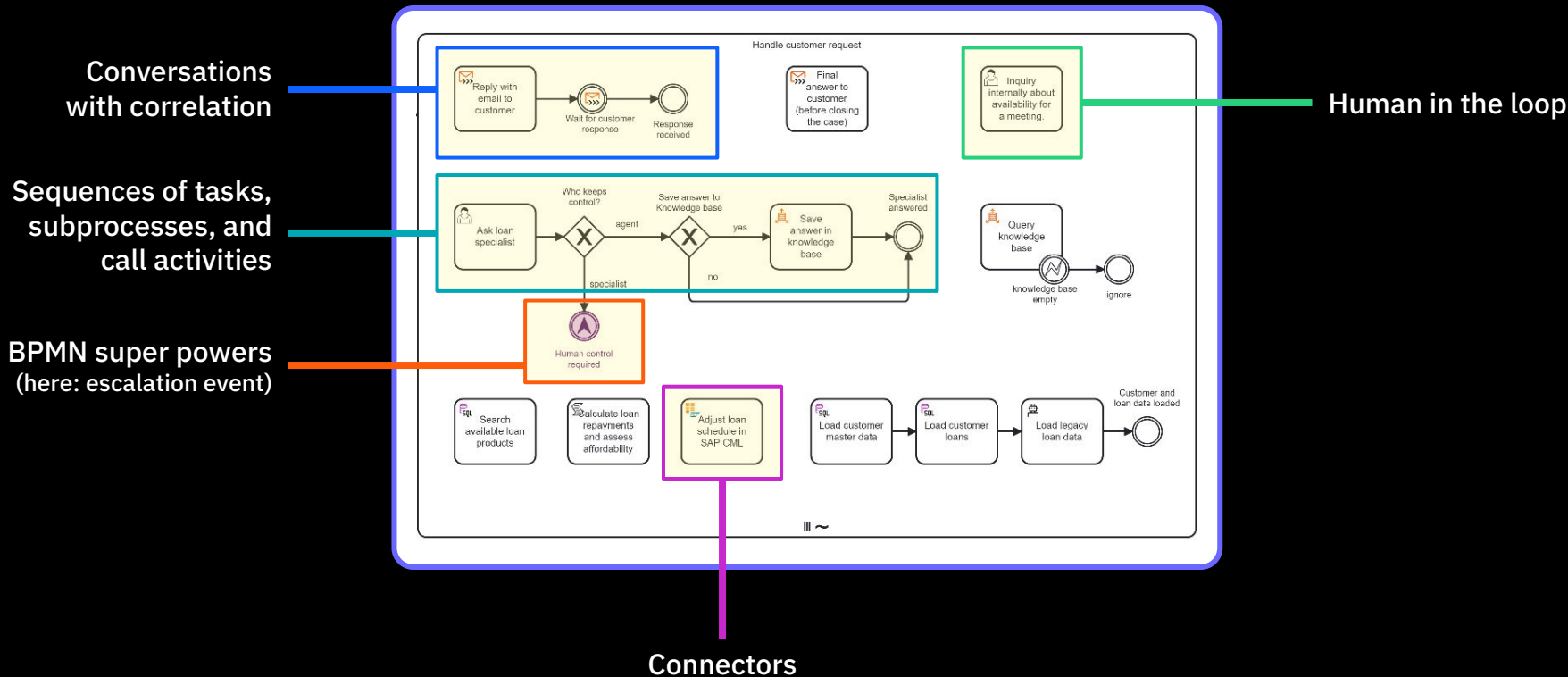


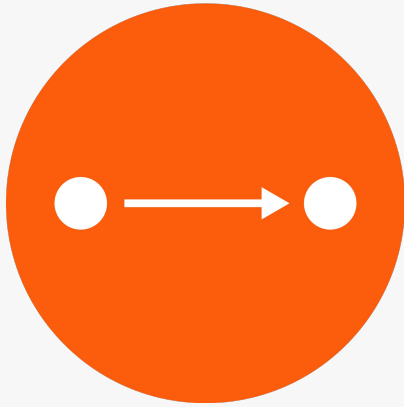
Long term memory

Long term memory



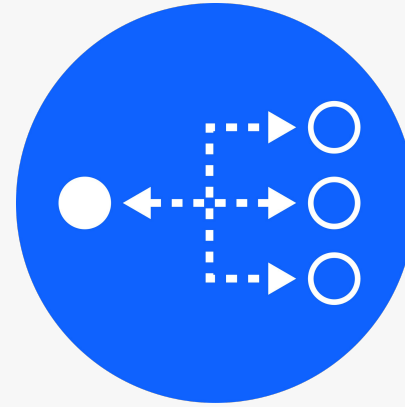
The Loan Support Agent





**Deterministic
Orchestration**

Manage
pre-defined
patterns



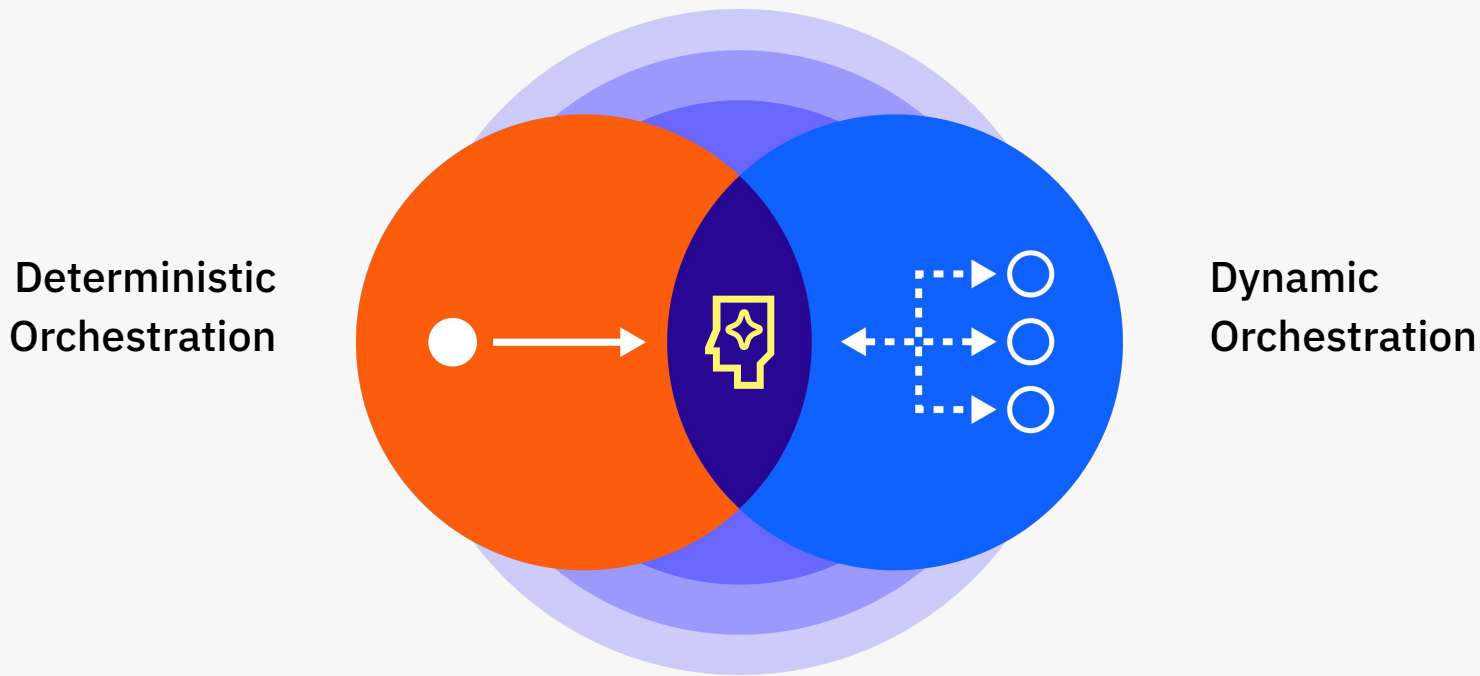
**Dynamic
Orchestration**

Manage
the ad hoc and
unpredictable

Agentic Orchestration

CAMUNDA

Design agents' behavior for both autonomy and trust



Dramatically increase the value of Agents with
strict guardrails + **autonomous knowledge work**.

Enterprise Agentic Automation

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Enabled by Camunda's unified Agentic Orchestration

Agentic Engagement
(Customers & Employees)

Multimodal, Omnichannel, Mobile

Digital Twin, Personalized, Proactive, Predictive, Relevant

Unified Agentic Orchestration Layer

 Agent

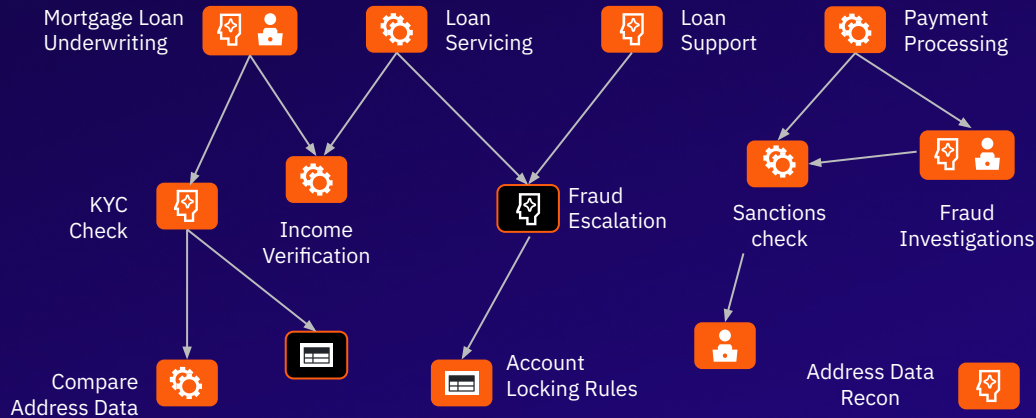
 Deterministic Process

 Human

 Decision

 Camunda (Agentic BPMN)

 3rd Party implemented,
Camunda orchestrated



Core Technology and Systems

Legacy Applications

Systems of Record



Real-time Data



Data Warehouse

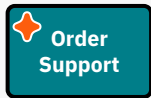
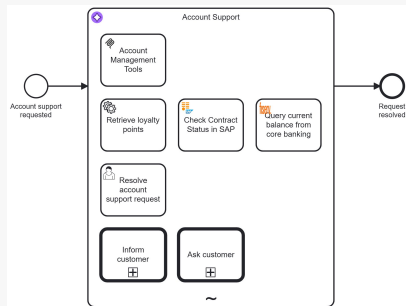


APIs & Microservices

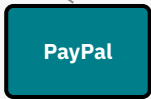
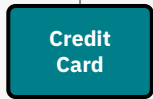
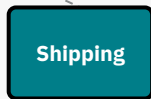
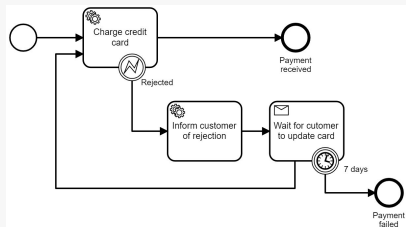


Microservices Compatible

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Every Microservice might have BPMN processes / agentic behavior inside.
If required, it leverages Camunda as a technical capability
(like AWS Bedrock for LLMs).

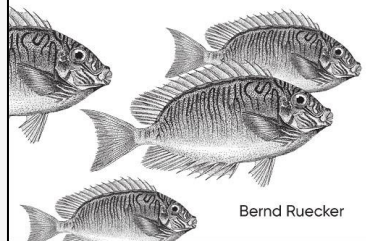


Learn More

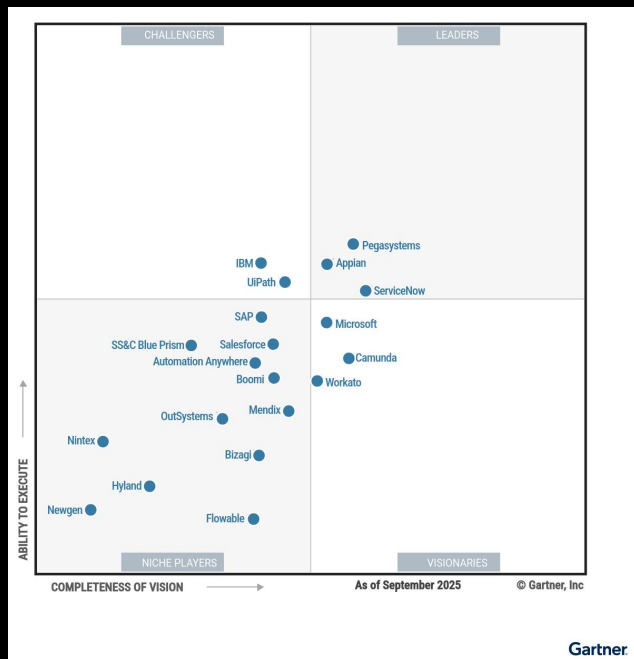
O'REILLY

Practical Process Automation

Orchestration and Integration in Microservices and Cloud Native Architectures



Bernd Ruecker



Camunda recognized as a **Visionary** in the Gartner® Business Orchestration and Automation Technologies (BOAT) Magic Quadrant™

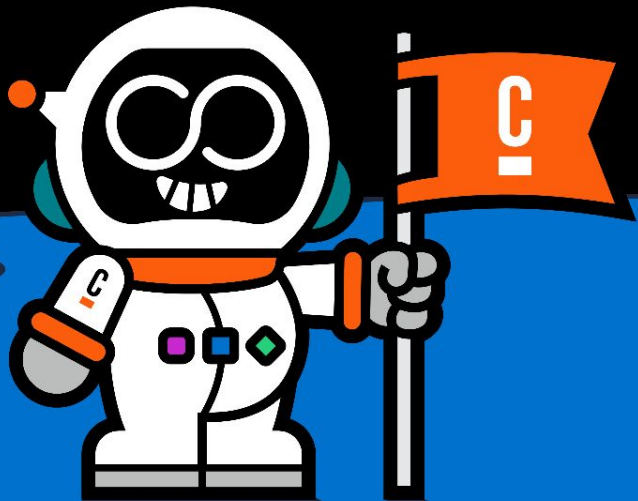
Gartner, "Magic Quadrant™ for Business Orchestration and Automation Technologies," Saikat Ray, Tushar Srivastava, Marc Kerremans, Arthur Villa, Cathy Tornbohm, Sachin Joshi, 15 October 2025. Magic Quadrant is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally, and is used herein with permission. All rights reserved.

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Let's build what's next:
Together

★ CAMUNDA



Thank You



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