

# PaaS To The Future! Modern AI First Architectures on Azure

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# Outline

- AI in Every Business Process
- AI-First Shift
- Azure PaaS for AI
- Practical Example: Intelligent Customer Support App
- Best Practices and Considerations
- Closing Thoughts

# AI in Every Business Process

# Azure Gen AI Services Timeline

- Nov 2021 – Azure OpenAI (Preview)
- Nov 2022 – ChatGPT release
- Jan 2023 – Azure OpenAI GA
- Nov 2024 – Azure AI Foundry

# Azure AI Enterprise Ready

- Governance
- Security
- Scalability
- Cost control
- Time-to-market
- Maintainability



The Power of PaaS & AI

AI First

*“AI is no longer a bolt-on  
— it’s a **design**  
**foundation.**”* (ChatGPT Quote)

# From Trends to Transformation

- Mobile-First
- Cloud-Native
- Security-First
- **AI-First (NOW)**

# In This Session

- Practical Points to understand AI First
- Available Services in Azure to implement AI First

# AI First Shift

# From Enhancement to Foundation

- *“SaaS is dead, the future is AI agents.” – Satya Nadella*
- Shifting from: Traditional =>  
Enhanced => **AI-First**

# Traditional Business Logic Era

- Deterministic business logic
- Humans handling nuance
- Linear, well-defined workflows

# First Wave of AI



# What AI-First Really Means

- AI is no longer a tool — it is the **primary actor**

Conversational UI

AI

API

Data  
Sources

# Designing with AI as a Core Actor

- How do we minimize human intervention?
- How do agents operate autonomously?
- How do we ensure safety, compliance, and ethics?

# What Makes This Possible?

- **LLMs: Reasoning, dialog**
- **Vision Models: Spatial understanding**
- **Predictive Models: Forecasting, anomaly detection**
- **Natural Language Processing Models**

# AI Agents as First-Class Citizens

- “*Creating agents should become as common as creating spreadsheets*”
- Azure is positioned to provide the capabilities to achieve this

# Three Tiers of Azure AI Services

Low Code



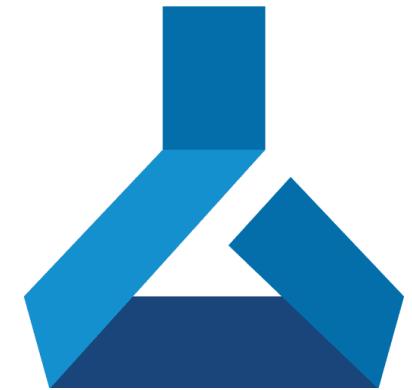
Co-Pilot  
Studio

Pro Code



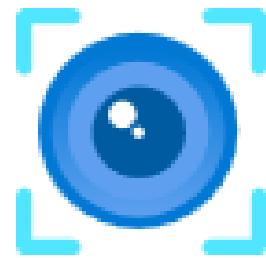
AI Foundry

Low Level ML



Azure  
Machine  
Learning

# AI Foundry Manages Cognitive Services



Vision



Content Safety



Document Intelligence



Speech

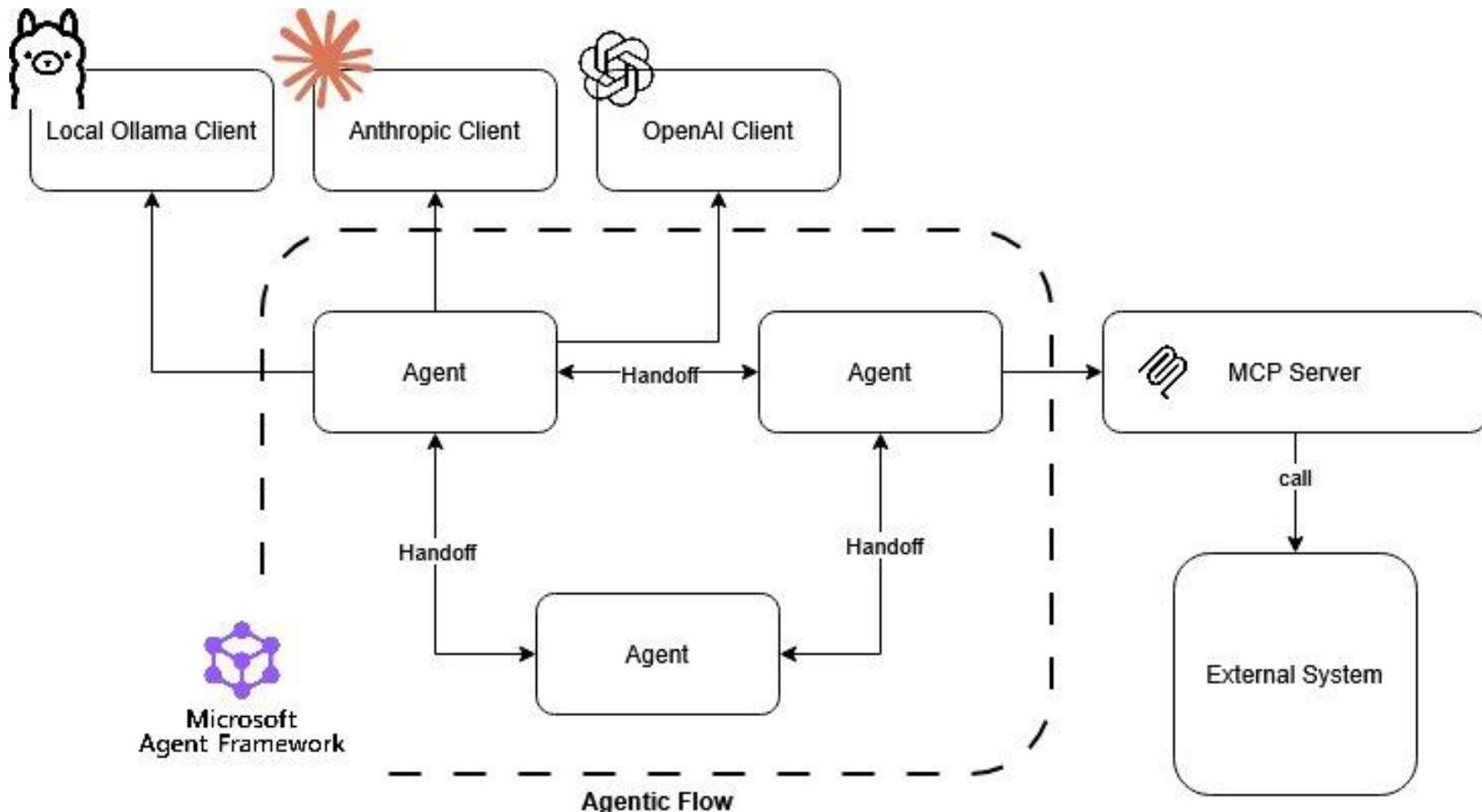


OpenAI

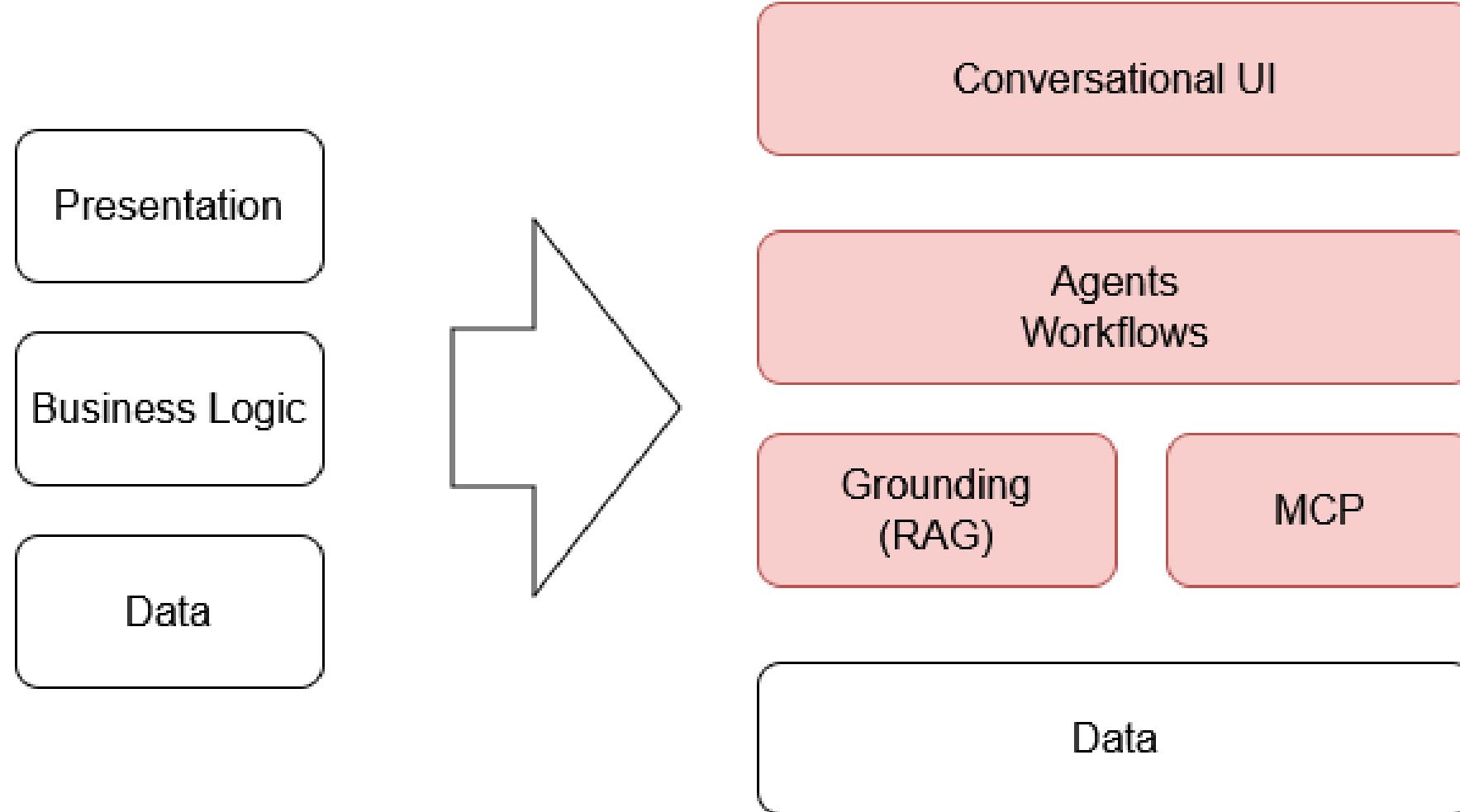


Face Recognition

# Microsoft Agent Framework



# Architecture Then vs Now



# Azure PaaS Essentials for AI- Ready Architecture

# Platform as a Service

-  Decrease Operations Engineering Load
-  Operations engineering concerns remains to address

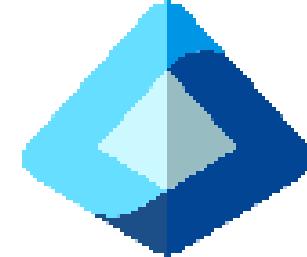
# Azure PaaS Services



Azure Function



Web App



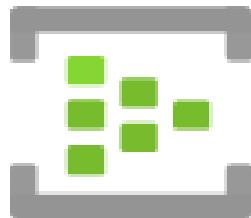
Entra ID



Cosmos DB



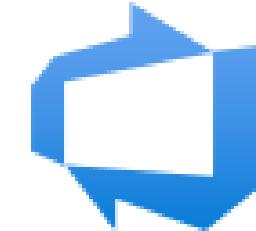
Redis Cache



Event Hub



Service Bus



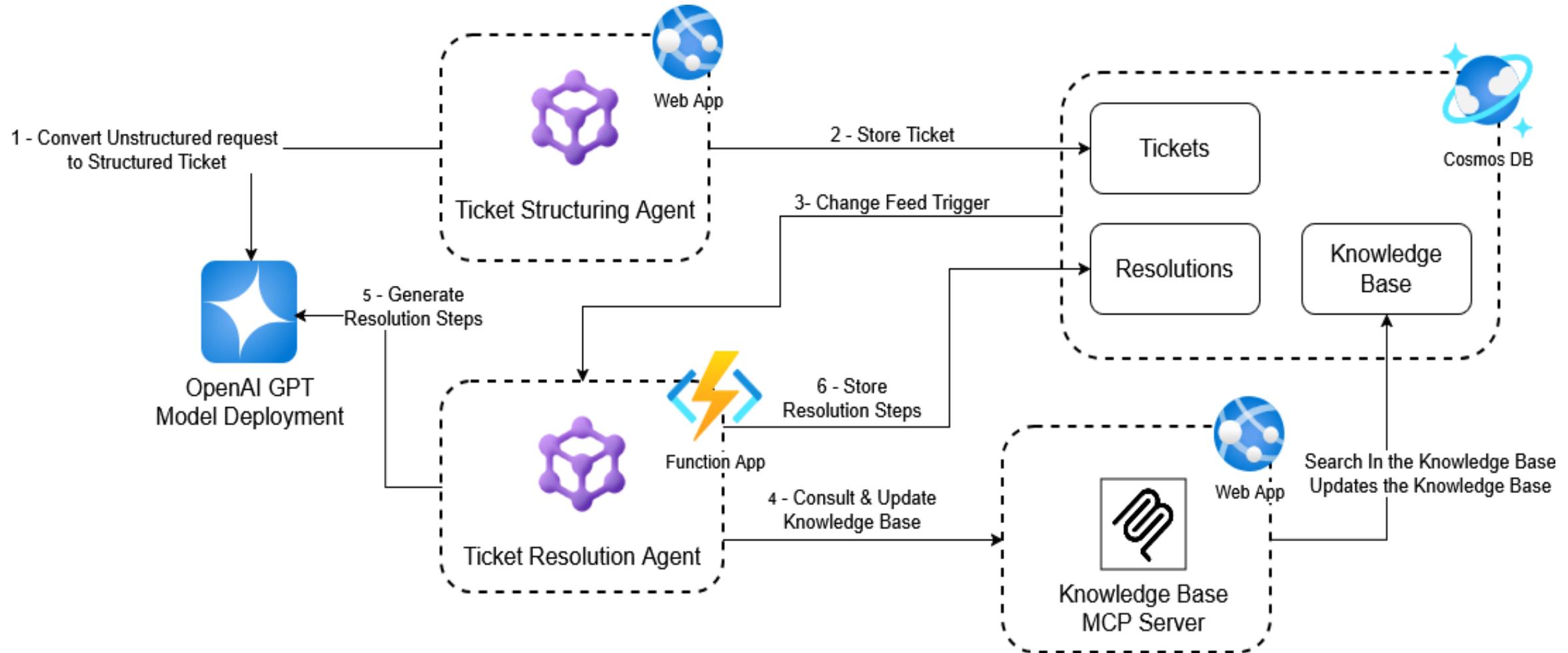
Azure DevOps

# Why PaaS Services Integrate So Well?

- Managed Identity
- VNET Integration
- Unified Monitoring & Observability
- SDK Consistency

# Practical Example: Intelligent Customer Support App

# Demo Flow



# Best Practices and Considerations

# Right AI Model vs Fine-Tuning

- Better prompting over fine-tuning
- Fine tuning introduces overhead
  - Preparing training data
  - Training/Testing
- Fine tuning is useful for:
  - Getting a specific tone/terminology
  - Higher consistency
  - Restricting Model Behavior Tightly

# PaaS Scalability Patterns for LLM Workloads

- **Stateless Frontends and Backends**
- **Event Driven Architecture**
- **Async Processing**

# Content Filtering and Safety

- **Prompt Filtering**
- **Output Filtering**
- **Abuse Monitoring**

# Key Takeaways

- **AI First**
- **Azure is Ready**
- **Azure helps you focus on business Value**

# Questions ?