The Next Wave of AI Agents in Business

Speaker: Syed Safdar Hussain
Head of Cloud Solution Architecture & CoE

Security
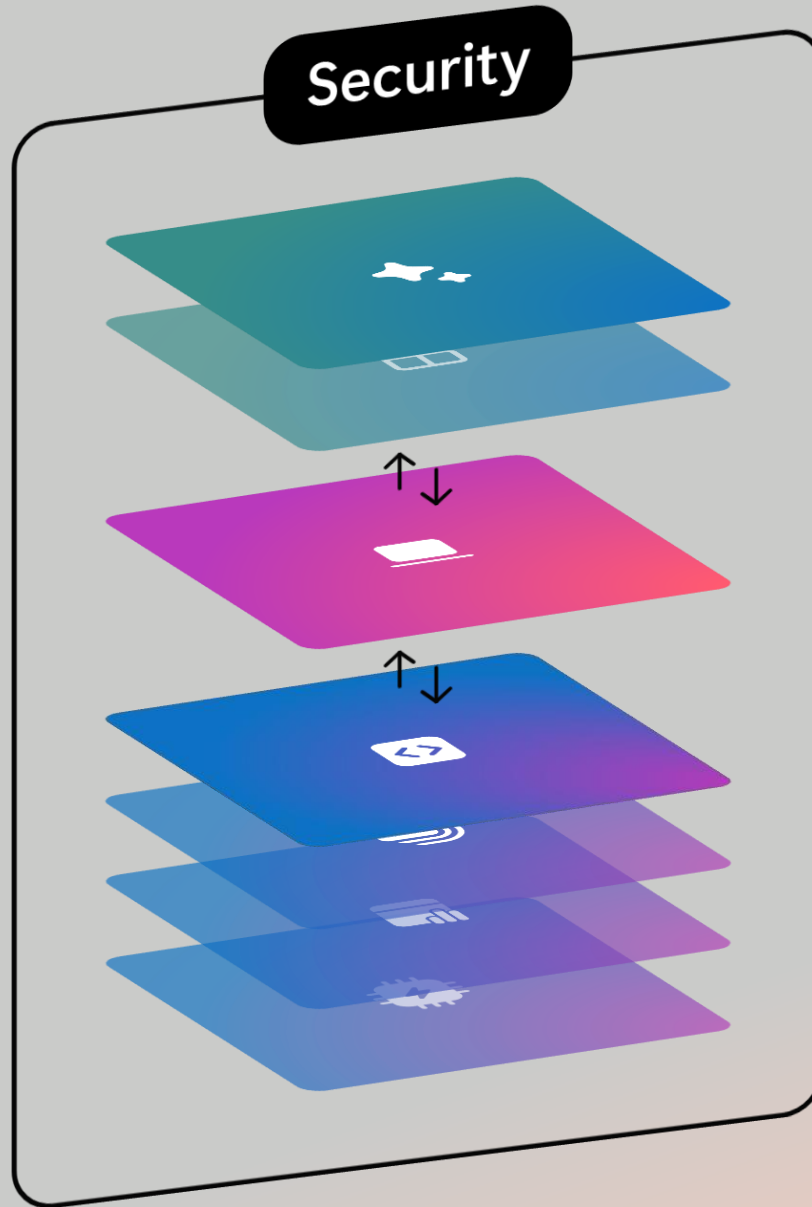
Copilot

Copilot devices

Copilot & AI stack

Copilot & AI stack

Copilot Studio
+
Visual Studio
+
GitHub

→
←

Azure AI Foundry

Data

Infrastructure

Azure

Cloud to Edge

Trustworthy AI

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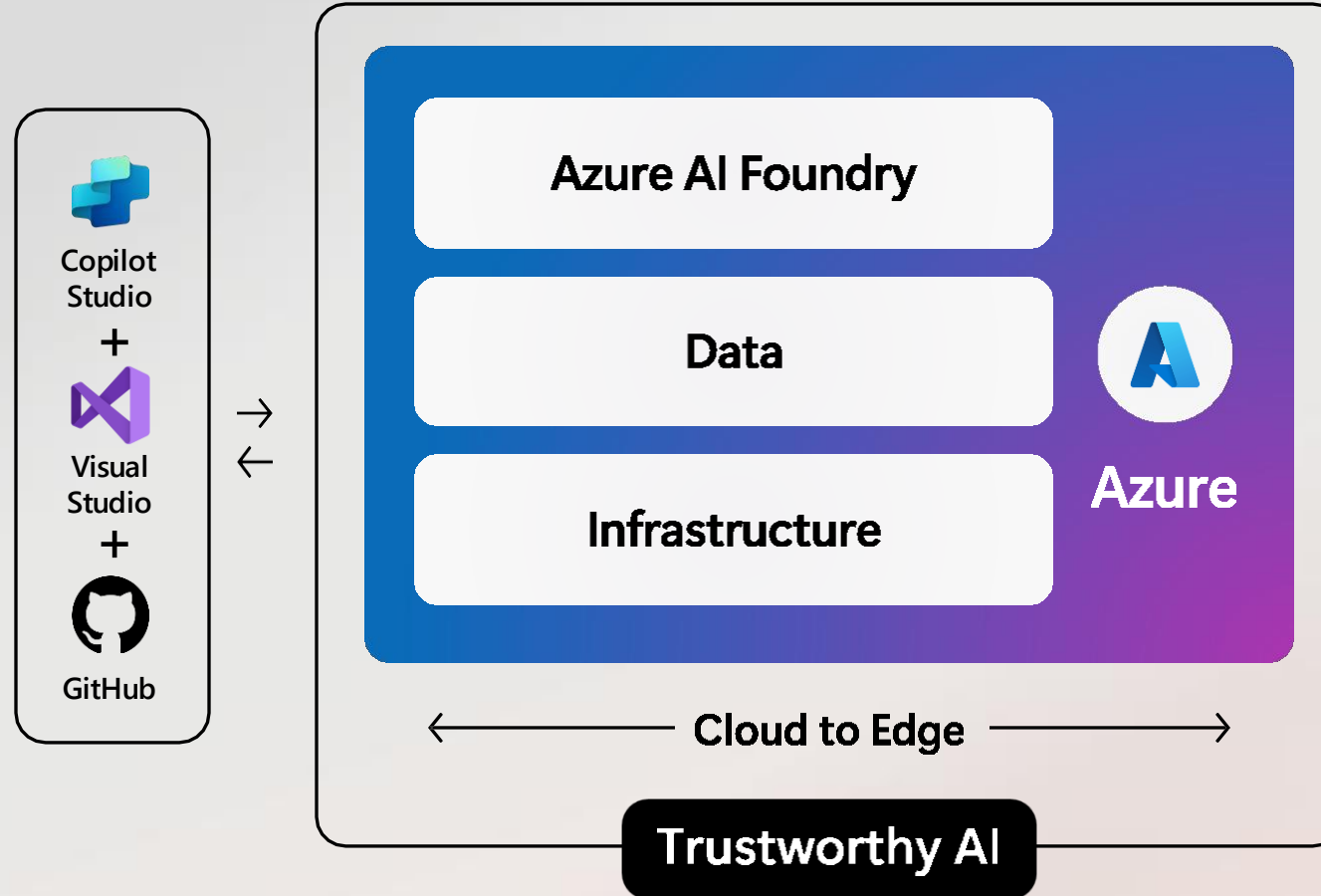
A New Frontier

Agentic AI

Agentic AI

use AI to automate and execute business processes, nearly autonomously

AI agents can plan, adapt to new information, and execute tasks independently, making them capable of handling complex, dynamic environments, decision-making and autonomous action. They can learn from feedback, adjust their strategies, and operate with minimal human oversight.

Reason over a provided business process

Retrieve context to complete the process

Perform an action for the end-user

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Organizations face significant challenges with complex, manual, and time-consuming workflows and minimal automation
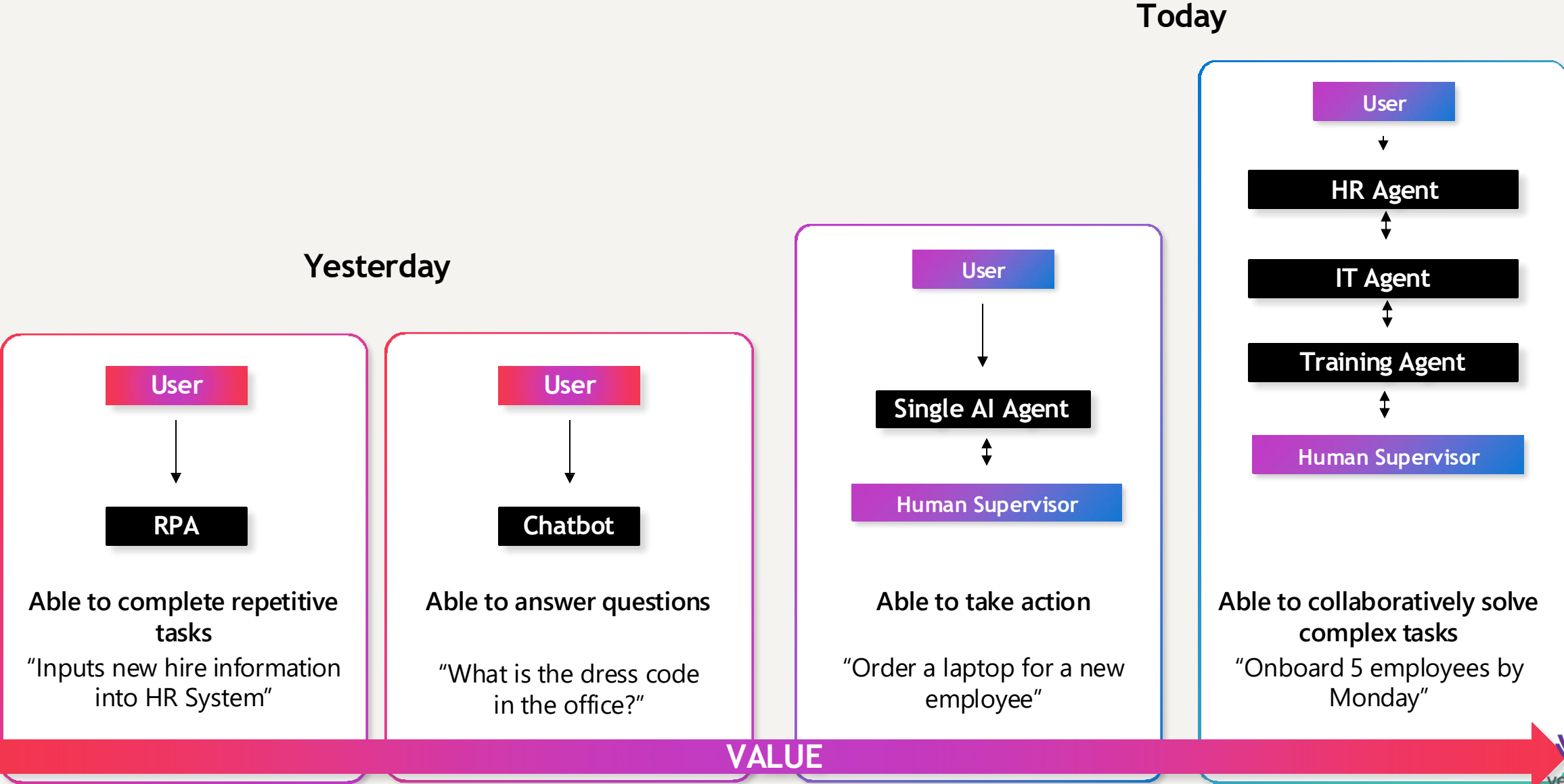
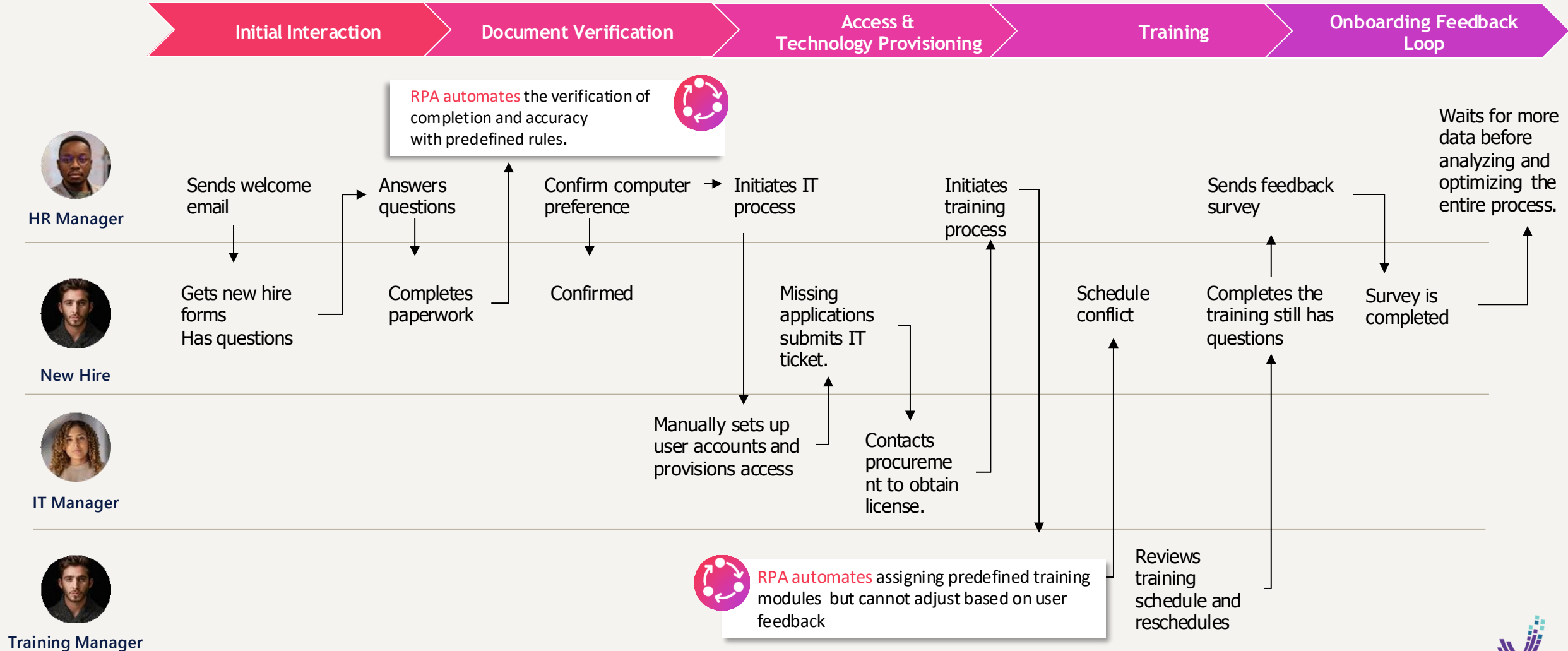| Inefficiency and High Operational Costs	Lack of Visibility & Control	Human Error	Scalability Issues

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Promising even more efficiency, value, and advantage

Today

Yesterday

User

↓

RPA

Able to complete repetitive tasks

"Inputs new hire information into HR System"

User

↓

Chatbot

Able to answer questions

"What is the dress code in the office?"

User

↓

Single AI Agent

↕

Human Supervisor

Able to take action

"Order a laptop for a new employee"

User

↓

HR Agent

↕

IT Agent

↕

Training Agent

↕

Human Supervisor

Able to collaboratively solve complex tasks

"Onboard 5 employees by Monday"

VALUE

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TODY

Existing solutions can only automate very specific tasks that have clear inputs and outputs

Initial Interaction → **Document Verification** → **Access & Technology Provisioning** → **Training** → **Onboarding Feedback Loop**

HR Manager

New Hire

IT Manager

Training Manager

RPA automates the verification of completion and accuracy with predefined rules.

RPA automates assigning predefined training modules but cannot adjust based on user feedback

Sends welcome email

Answers questions

Confirm computer preference

Initiates IT process

Initiates training process

Sends feedback survey

Waits for more data before analyzing and optimizing the entire process.

Gets new hire forms
Has questions

Completes paperwork

Confirmed

Missing applications submits IT ticket.

Schedule conflict

Completes the training still has questions

Survey is completed

Manually sets up user accounts and provisions access

Contacts procurement to obtain license.

Reviews training schedule and reschedules

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TOMORROW

With AI Agents, these steps can be automated for the first time, while keeping human in the loop.

Initial Interaction	Document Verification	Access & Technology Provisioning	Training	Onboarding Feedback Loop

Human in the Loop, Supervisor and Approver

HR Agent
- Provides a personalized onboarding journey based on interaction
- Assesses documents and learns from interactions

Orchestrates the additional processes

- Gathers real-time feedback
- Identifies patterns makes informed decisions

New Hire

Fills out forms and has no questions

The new hire has questions during the training.

IT Agent
- Sets up user accounts, adapts to troubleshoot unexpected issues, and learns from errors.

Training Agent
- Analyzes role, experience, and learning preferences to recommend training

Provides adaptive training

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Key Applications of AI Agents

This cutting-edge shift promises to ignite a fresh wave of productivity and efficiency

Automation is undergoing a thrilling transformation with autonomous agents now being designed to proactively plan actions and perform tasks for users.

Intelligent Decision Making

Increased Productivity

Enhanced Efficiency

Cost Reduction

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Key Use Cases Across Industries

AI Agent workflows can enhance efficiency, accuracy, and customer satisfaction

Travel Booking & Expense Management

- Assists employees in booking business trips
- Integrates with Tripadvisor, Outlook, and SharePoint
- Books via Teams chat or email
- Uses OCR to gather receipts
- Automates expense report submission and tracking

Employee Onboarding

- Personalized onboarding assistant for new hires
- Uses LLMs grounded in HR data from SharePoint
- Provide relevant training materials
- Schedule orientations and set up software accounts
- Monitor task completion and ensure efficient onboarding

Personalized Customer Support

- Diagnoses issues by referencing history and product manuals
- Provides tailored solutions or escalates through automated workflows
- Creates tickets and schedules follow-ups
- Updates CRM records, enhancing future support

Data Analytics and Reporting

- Analytics data from data lake and data warehouse
- Responds to user requests in natural language
- Generates insights, visualization, and sends via Teams or email
- Automates data handling for real-time, effortless decision-making

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Successfully developing AI Agents requires
4 primary considerations

Knowledge

Providing agents with the right context

Actions

Giving them the tools to complete their tasks

Security

Ensuring they only have access to what they should

Evaluation

Ensuring they complete their tasks correctly

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Organizations need platforms that enable rapid development of performant, secure AI Agents

Current Frameworks

Lack of integrated tools, insecure data grounding, challenging orchestration

Ineffective deployment of AI across websites, applications, and production environments

Restrictive pre-defined models that are challenging to customize

Security and data privacy risks

What's Needed

Connected complex workflow automation grounded by seamless connection to enterprise data

Tools and APIs that seamlessly integrate across enterprise applications

Flexible models that enable processing and integration of information from multiple modalities or types of data

Secure, responsible AI that protects sensitive information and behaves compliantly

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The full package

Azure AI Foundry SDK – Agent Service

Built-in enterprise readiness

BYO-file storage (coming soon)

BYO-search index

OBO Authorization Support

Enhanced Observability

Extensive Ecosystem of Tools

Knowledge

Microsoft Fabric*

SharePoint*

Grounding with Bing Search

Azure AI Search

Files (local or Azure Blob)

Your own licensed data*

File Search

Code Interpreter

Actions

Azure Logic Apps*

OpenAPI 3.0 Specified Tools

Azure Functions

Model Catalog

Azure OpenAI Service
(GPT-4o, GPT-4o mini)

Models-as-a-Service

Llama 3.1-405B-Instruct

Mistral Large

Cohere-Command-R-Plus

*Indicates feature is coming soon

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Introducing

Azure AI Foundry SDK – Agent Service

Azure OpenAI Assistants API

- File Search
- Code Interpreter

+

Model Catalog

Azure OpenAI Service
(GPT-4o, GPT-4o mini)

Models-as-a-Service

- Llama 3.1-405B-Instruct
- Mistral Large
- Cohere-Command-R-Plus

+

Extensive Ecosystem of Tools

Knowledge
- Microsoft Fabric (coming soon)
- SharePoint (coming soon)
- Grounding with Bing Search
- Azure AI Search
- Your own licensed data (coming soon)
- Files (local or Azure Blob)

Actions
- Azure Logic Apps (coming soon)
- OpenAPI 3.0 Specified Tools
- Azure Functions

Built-In Enterprise Readiness

BYO-file storage (coming soon)   BYO-search index   BYO-thread storage   BYO-virtual network (coming soon)   OBO Authorization Support   Enhanced Observability

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How does your agent work?

"Help me book a trip to New York for a client meeting? I need to fly out next Monday and return on Friday."
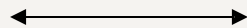
"I've booked your trip to New York as requested. Here are details:..."

User

Travel Booking Agent

Knowledge Sources
(search, files, databases, storage etc.)

Models
(Azure OpenAI Service, Models-as-a-Service)

Actions
(Pre-built or custom tools to automate processes)

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How does your agent work?

Step 1:
Create an Agent

Step 2:
Create a Thread

Step 3:
Run the Agent

Step 5:
Check the Run status

Step 6:
Display the Agent's Response

Agent
Travel Planning Agent

Instructions
You are a travel booking and expense management assistant designed to help employees plan, book, and manage business travel.

Model

Your data (optional)

🔍 **Azure AI Search**

Files (local or Azure Blob)

Tools (optional)
File Search
Code Interpreter
Function Calling
Bing Search
Microsoft SharePoint (coming soon)
Microsoft Fabric (coming soon)
Azure Logic Apps (coming soon)
Azure Functions
OpenAPI 3.0 specified tools

Thread
Travel Planning

User's message
I need to book a hotel in New York for 2 stays.

Agent's message
Here are some suggestions:

User's message
What's the daily meal allowance for the business trip?

Agent's message
The daily allowance for your business trip is $75, as per company policy.

Run 1

1 Use Tripadvisor API to search the nearest hotel

2 Create message

Run 2

1 Use Microsoft SharePoint to query the company travel policy

2 Create message

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Chat Completions API vs Assistants API vs Agents

Chat Completions API

- Lightweight and powerful
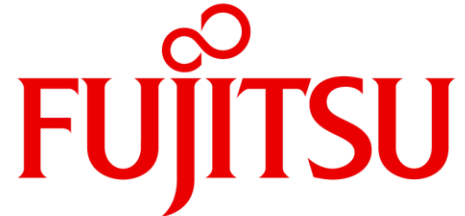- Inherently stateless

VS

Assistants API

- Build with OpenAI models
- Stateful (inbuilt conversation state management)
- Access persistent threads
- Automatic management of the model's context window
- Access files in several formats
- Utilized Microsoft-managed storage
- File Search (API handles chunking, embeddings storage and creation, and implementing vector search)
- Code Interpreter
- Function Calling

VS

Azure AI Agent Service

- **Assistants API features, plus**
- Build with a model of your choice (OpenAI, Llama, Mistral, Cohere...)
- Real time web-grounding with Bing
- Secure grounding on enterprise data in SharePoint and Fabric
- Bring Your Own Licensed data (Tripadvisor)
- Connect to 1400+ data sources and services with Azure Logic Apps
- Long running, event driven actions with Azure Functions
- Standardized OpenAPI 3.0 tools
- Bring Your Own Storage
- Bring Your Own Private Network
- Bring Your Own AI Search Resource
- Limitless scaling with PTUs
- Open Telemetry based tracing

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Customers are innovating with Azure AI Agent Service
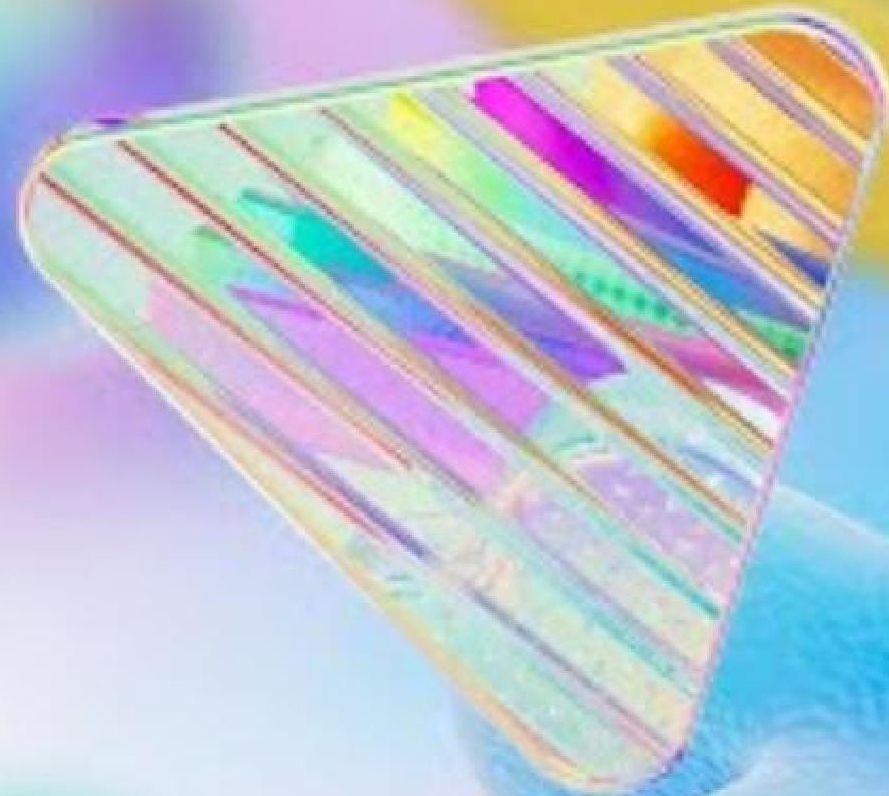
Demo

Microsoft

Azure AI Agents Service

Building intelligent multi-agent systems

Marco Casalaina, Vice Present of Products, Azure AI

Mads Bolaris, Groupt Product Manager, Azure AI

Lambert Ninteman, Global Lead, GenAI Democratization & Enablement

Brian King, GM, AI and Search Platform

Rapid Development and Automation

| Out-of-the-box connectors | Connection with 3P APIs | Custom code | Code Interpreter | Client-side functions |

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Extensive
Data
Connections

Extensive Knowledge Connections

Public web data

Corporate data

Structured data

Unstructured data

Licensed data

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Flexible Model Selection

Flexible Model Selection

Azure OpenAI Service models

Models as a Service (Serverless API)
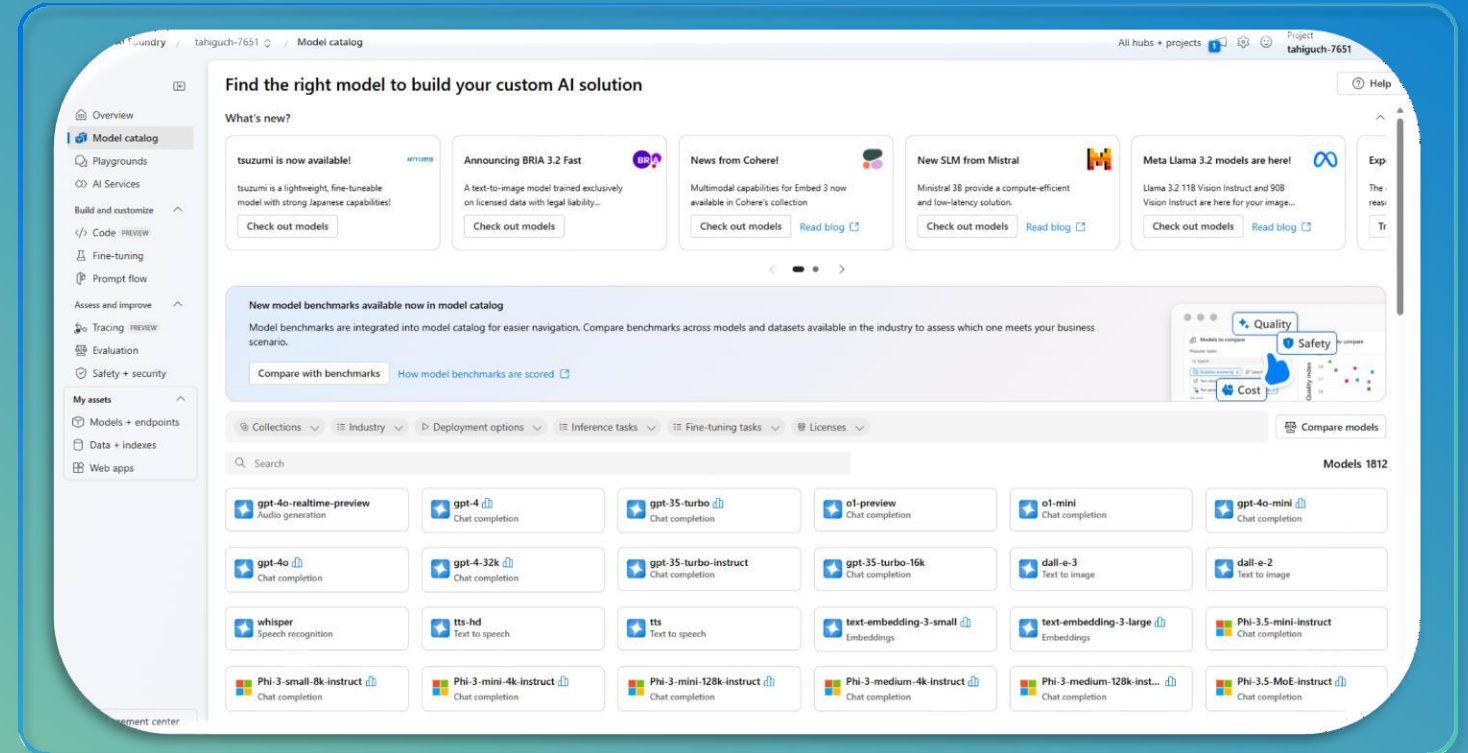
Azure AI Services models

Multi-modal support

Fine-tuned models

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Leverage Models as a Service (MaaS)

- Support a variety of models from Azure AI Foundry model catalog to power your agent's reasoning. The supported models include:

  - GPT-4o

  - GPT-4o mini

  - Llama 3.1

  - Mistral Large

  - Cohere Command R+

- Leverage Model Inference API to easily swap models and compare performance to find the best model for your specific needs.

Enterprise-grade Security

Enterprise-grade Security

Bring your own storage

Keyless setup and authentication

Private Virtual Network support

Tracing/ monitoring

Content filters

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Basic agent setup

- **Overview**: All agents created in this project use multi-tenant search and storage resources fully managed by Microsoft. You don't have visibility or control over these underlying Azure resources.

- **Required customer resources:**
  - AI hub
  - AI project
  - AI Services/AOAI

- **How to use**: Deploy the [basic setup template](#)

- **Tool Implications:**
  - File search and code interpreter
    - Uploaded files get stored in Microsoft managed storage
    - Vector stores get created using a Microsoft managed search resource
  - Azure AI Search tool is not supported
  - Azure Blob Storage with file search is not supported

Resource
Azure AI hub

Resource
Azure AI project

Resource
AI Services

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Standard agent setup

- **Overview**: Agents use customer-owned, single-tenant search and storage resources. With this setup, you have full control and visibility over these resources, but you incur costs based on your usage.

- **Required customer resources:**
  - AI hub
  - AI project
  - AI Services/AOAI
  - Key Vault
  - Storage account
  - Azure AI Search

- **How to use**: Deploy the standard setup template

- **Tool Implications:**
  - File search and code interpreter
    - Uploaded files get stored in your Azure Blob Storage account
    - Vector stores get created using your Azure AI Search resource
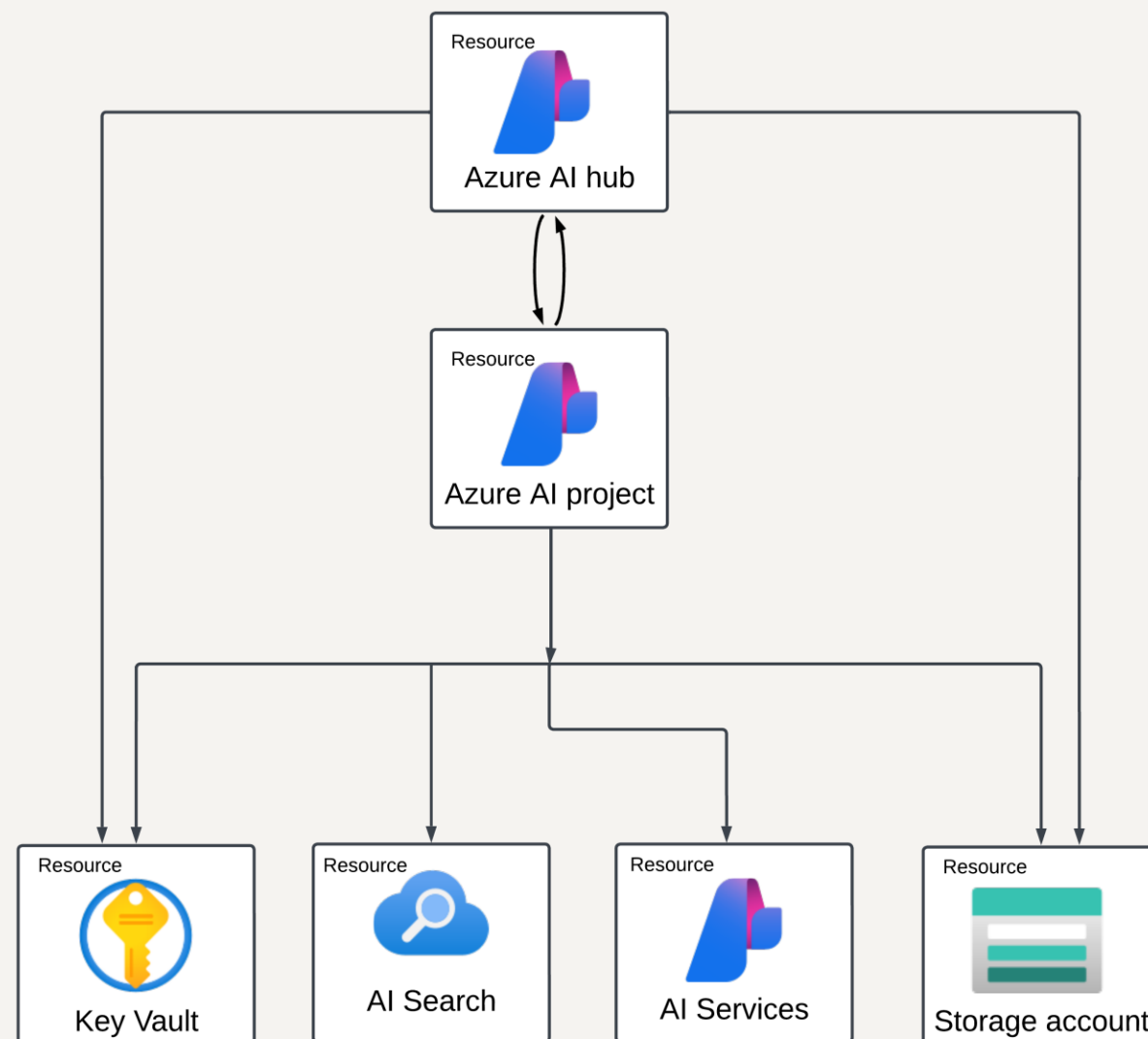
Start building agents with Copilot Studio...

Build, deploy, realize value and prototype faster for simple scenarios

Copilot Studio

Azure AI Foundry

Build agents for business processes without setting up & managing your own infrastructure...

...and scale with Azure AI

Bring your vectorized indices from **Azure AI Search**

Access 1800+ models from **Azure AI model catalog**

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Agent Sample #1
Web Search and Extraction
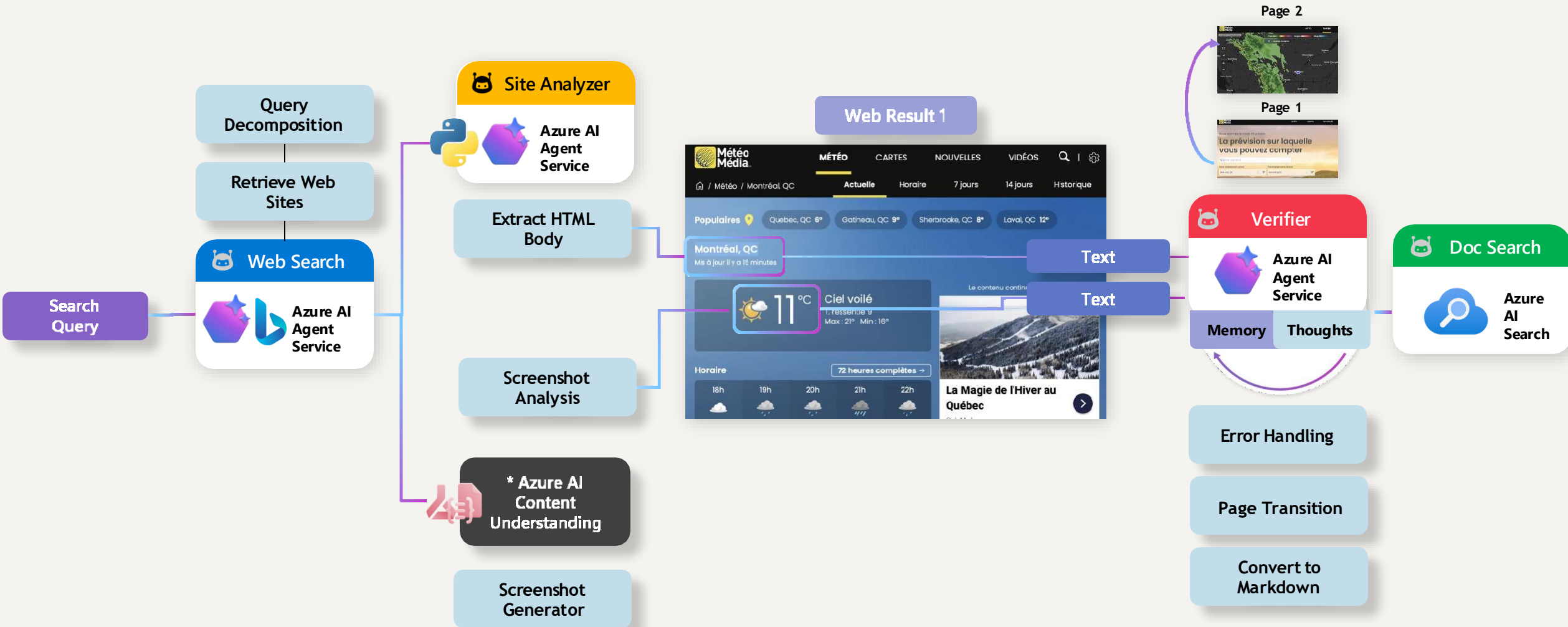
* We can use the Azure AI Content Understanding service to extract images and videos, and transform them from unstructured to structured data

Agent Sample #2
Call Center Agent Assist

Dynamic Plan

1. **Doc Agent** → Search internal support documentation for error code "E-22" and Wi-Fi troubleshooting.
2. **Video Agent** → Locate and timestamp troubleshooting video content related to Wi-Fi connection and error code E-22.
3. **Web Search Agent** → Search external sources for recent discussions, tips, or product-specific issues regarding Wi-Fi and the error code.
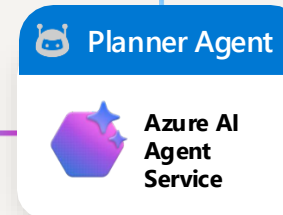
Thought based on observation
Did I find the relevant data to assist the agent?

Customer Query

My SmartHome thermostat isn't connecting to Wi-Fi, and I keep seeing an error code E-22. How can I fix this?

Query Parsing

LLM

{ Wi-Fi }

{ Error: E-22 }

{ Thermostat X10 }

Planner Agent

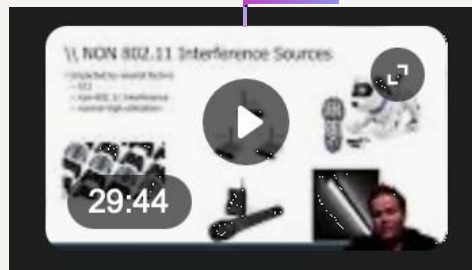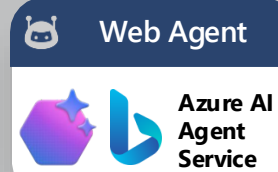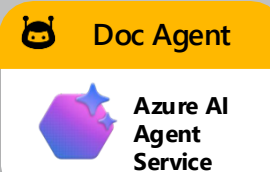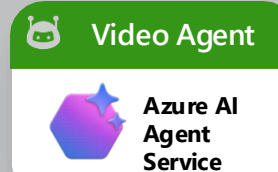Azure AI Agent Service

Thought

Plan

Action

Observation

Internal Steps from Documents

Video Link and Timestamps from Videos

Recent Online Findings from Web

* Abstraction

Video Agent

Azure AI Agent Service

Doc Agent

Azure AI Agent Service

Web Agent

Azure AI Agent Service

Gathers internal troubleshooting steps.

Summarizes video clips related to Wi-Fi and error code E-22.

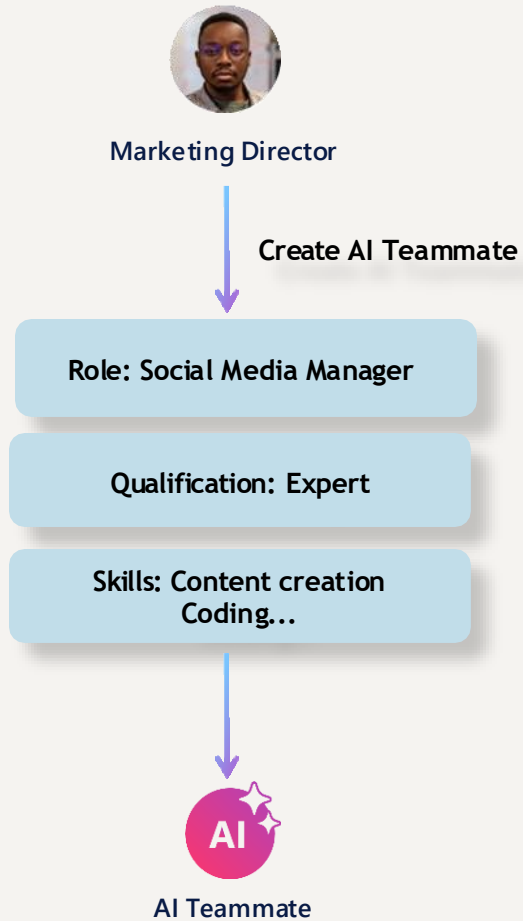Finds the latest external resources related to the issue

We can use the Azure AI Content Understanding service to extract images and videos, and transform them from unstructured to structured data
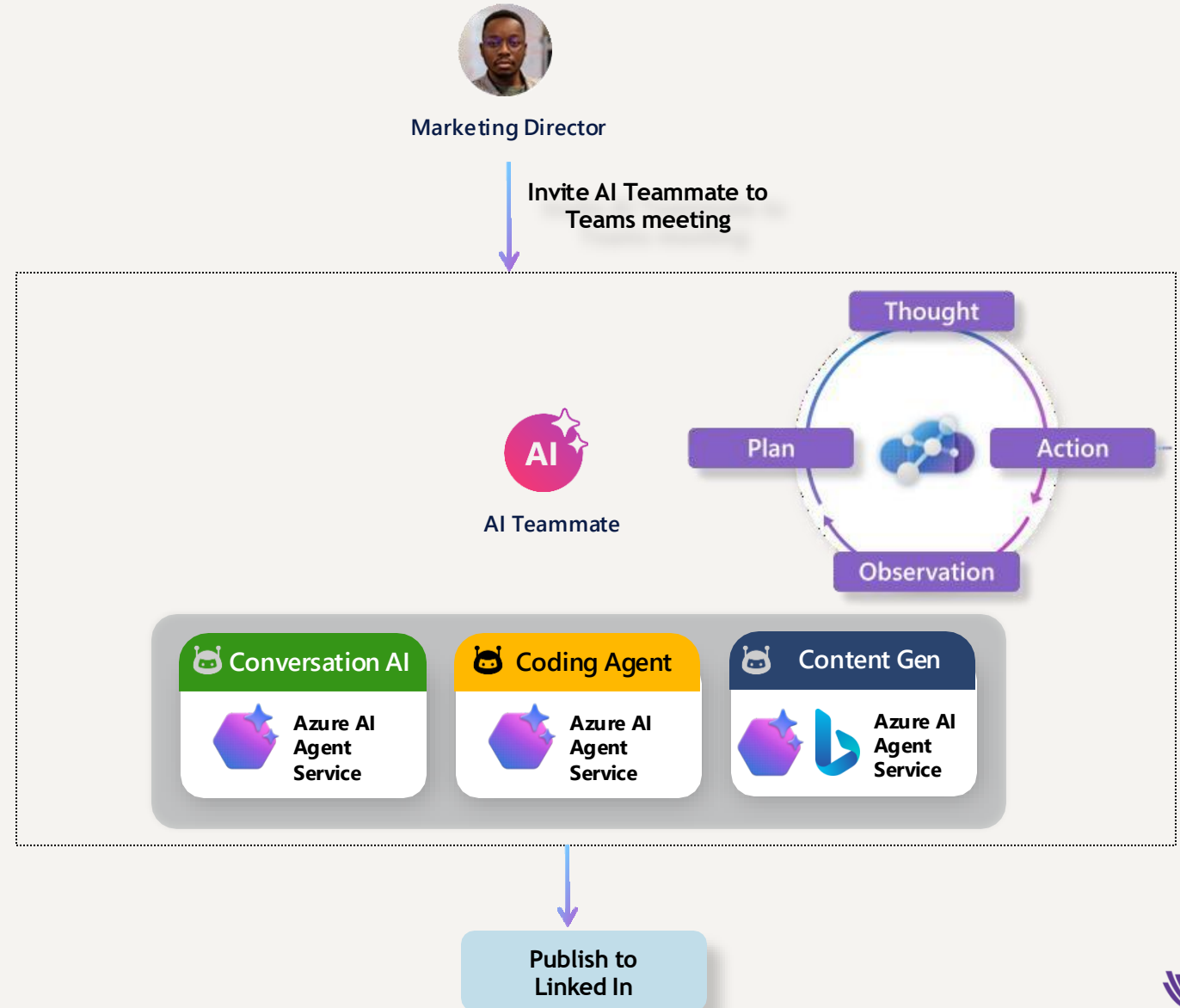
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How We Can Help

Briefing

Free 1-Hour Consultation

Unlock the potential of AI-powered agents to transform business operations with our 1-hour free briefing session. This session provides decision-makers and technical stakeholders with insights into how AI agents can enhance efficiency, automate workflows, and drive business value across industries.

Assessment

One-Week Engagement | Fixed Cost $5,000

Gain in-depth insights into the feasibility, readiness, and impact of AI-powered agents for your business with our 1-week AI Agent Assessment. This structured assessment identifies opportunities, evaluates technical requirements, and provides a strategic roadmap for AI agent adoption within your organization.

Proof of Concept

2-4 Weeks Engagement | Fixed Cost $10,000

Accelerate AI adoption with a 2 to 4-week Proof of Concept (PoC) engagement that demonstrates the feasibility and impact of AI-powered agents in your business environment. This structured PoC validates AI agent capabilities, ensures seamless integration, and delivers a working prototype aligned with your specific use case.

Implementation

6-8 Weeks Engagement | Fixed Cost $30,000

Achieve full-scale deployment of AI-powered agents with our 6 to 8-week Implementation Solution. This engagement ensures end-to-end AI agent integration, automation, and optimization for real-world business applications, delivering a production-ready solution that drives efficiency and innovation.

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What Can We Do For You?

Business Outcome Strategy Workshop & Roadmap

Understanding the complexities and best practices to get you where you want to be. A complimentary 2-hour advisory session to assess your current state and provide the guidance you need.

Deeper Solution Session & Briefing

See what Veraqor can do for you! An hour-long envisioning workshop explores the impact of digital transformation and innovation to help customers with vision-setting, strategy, roadmaps, and organizational alignment.

Architectural Design Sessions

This custom 2-hour session focuses on your technical solution objectives and aligns them with specific components of solutions to help you not only meet your goals but also capitalize on them.

Industry Best Practices, Tools & Frameworks

This custom 1-hour session focuses on guidance of best practices working directly with our specialized architects on innovative new capabilities and well-architected framework.

Complimentary Offers for Customers

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