Microsoft

Deliver AI-powered civic experiences

Reference Architecture

Deliver AI-powered civic experiences

Service Discovery

- **Citizen Finds Needed Service:** Citizen identifies a service to fill their needs (search, gen AI agents, browse knowledge base, unified apps, proactive notification depending on maturity of customer)
- **Citizen determines how to apply:** Citizen uses provided instructions to assess needed information in their application
- **Citizen asks questions:** Citizen asks clarifying questions (contact center)

Application & Eligibility

- **Residents submit applications:**
  - Upload documents,
  - Call or chat for help
- **Staff verify identity and eligibility** (Caseworkers review submissions, request missing info, approve or deny services)

Case Handling & Fulfillment

- **Staff/Systems send status updates:** Residents receive notifications about the status
- **OR: Residents check portals or call for progress**
- **Citizens Schedule relevant meetings:** Citizens schedule any required meetings related to the delivery or keeping of the service

Analytics & Reporting

- **Residents complete surveys**
- **Managers review performance dashboards**
- **Findings shape decisions for service delivery improvement in future**

AI Hotspots

- AI site search & semantic retrieval with policy-aware grounding (reduces "dead ends")
- **Eligibility pre-screen bot:** Dialog asks 4–8 questions to route to the right program
- **Multilingual/reading-level adaptation:** On-the-fly translation + plain-language simplification
- **Proactive nudges:** Geofenced/service alerts (e.g., storms, benefits enrollment windows)

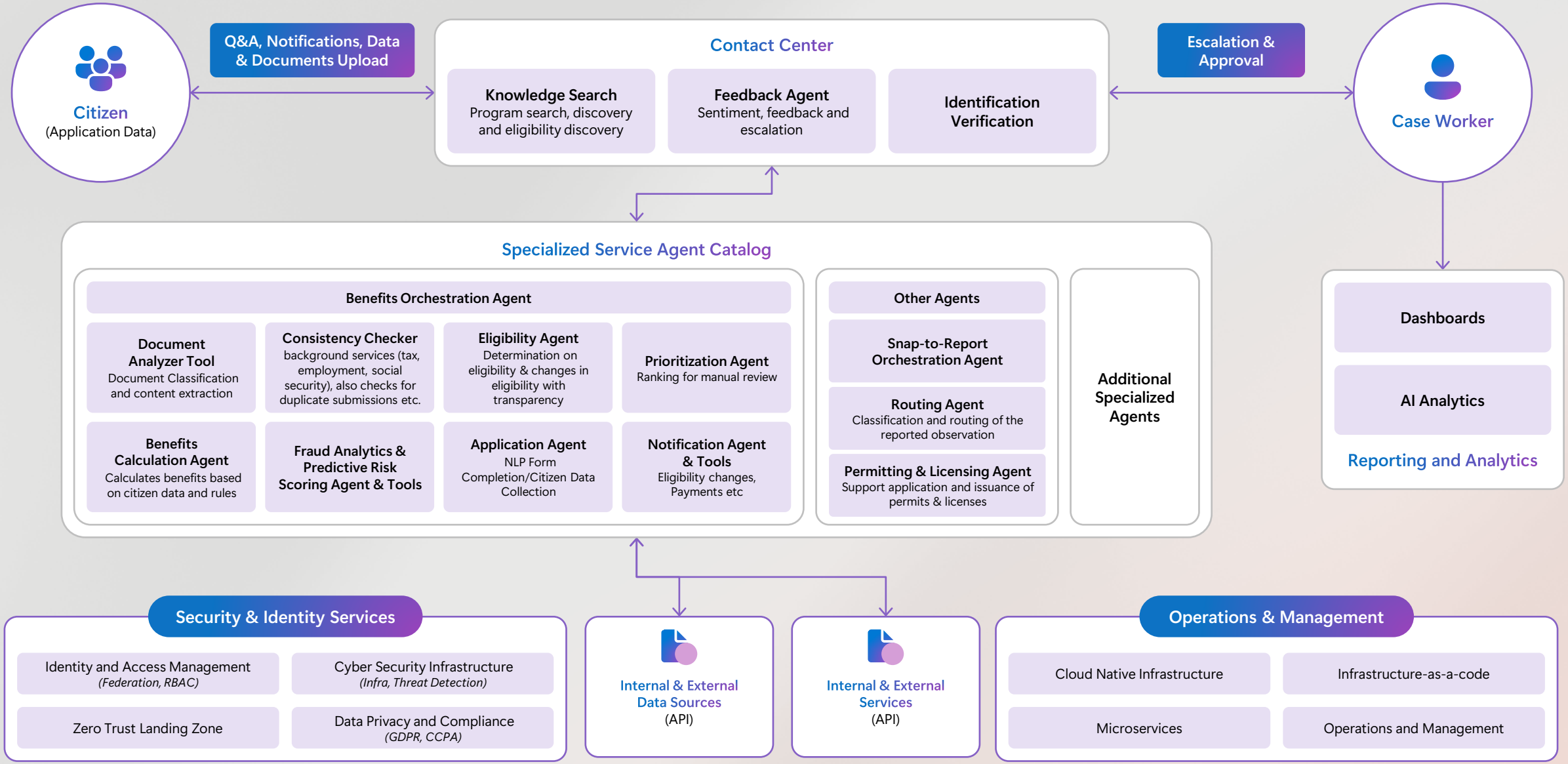
- **Adaptive forms:** Dynamically prune questions using answers & known data
- **Document intelligence:** Classify/extract (pay stubs, leases); quality checks; redaction
- **Rules + ML triage:** Policy-encoded rules engine with ML risk scoring for referrals
- **Explainable decisions:** Natural-language "why you qualify/don't," with appeals steps
- **Proactive status notifications:** SMS/email in preferred language; next-step checklists

- **Agent assist:** Summarize case history, propose next best action, draft outreach messages
- **Predictive prioritization:** SLA breach risk, no-show risk, churn risk; workload balancing
- **Workflow copilots:** Turn policy into checklists; verify compliance steps are completed
- **Provider matching:** Recommend provider based on availability, proximity, outcomes

- **AI analytics:** Identify bottlenecks and equity gaps;
- **Content optimization:** Suggest clearer instructions
- **Quality assurance:** Auto-audit case notes for completeness & policy compliance

Solution building blocks & flow

Reference Architecture



Contact Center Architecture Flow

Reference Architecture

1 Customers

Voice
SMS
Email
Web Chat
Social
Teams

2 Azure Communication Services

Self Service

4 Copilot Studio

Chatbots
Voicebots (IVR)

Routing

5

6 Agent Experience

- Bot Handoff to Agent with Full Context
- Real-Time Transcription and Translation, Sentiment Analysis
- Embedded or Standalone Desktop
- AI Suggested Next Steps
- Case Management
- Knowledge "Chat" based on Semantic Indexing of multiple sources

Copilot with 3P CRM 8

Gen AI Email and Follow Up Suggestions, Case & Conversation summary

10 Supervisors/Managers

- Real-Time Monitoring/Analytics including "Whisper" and Barge-in
- Forecasting
- Scheduling
- Gen AI suggestions for optimization

Connector 7

Collaborate

Consult/Transfer an expert over VoIP, on a Teams call and more

9 Power Platform

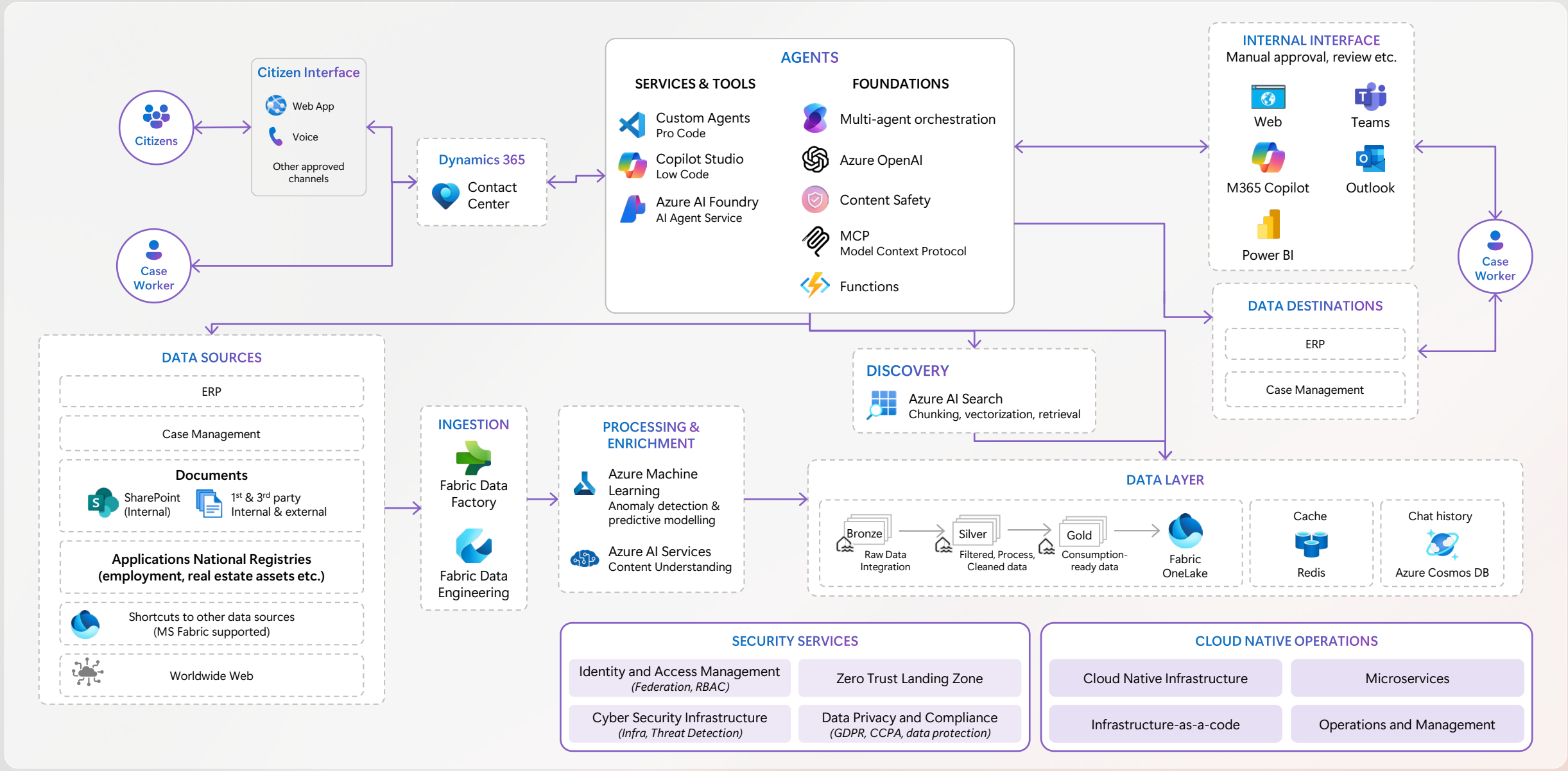
3 Existing CRM data platform and cloud

Microsoft Azure

Dynamics 365 Contact Center

Component Architecture – Technology Mapping

Reference Architecture



Microsoft

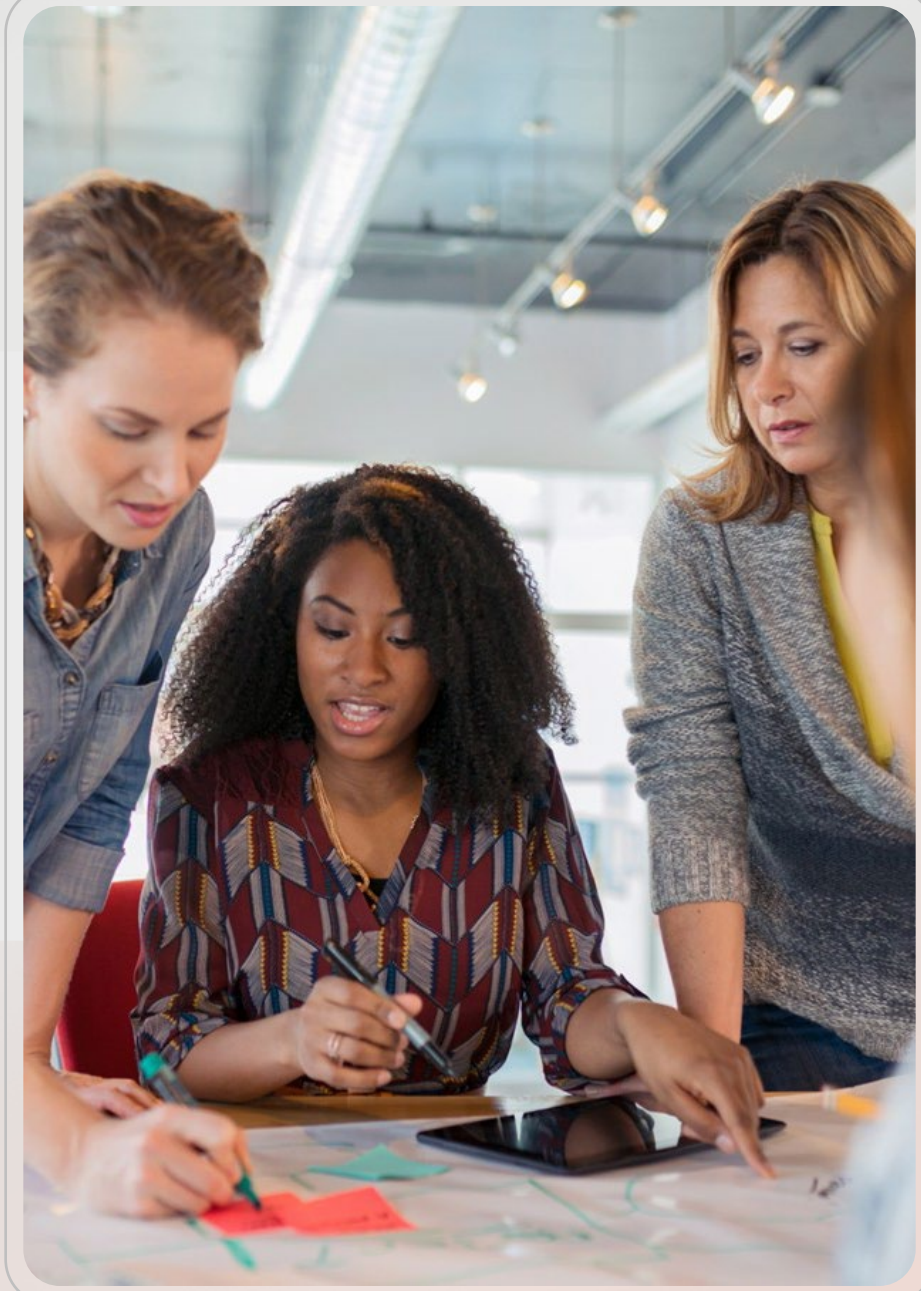
Thank you

Microsoft

Azure AI Foundry
Azure Cosmos DB
Semantic Kernel

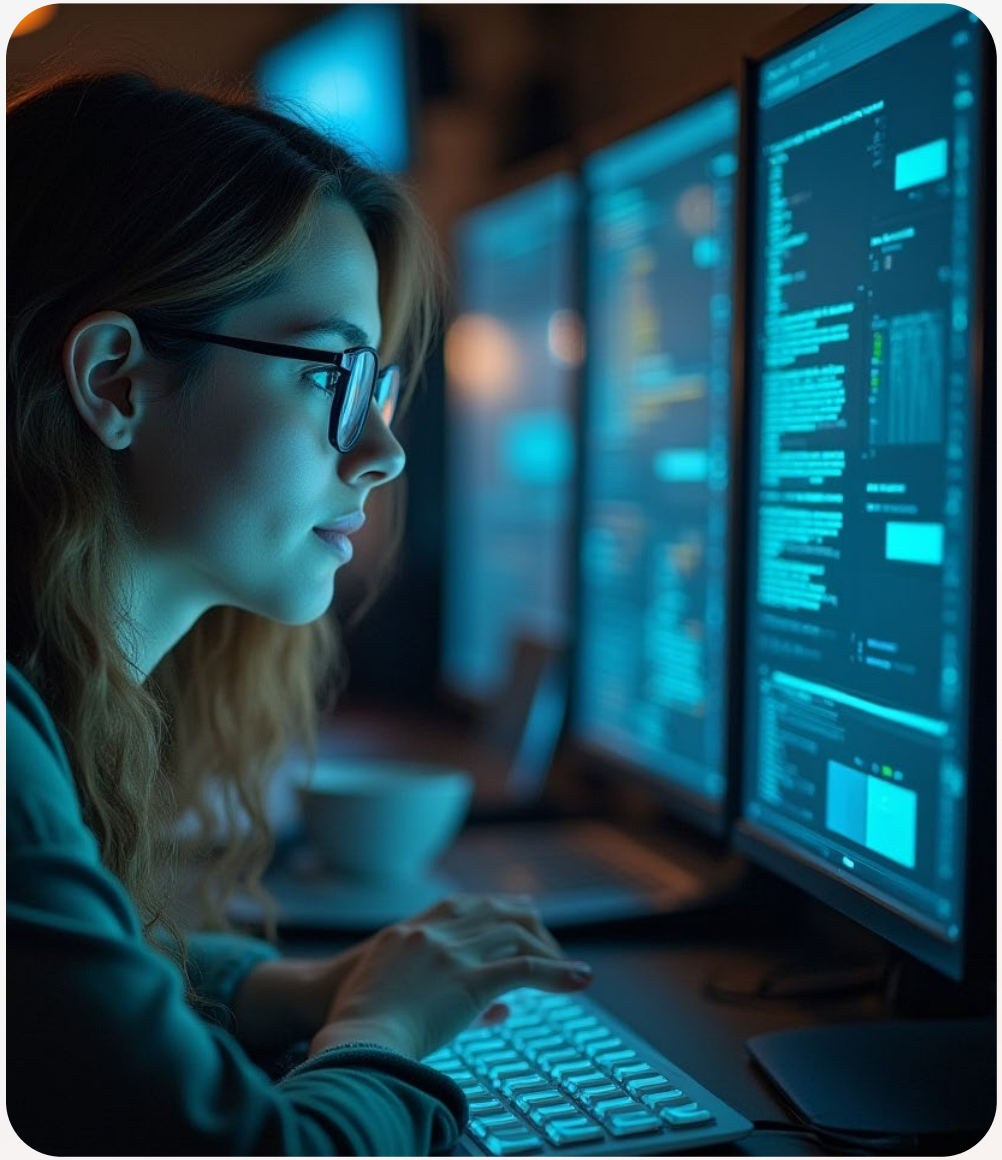
Multi-Agent Custom Automation Engine

Solution Accelerator



Overview

The Multi-Agent Custom Automation Engine is a simple web app with a modular design that supports flexible automation and lets users recruit intelligent agents, combining Azure AI Foundry and Semantic Kernel to orchestrate complex tasks through reasoning-based methods, to plan, and act efficiently.



Customer challenges

Lacking the right Agents at scale

Difficulty engaging appropriate agents when obstacles arise. Success depends on context, timing, and task alignment.

Limited automation in complex workflows

Manual processes slow collaboration, increase overhead, and create in efficiencies when planning across teams.

Difficulty ensuring accuracy and safety

Fragmented data and emerging risks make it hard to find accurate solutions, leading to delays and inconsistent results.

Compliance and Governance gaps

Limited observability and lack of WAF-aligned controls make it challenging to secure workflows at scale.

Key features

Context-aware reasoning

Leverage reasoning models to handle complex, multi-step tasks with greater contextual awareness and decision-making capabilities.

Unified dynamic workspace

A unified platform that empowers users to seamlessly complete a range of tasks with integrated tools, AI guidance, and streamlined workflows.

Multi-scenario agent team setup

Scale agents with the same organizational strategies you apply to your human teams ensuring consistency and operational alignment.

WAF-aligned installation

Supports installation workflows aligned with Azure Well Architected Framework (WAF), standards, ensuring secure and compliant deployment.

Business outcomes

Automated tasks with reasoning power

Leverage AI agents to reconcile fragmented data, complete common tasks efficiently, save valuable time, and deliver highly tailored recommendations.

Scalable workflow integration

Easily scale and adapt AI agents to different business needs, ensuring flexibility and consistent execution as priorities shift ensuring quality uniform procedures.

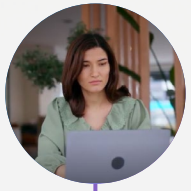
Optimized agent orchestration

AI agents recruit only the necessary agents for valid reasons at the right time to ensure work gets done efficiently to accomplish intricate tasks quickly.

Secure data with responsible AI

Enhance data security and WAF compliance to reduce breaches, support responsible AI adoption, and drive innovation with a competitive edge.

Multi-agent orchestration flow



User request

Magnetic Planner

Develop plan

Tools and Data

Teams of Agents

Retail Team
Order Data Agent
Customer Data Agent
Analysis Reasoning Agent
Human Proxy Agent

Marketing Team
Product Agent
Marketing Agent
Human Proxy Agent

HR Team
HR Helper Agent
Technical Support Agent
Human Proxy Agent

Run process

Group Chat Manager Agent

Example Plan

Retail team

Human in the loop

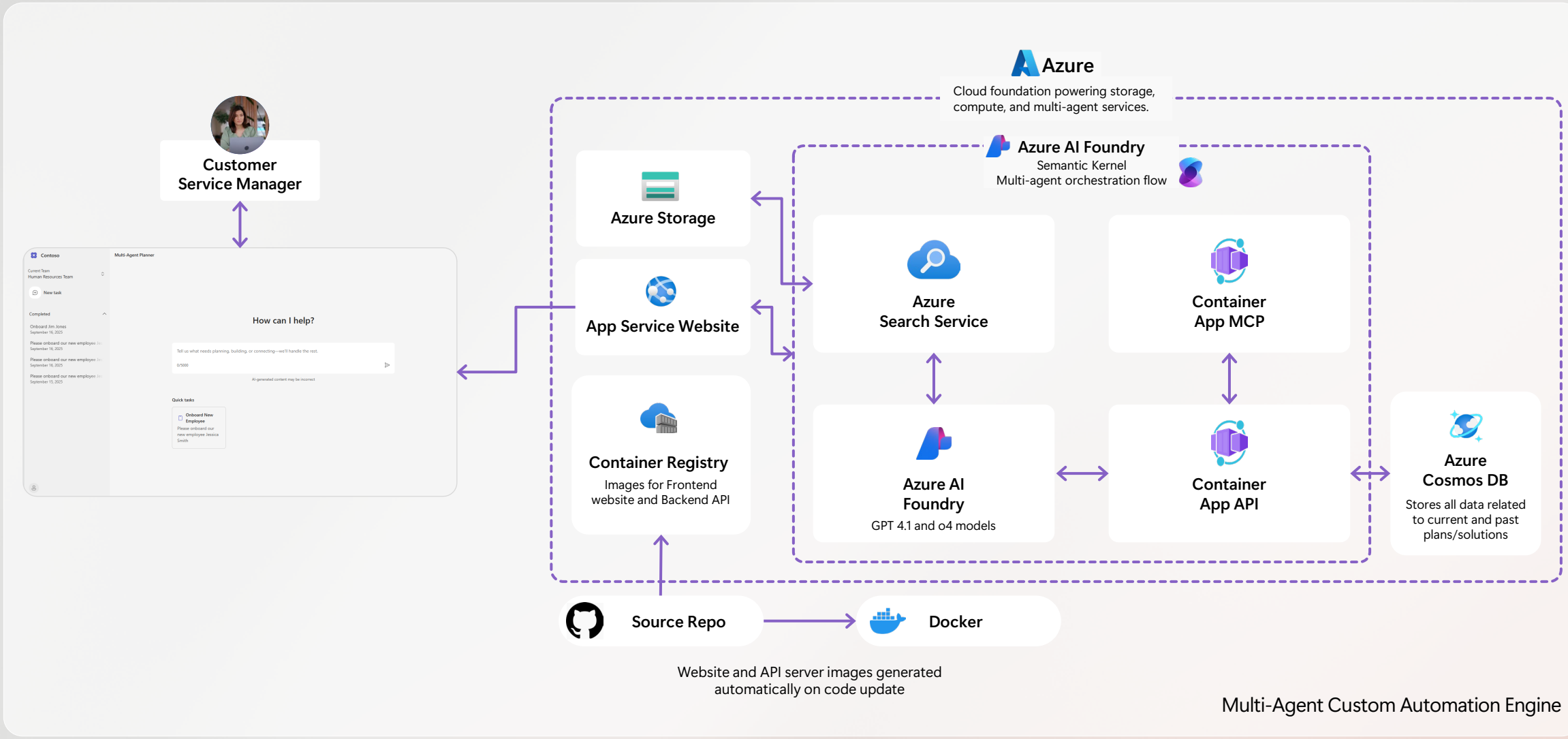
Step 1	Order Data Agent
Step 2	Customer Data Agent
Step 3	Analysis Reasoning Agent
Step 4	Human Proxy Agent
Step 5	Analysis Reasoning Agent

Retrieve plan

Multi-Agent Custom Automation Engine

Accelerator architecture

Full architecture diagram for the solution accelerator



GitHub repo

Access the GitHub repo to deploy this solution accelerator

GitHub repo

README | Code of conduct | Contributing | MIT license | Security

Multi-Agent Custom Automation Engine Solution Accelerator

Welcome to the *Multi-Agent Custom Automation Engine* solution accelerator, designed to help businesses leverage AI agents for automating complex organizational tasks. This accelerator provides a foundation for building AI-driven orchestration systems that can coordinate multiple specialized agents to accomplish various business processes.

When dealing with complex organizational tasks, users often face significant challenges, including coordinating across multiple departments, maintaining consistency in processes, and ensuring efficient resource utilization.

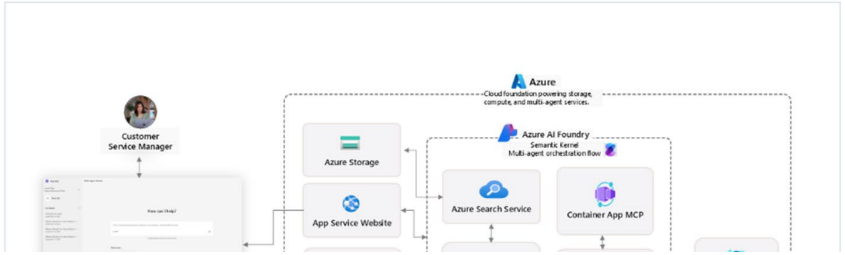
The Multi-Agent Custom Automation Engine solution accelerator allows users to specify tasks and have them automatically processed by a group of AI agents, each specialized in different aspects of the business. This automation not only saves time but also ensures accuracy and consistency in task execution.

SOLUTION OVERVIEW | QUICK DEPLOY | BUSINESS SCENARIO | SUPPORTING DOCUMENTATION

Solution overview

The solution leverages Azure OpenAI Service, Azure Container Apps, Azure Cosmos DB, and Azure Container Registry to create an intelligent automation pipeline. It uses a multi-agent approach where specialized AI agents work together to plan, execute, and validate tasks based on user input.

Solution architecture



Python 31.7% Bicep 30.2%
TypeScript 27.1% CSS 5.2%
Shell 3.4% PowerShell 1.9%
Other 0.5%

Microsoft | Unify your data

Unified data foundation with Fabric

Solution accelerator

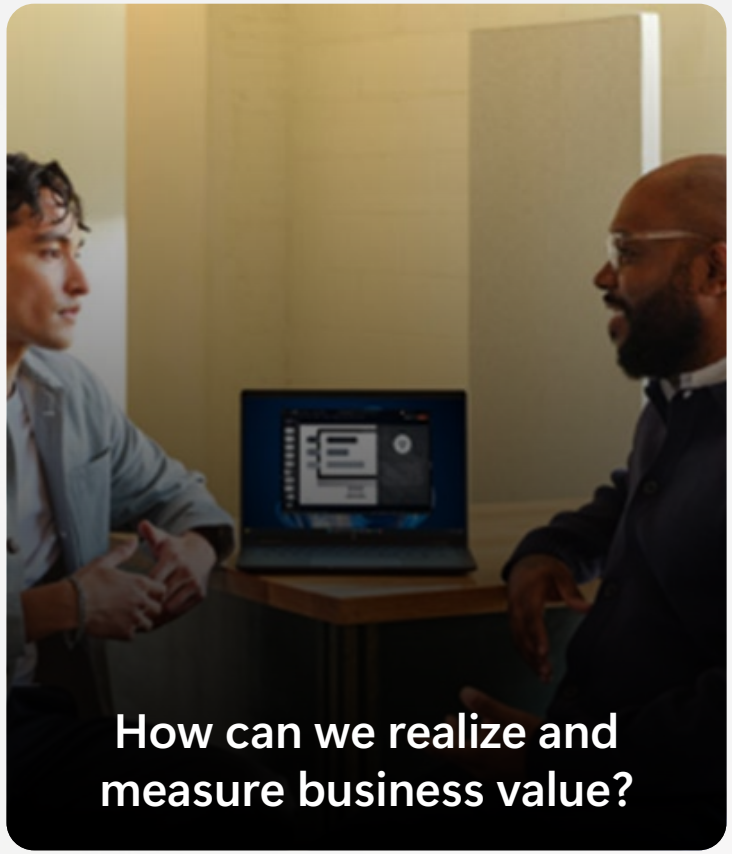
- Fabric
- OneLake
- Azure Databricks
- Purview

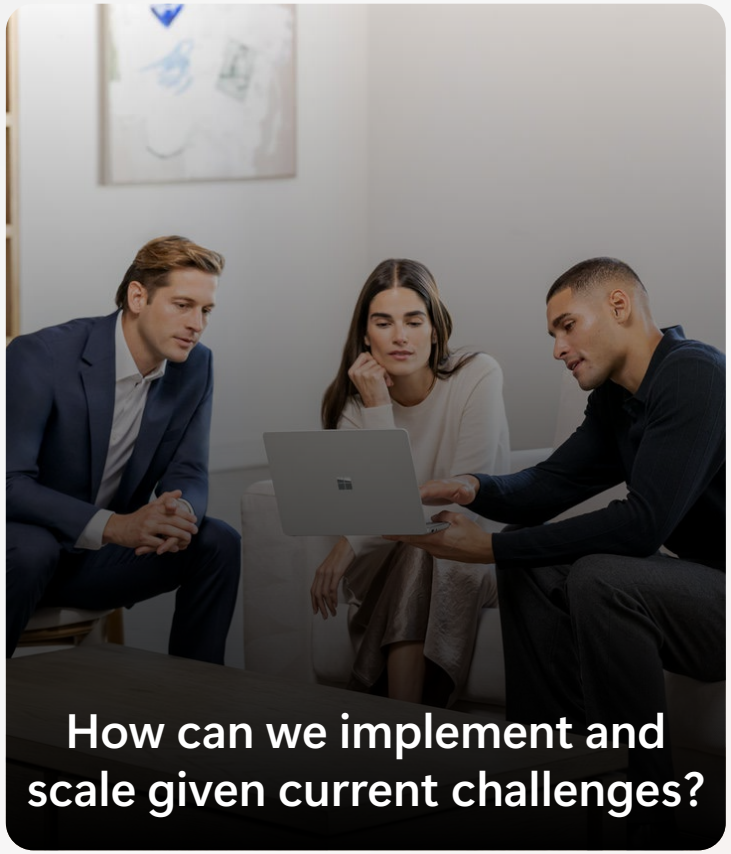
Overview

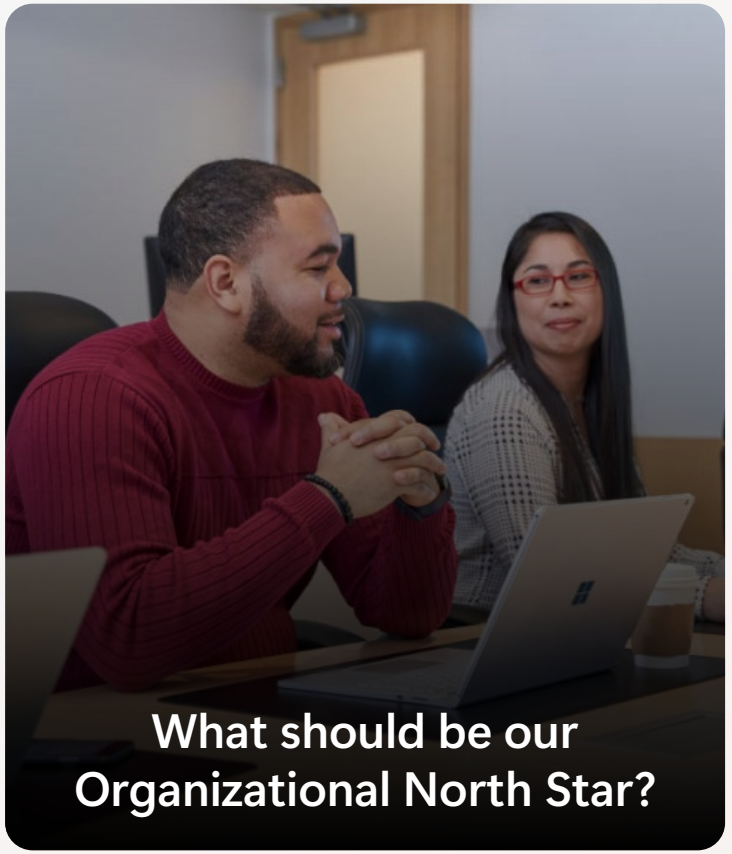
Establish a unified data foundation in Fabric to enable decision making and achieve scalable insights by leveraging the Modern Analytics, AI and Governance framework (MAAG) for your enterprise data assets.

Organizational trends

What organizations are asking







Technical key features

Unify your data estate

Build a connected, AI-ready data foundation with MAAG using a single, trusted architecture across data domains with OneLake.

Support multi-platform data integration

Build medallion architecture, establish mirroring, and shortcuts to rapidly onboard structured and unstructured data into Fabric.

Enable Agentic AI features

Activate agents powered by Fabric's data agent and AI Foundry, to flexibly extend and deploy across Copilot Studio, Foundry, and web applications.

Unlock new insights

Interact with Power BI reports using natural language to ask questions, uncover trends, and generate insights instantly with Copilot.

Secure your data

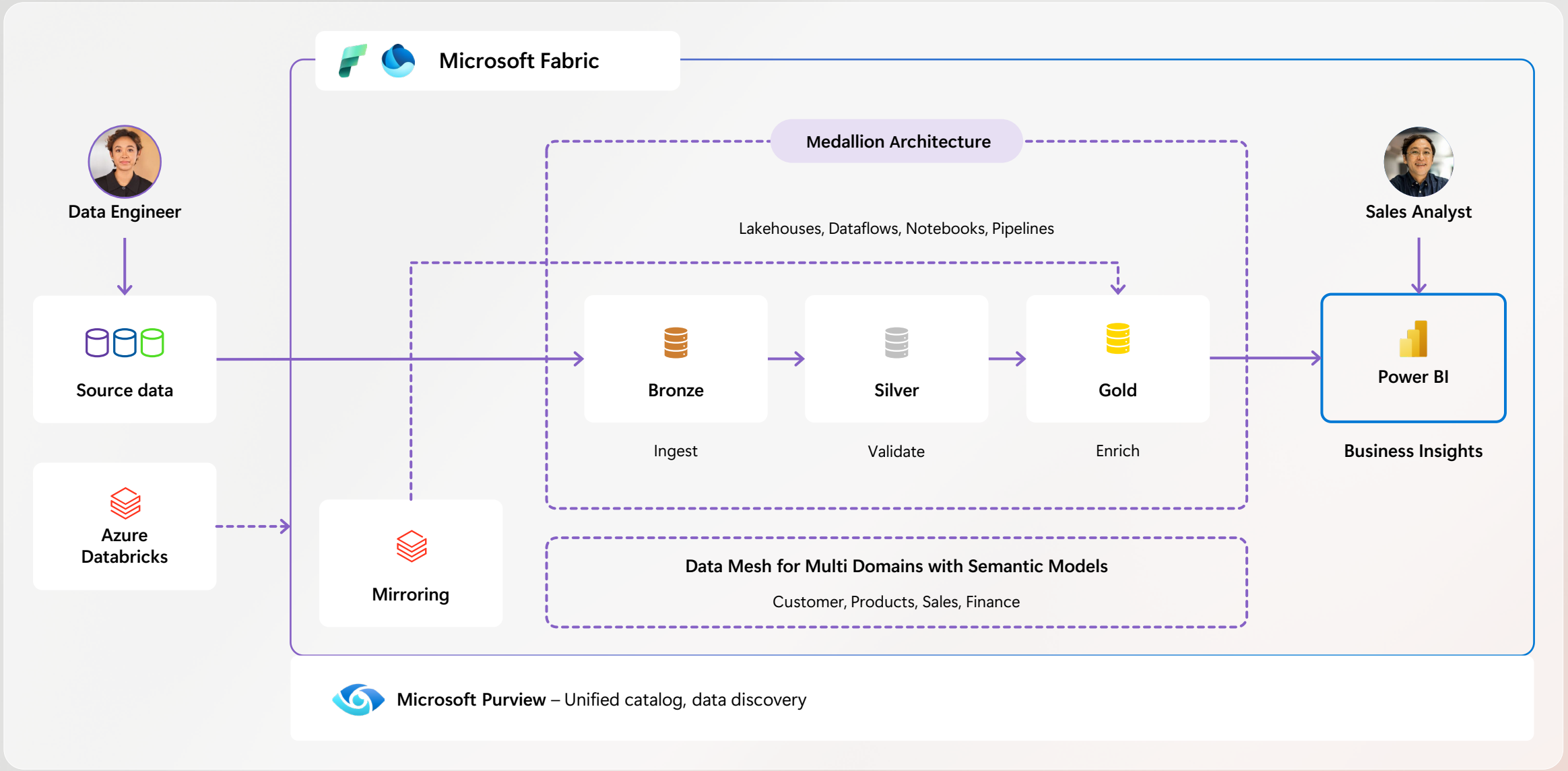
Protect data assets across OneLake with built-in governance, DLP, IP protection, and security controls.

Discover and Govern data

Generate a data marketplace built on Purview to ensure secure access, data quality, and visibility across domains.

Back-end product Front-end product

Accelerator architecture



GitHub repository

Access the GitHub repo to deploy this data accelerator

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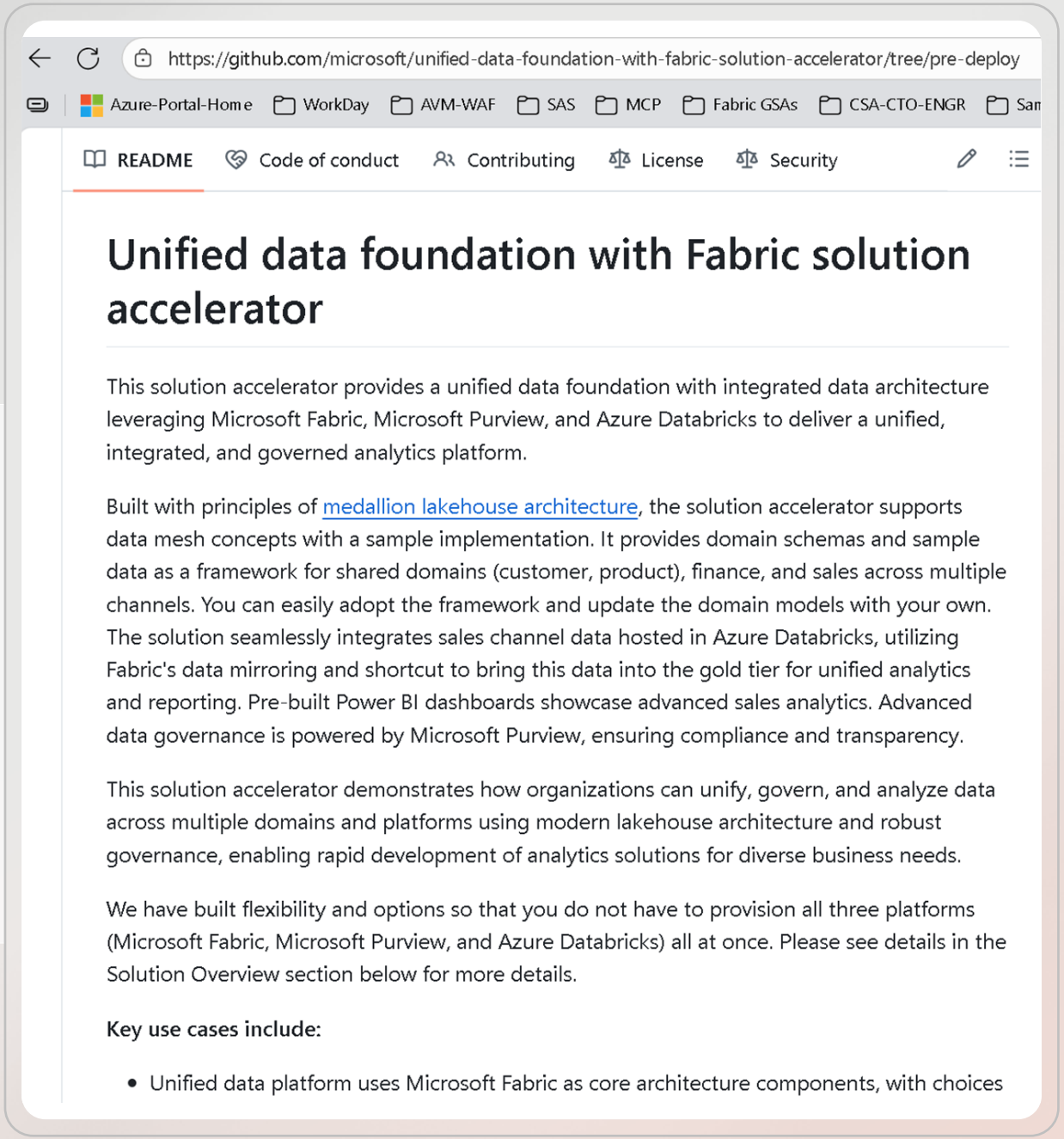
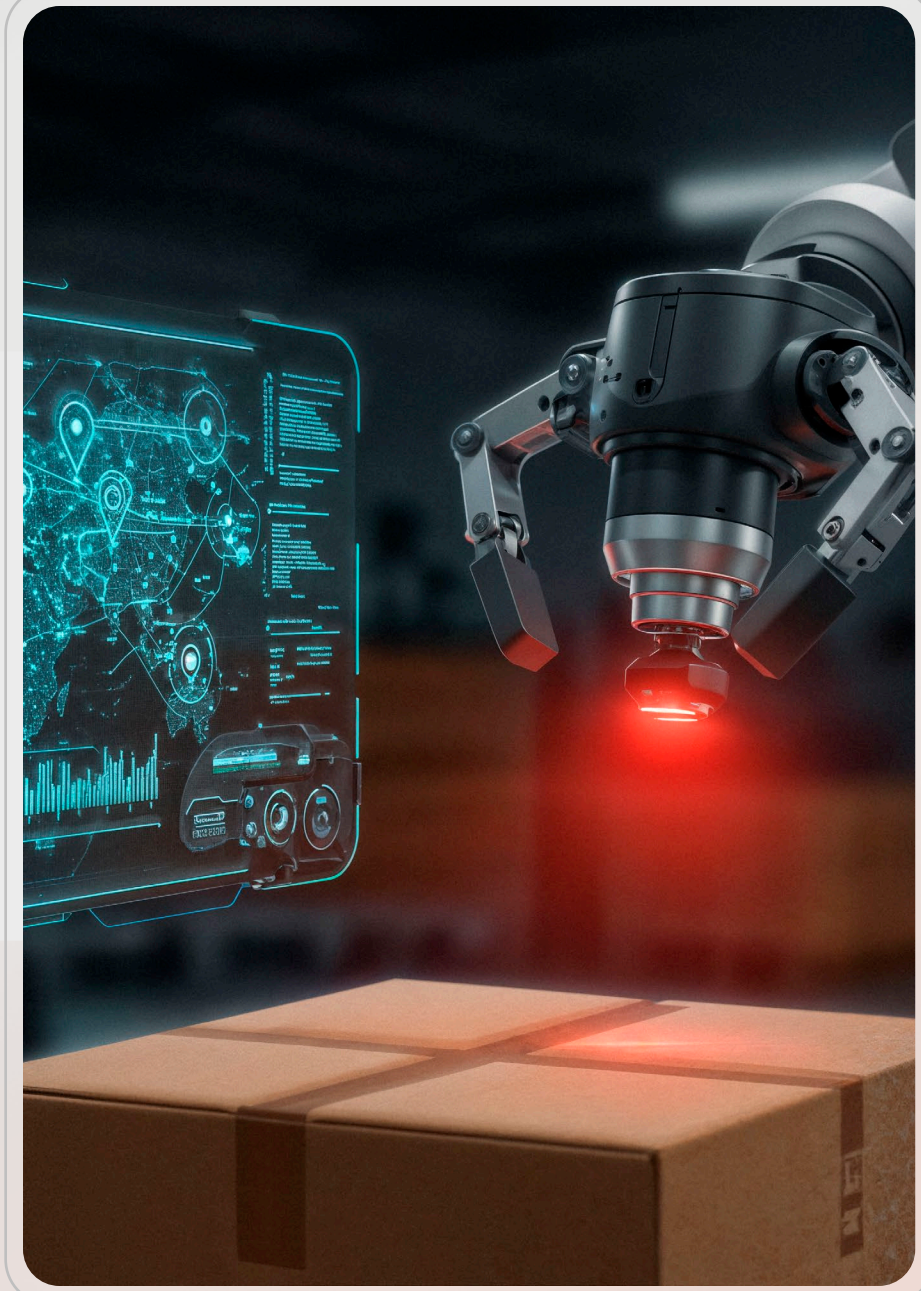


Microsoft | WAF
AI Foundry

Deploy Your AI Application in Production

Solution Accelerator



Deploy a secure, extensible and integrated environment to run your AI applications in production

It simplifies the process of including essential Azure services necessary to run mission-critical AI applications and adhere to Microsoft Well Architected Framework recommendations.

KEY TAKEAWAYS

Industry Challenges




High Failure Rates	Scaling Difficulties	Skill Gaps	Extended timelines
Only 54% of AI projects move to production, and 88% of AI pilots fail to reach production.	**76%** of decision makers report trouble scaling AI efforts.	Only **35%** of tech practitioners believe their organizations have the necessary skills for complex AI projects.	Companies average 7+ months from pilot to production.

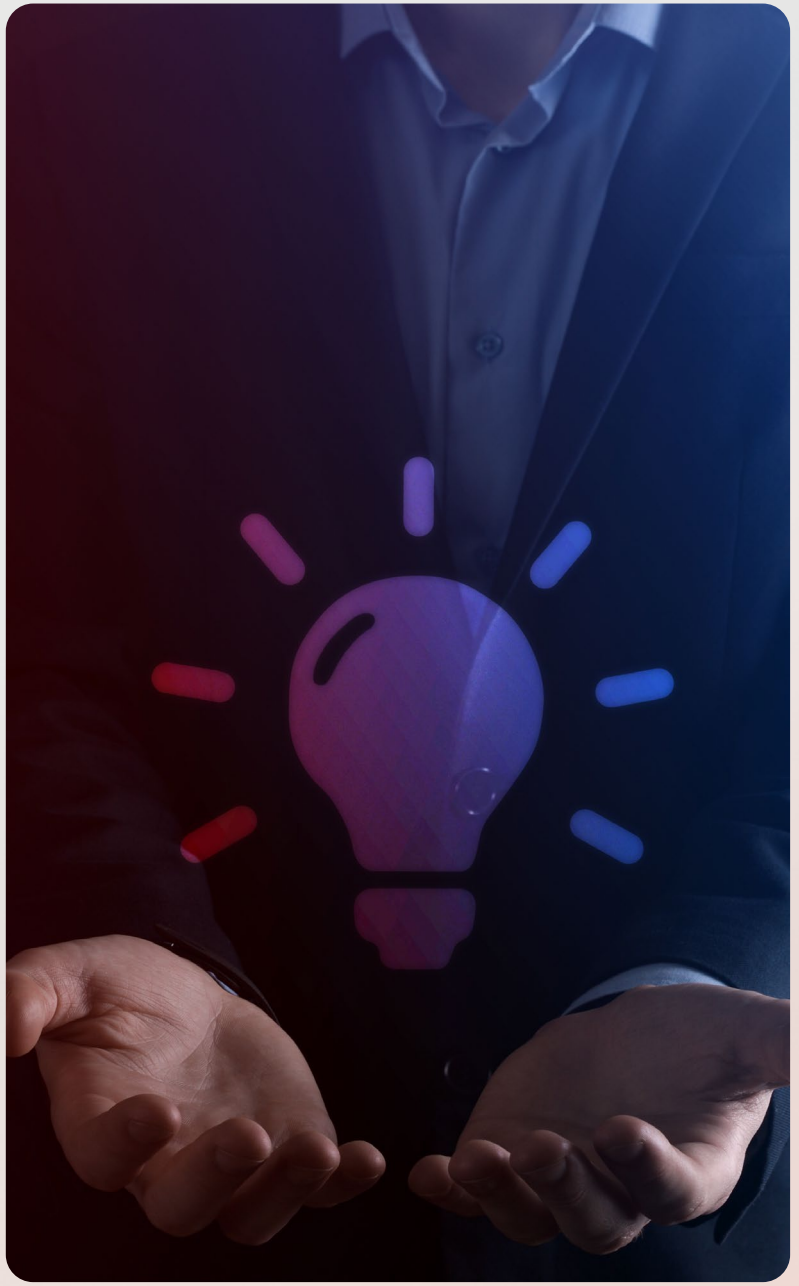
References

[1] Azure AI Infrastructure-Master | [2] FY25 Build and Modernize AI Apps MPF_July 2024 | [3] AI Adoption in 2024: 74% of Companies Struggle to Achieve and Scale ... | [4] New Research Highlights Obstacles Companies Are Facing In Using AI – Forbes | [5] 88% of AI pilots fail to reach production—but that's not all on ITa

The Solution

While Proof of Concept (PoC) templates focus on agility and rapid validation, production environments address factors such as **enterprise security, compliance, scalability, and ongoing maintenance.** As a result, in addition to the services included in PoC Template, the "Deploy your AI Application in Production" template **disable public access to AI Foundry services and creates:**

- An **Azure Virtual Network** used to isolate resources from the Internet
- **Azure Bastion** and the deployment of a **Virtual Machine** "jump box" to securely access the environment.
- **Private endpoints** and **DNS Zones** to Azure services.
- **Network Security Groups** (NSG's) with Zero-Trust policies.
- The option to deploy AI Search and Cosmos DB, along with APIM, Azure SQL, App Services, Container Registry and logging/monitoring.



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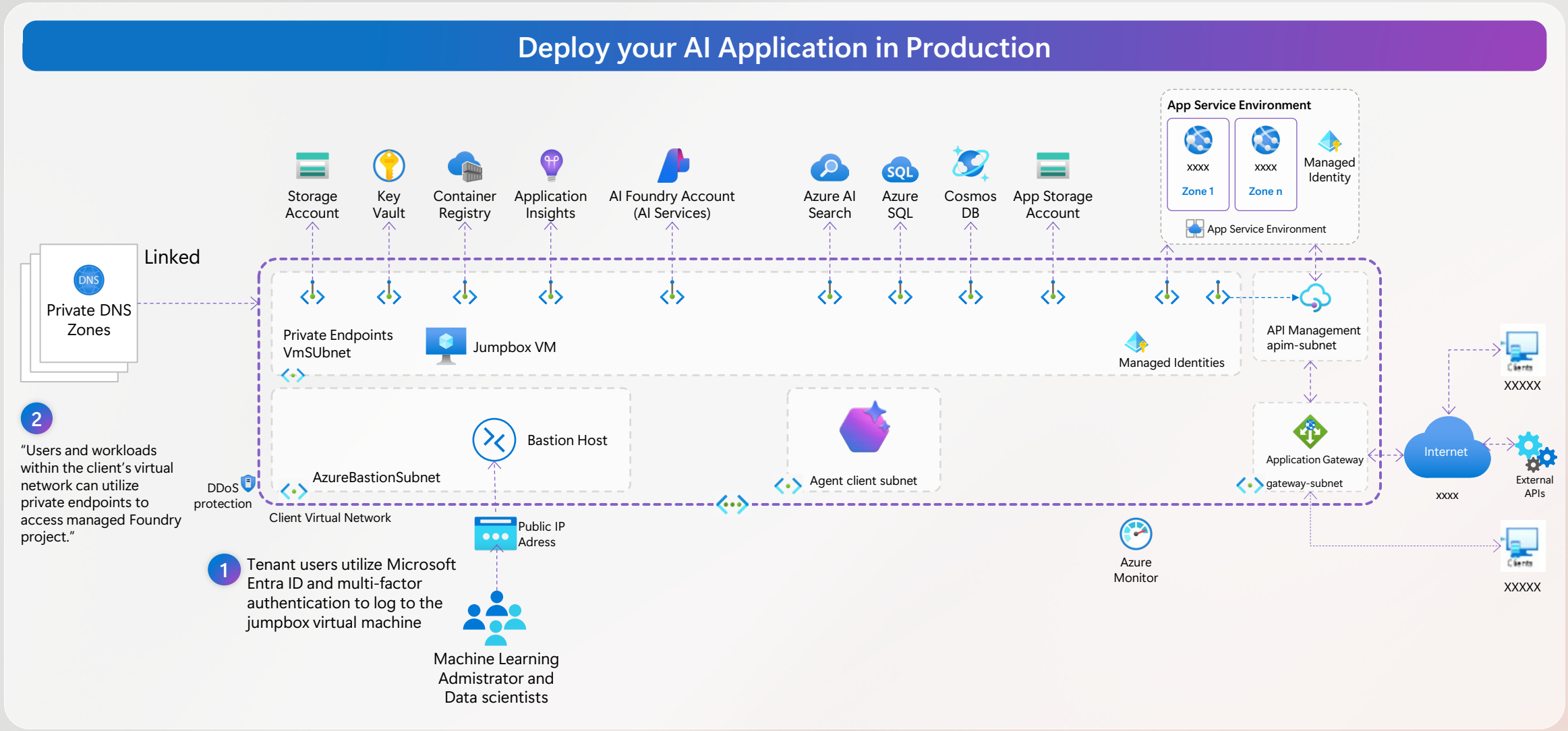
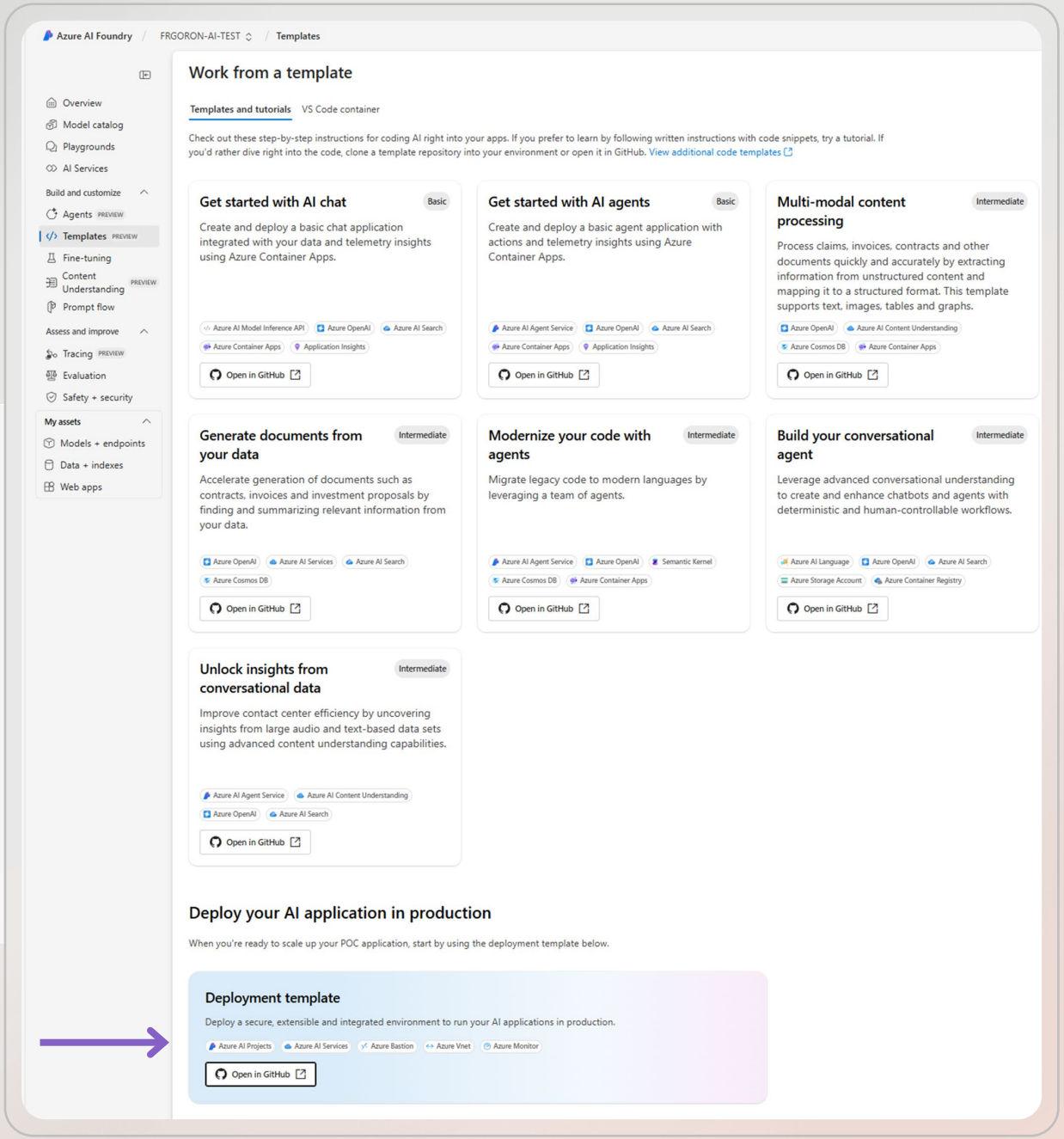


Getting Started

Access the template from AI Foundry studio → Template → Deploy your AI application in production

Open in GitHub



Demo

Dynamics 365 Contact Center

AI is transforming how services are delivered across industries from telcos & retail to healthcare & financial services. As a result, people expect similar hyper personalized & multichannel experience when engaging with their government, whether through a portal, apps, call center, or government office. In this demo, we'll showcase:

- Omni-channel access to services, integrated channels to provide a seamless and unified experience.
- Multi-lingual capabilities.
- Effortless self-service with AI-powered chatbots & voicebots/IVRs through Copilot, Microsoft's generative AI-assistant that can understand intent across multiple interactions over time and across various channels.
- Copilot experiences for agent-assisted service.
- Insights and analytics through a single view dashboard.

Demo link

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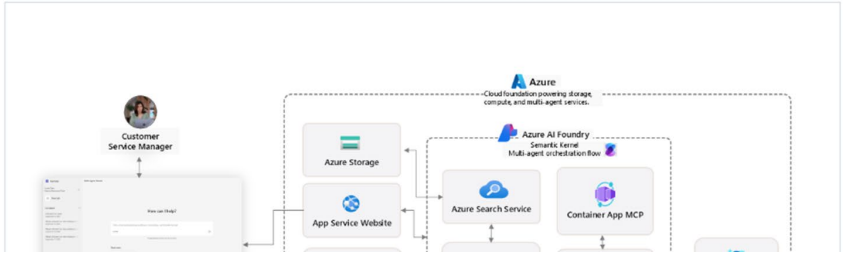

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Public Sector Skilling Resources

Public Sector Center of Expertise and Digital Skills

Tools and insights to drive digital innovation within the public sector. Discover valuable lessons, expert insights, skill-building resources, and best practices designed to accelerate your AI and digital transformation journey.

Microsoft

Thank you