

Building custom agents with Copilot Studio

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Agenda



- Copilot Studio overview (10 mins)
- Understanding language and AI capabilities (20 mins)
- Building custom copilots (85 mins)
 - Design (40 mins)
 - Enhance (15 mins)
 - Manage (30 mins)
- How to plan a custom copilot project (15 min)
- Closing (10 mins)





Copilot Studio overview

Two Key Concepts



Copilot

Every employee will have a Copilot

Your personal AI assistant for work

Grounded in work content like email, meetings and documents

The UI for AI



Agents

Every business process will have an agent

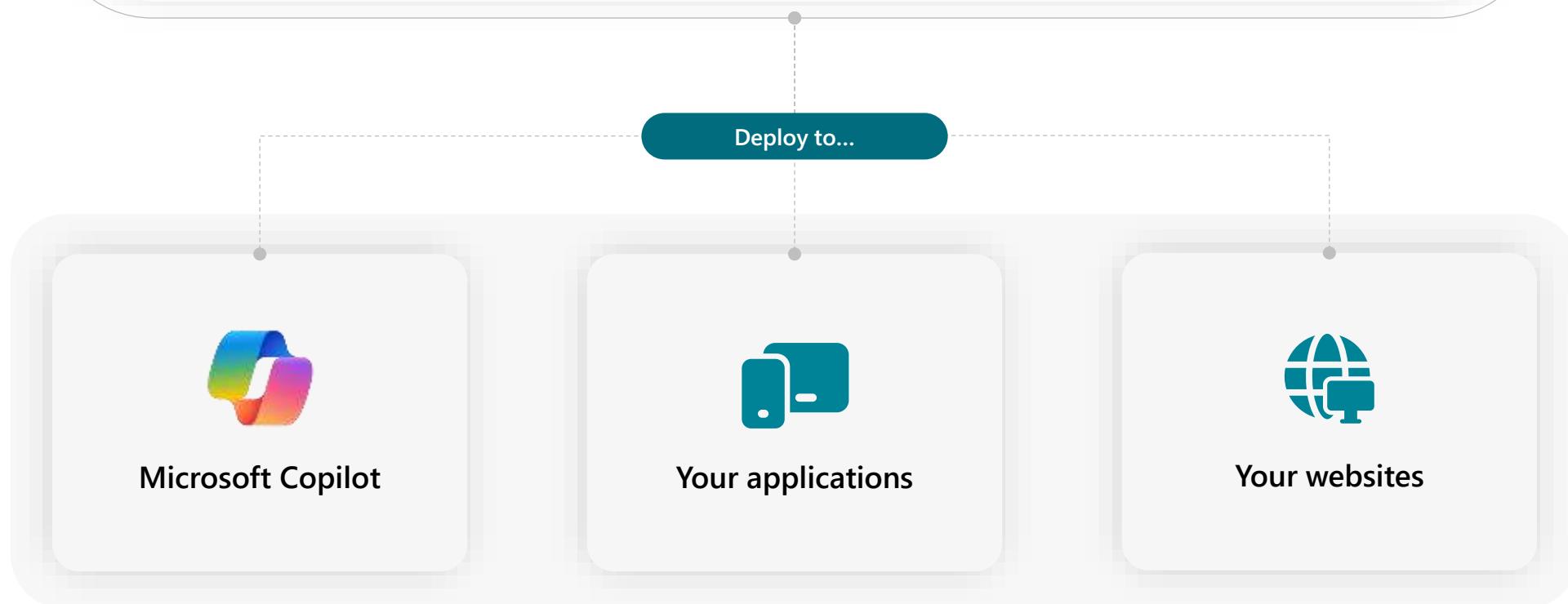
AI-powered system with actions, triggers and knowledge

Works on behalf of employees, teams and functions

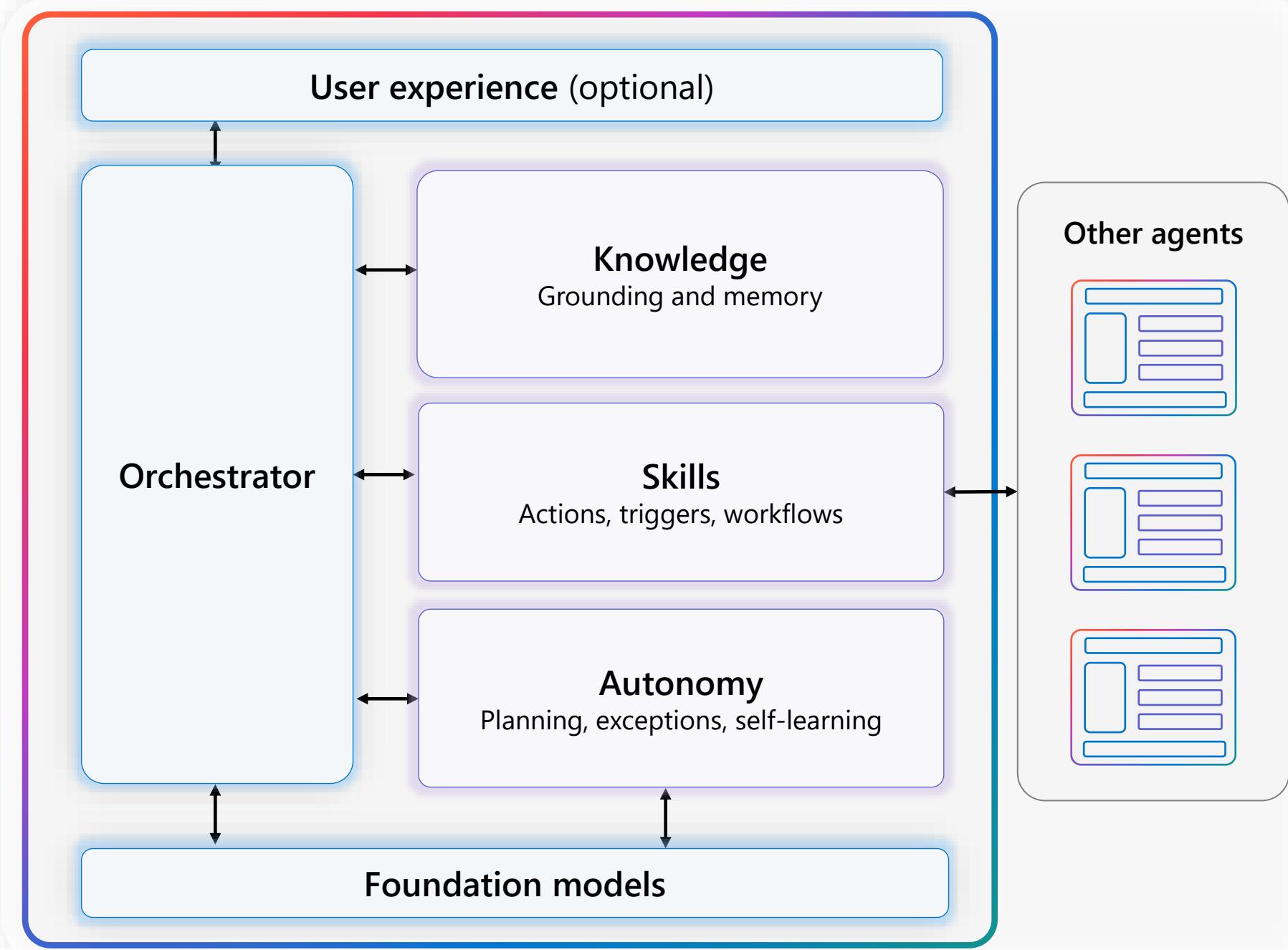
Connected to Copilot or autonomous

What is an agent?

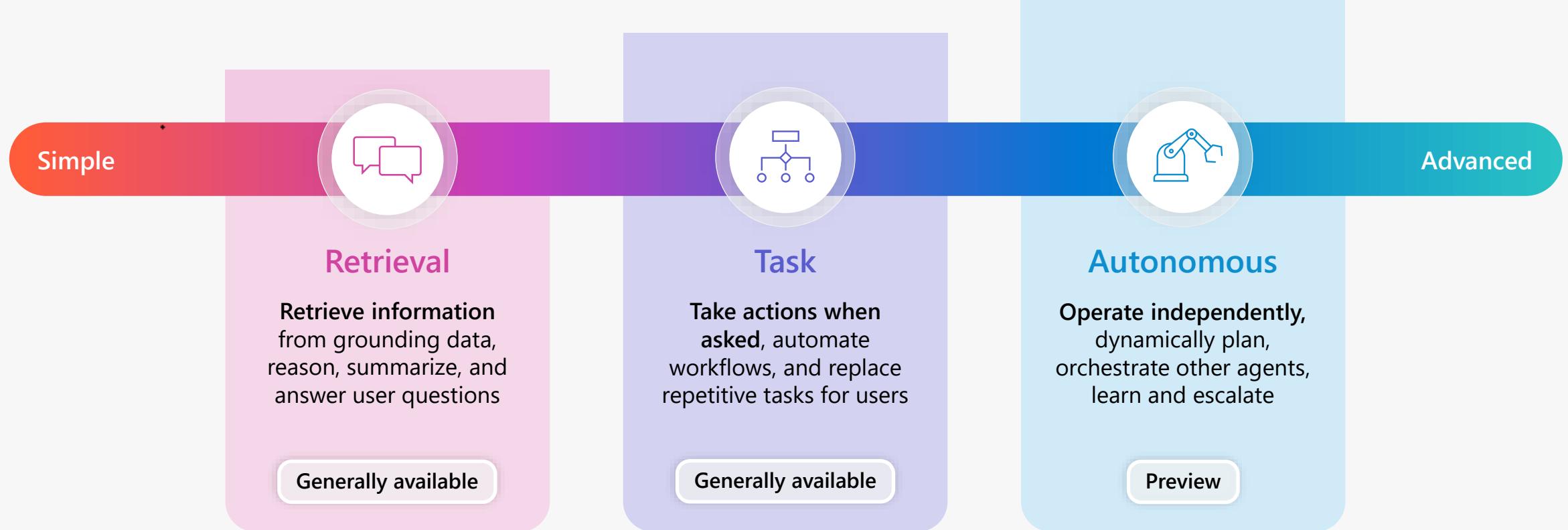
Agents use AI to **automate and execute business processes**, working alongside or on behalf of a person, team, or organization.



Anatomy of an agent



Spectrum of agents



← Agents vary in levels of complexity and capabilities depending on your need →

Explore a continuum of solutions

IT Helpdesk agent

How do I connect to the corporate network?



Simple



Project Tracker agent

What is the status of phase 2 for project X and the remaining budget?



Device Refresh agent

Request a new laptop and send approvals via IT Service tool.



Budget Management agent

Review outstanding open PO's and begin financial planning.



Lead Gen agent

The agent has identified and researched 15 new leads for you to review.



Advanced



Customer Support agent

The agent has identified new support issues and triaged to other agents.



Agent tooling

No code



<<<<<<<<

Pro code



>>>>>>>>



For End Users



Agent builder

For Makers



Copilot Studio

For Developers

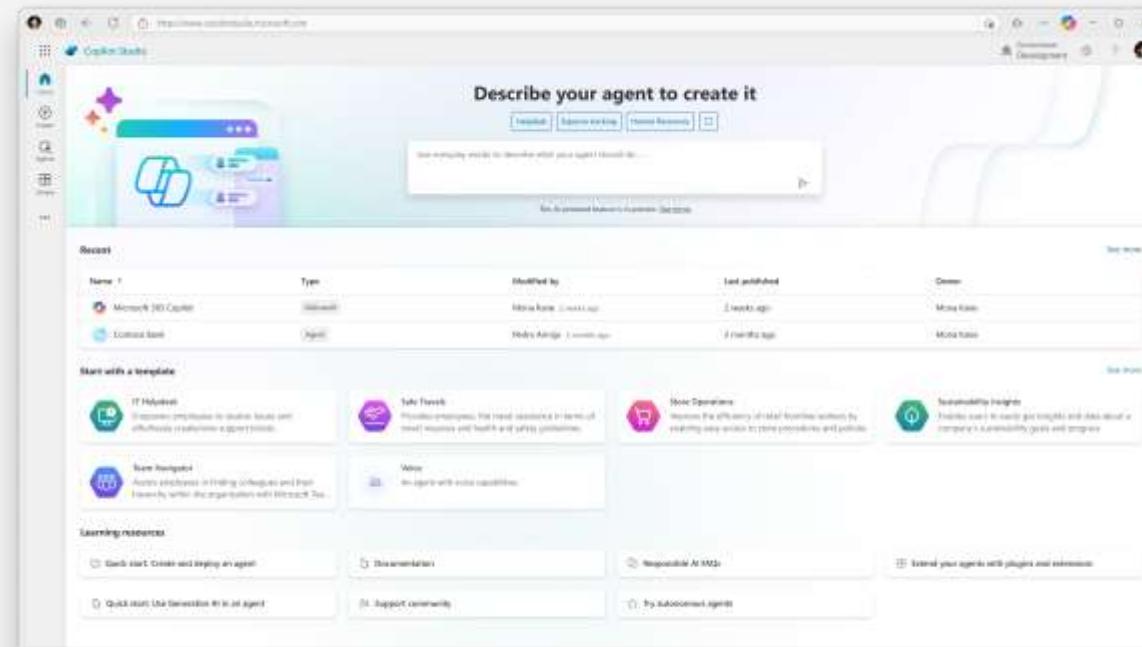


Copilot Studio + Azure AI



Copilot Studio

Copilot Studio is a low code tool for **building agents** and **extending Microsoft 365 Copilot**.



✓ Meet your users where they already are

✓ Access everything in one place

✓ Automate your workflows

✓ Integrate with your external apps

✓ Connect to your data in Microsoft 365

Copilot Studio is the platform for Copilot agents

Deploy and use Copilot agents in any system



Microsoft 365

Add Copilot agents that give Copilot focused knowledge and new skills.



Build and customize

your agents using
Copilot Studio



Your applications

Deploy Copilot agents to your website and other line of business applications.



Dynamics 365

Build Copilot agents that integrate and improve business processes.



Power Platform

Extend Power Platform with Copilot agents that transform your low code apps and pages.

Copilot Studio Core Capabilities

- Available for both Copilot Studio standalone **AND** Copilot Studio for Microsoft 365 Copilot
- Only available for Copilot Studio standalone

Intuitive UX	Visual canvas	Low code design	Pro code views	Real-time testing	Easy collaboration	Natural language to build
Conversation Design	Build + publish custom actions	Tailor specific topics	Create rich + dynamic responses	Multi-language	Multi-channel	Templates
Conversation Orchestration	Multi-turn conversations	Logic / variable management	Escalate to live agent	Multi-LLM routing	Dynamic content based on user	
Data Connectivity	AI Builder prompts	1,400 pre-built data connectors	Custom data connectors	Power Automate flows	Generative actions	Generative answers
Pro-Dev Extensibility	DIY gen AI	Bring your own Model (BYOM)*	Custom Azure Bot Framework Skills	Knowledge base extension	Custom analytics	Azure app insights telemetry
Streamlined Management	Responsible AI checks	Trusted platform	Admin center	Compliance standards	Analytics	ALM automation

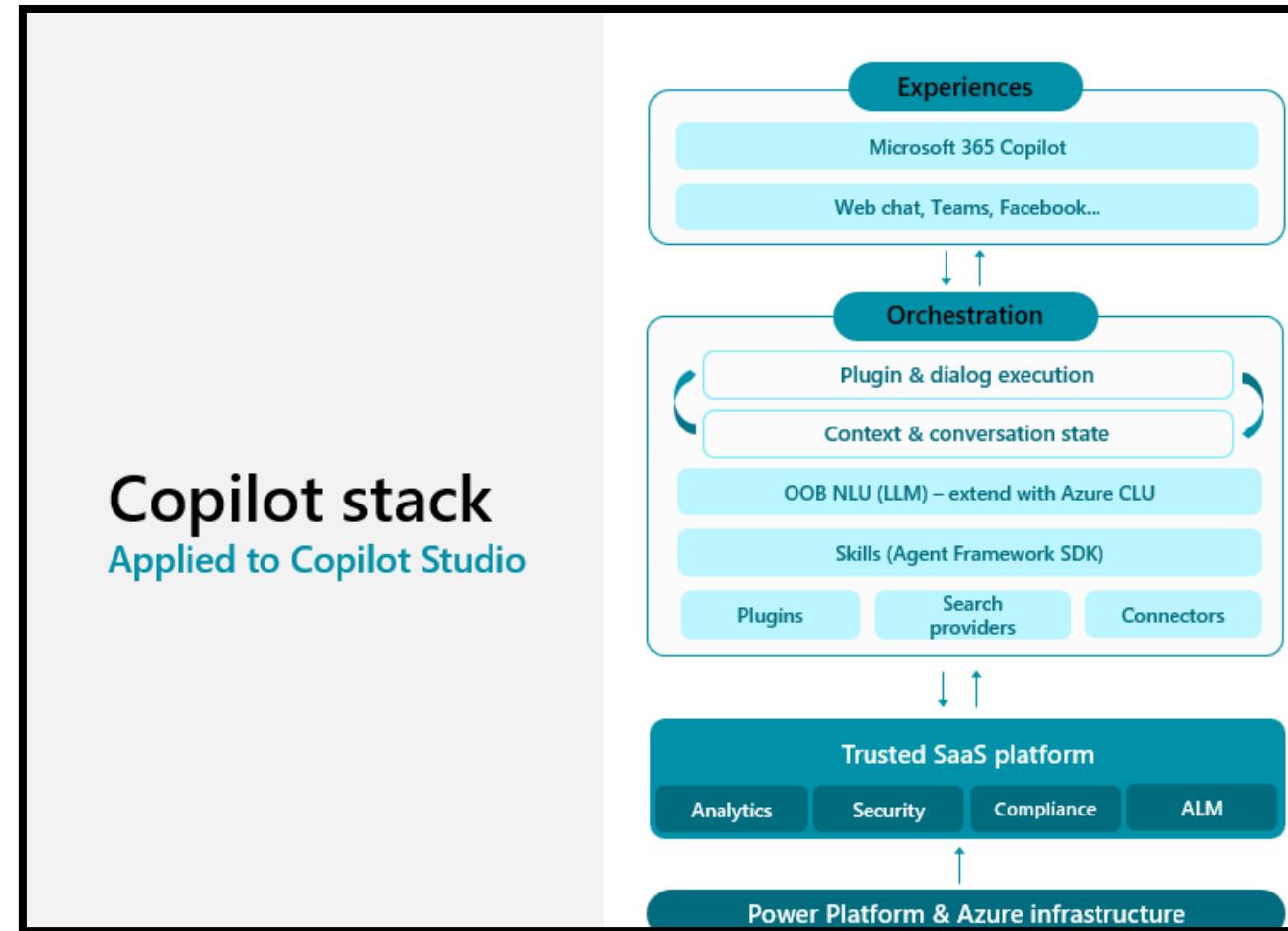
End-to-end conversational AI platform

Additional recommended content

Appendix section on this deck

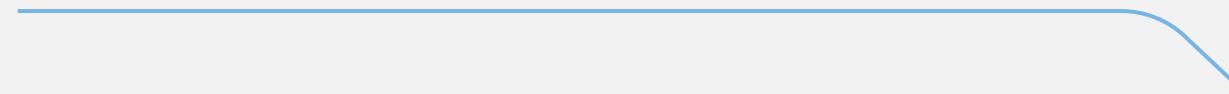
Learn more about agent architecture and how to integrate them into your enterprise.

Copilot stack Applied to Copilot Studio



Understanding Copilot Studio language and AI capabilities

Language



Natural language understanding

	 Standard NLU model	 Custom Azure CLU model	 Dynamic chaining
	<ul style="list-style-type: none">✓ Default, out-of-the-box, model that comes pre-trained, with many predefined entity types.✓ Configuration is done by adding trigger phrases and custom entities (either closed lists with values and synonyms, or regular expressions).	<ul style="list-style-type: none">✓ Supports additional languages, with native models.✓ Allows to further customize the intent triggering model for better intent recognition or to address specific industry requirements.✓ Allows for complex entity extraction (e.g., of the same type).✓ Entity extraction can also leverage Copilot Studio standard NLU.	<ul style="list-style-type: none">✓ Uses a GPT large language model.✓ Can handle multiple intents and chain topics and/or plugins.✓ Automatically generate questions for missing inputs and answers complex entities and questions from the conversation context.✓ Configuration is done by simply describing topics, plugin actions, and inputs/outputs.
	<ul style="list-style-type: none">✓ Single intent recognition per query.✓ Cannot be extended.✓ Slot-filling multiple entities of the same type in the same query requires disambiguation for each (e.g., from and to cities)	<ul style="list-style-type: none">✓ Single intent recognition per query.✓ Configuration is done in Azure and involves additional costs.✓ Has its own service limits that need to be evaluated.✓ Azure CLU intents and Copilot Studio topics must be carefully kept in sync.	<ul style="list-style-type: none">✓ As it's a generative AI feature, the licensing burn rate of messages is higher than in regular topic triggering.✓ Preview capability.

Standard NLU model in Copilot Studio

Intent recognition

Define a few trigger phrases that captures the way a customer might ask for help

[Learn more](#)

Slot-filling

Contextual understanding of what you type and can 'hop' to the appropriate part of the conversation and skip a repetitive question/comment

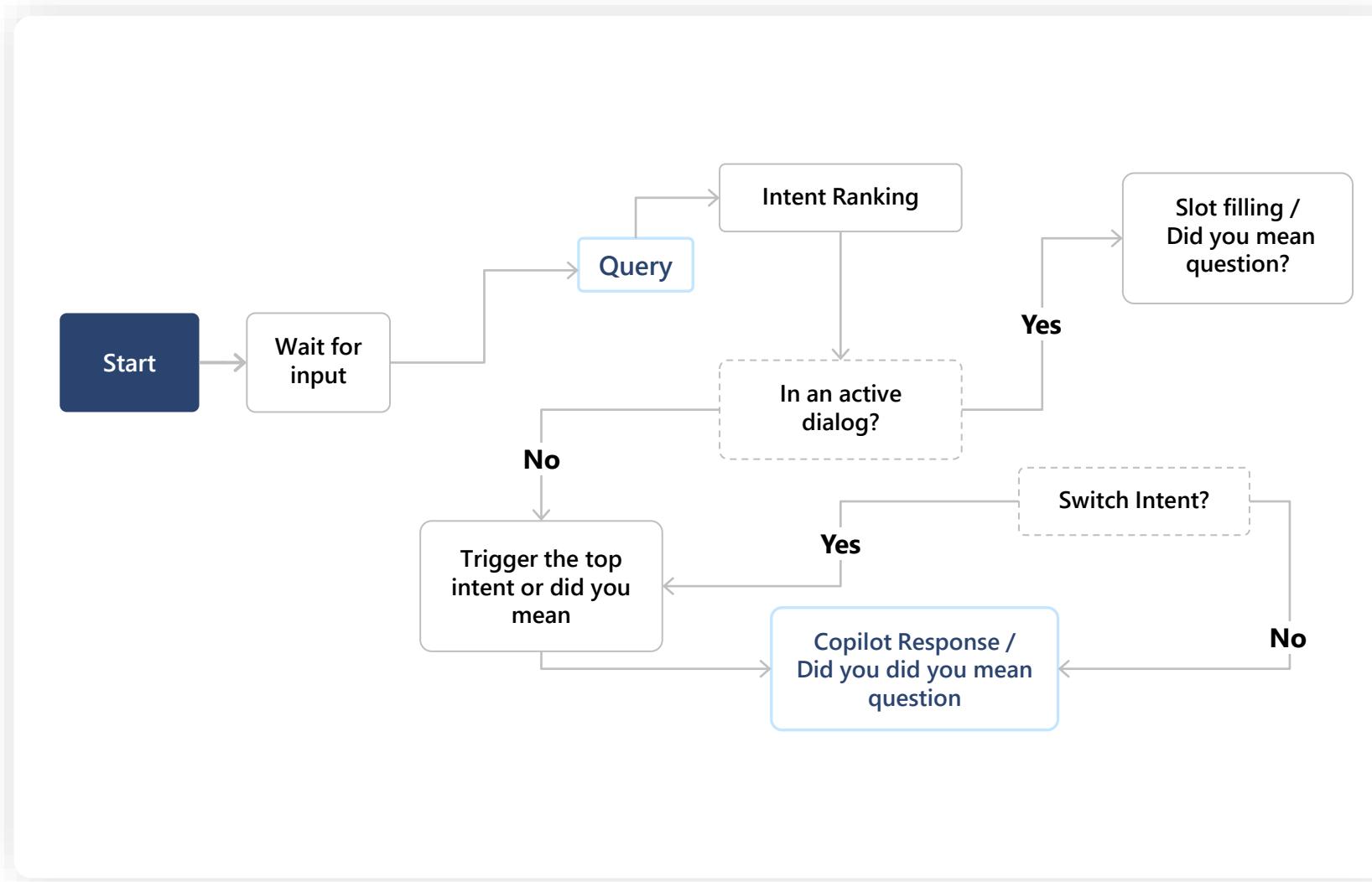
[Learn more](#)

Entity recognition

Prebuilt that represent the most used information such as age, colors, numbers, and names and the possibility to create custom entities

[Learn more](#)

Standard NLU model in Copilot Studio



Fundamentals

- New transformer-based NL model – Dual Transfer Encoder (DTE)
- Enhanced intent triggering with entities
- Slots and entities

Authoring

- Topic 'confusion' tool
- Multi-turn topic suggestions
- Regex entities

Continuous Copilot improvements

- Intent triggering auto-improvement from live traffic
- Topic suggestion from live traffic such as URL, CSV, DOCX, PDF
- Proactive slot filling
- User context aware, personal and dynamic conversations

Copilot Studio rules-based architecture

Dataverse environment

Copilot Studio agent (0, 1 or more copilots in a Dataverse environment)

User Topics (1 or M in an agent)

It's common to have 25+ user topics within an agent. To help you get started, the agent comes with 4 pre-defined user topics that you can use or delete. Within each topic you construct a conversation tree.

Conversation Tree (1 per user topic)

Consists of trigger phrases, multiple nodes (message, question, etc.), conditions, the ability to use entities and call actions (flows or skills). You can redirect/call another user topic or system topic from within a conversation tree.

Trigger Phrases
(0,1 or more in a user topic)

Prebuilt Entities
(0,1 or more)

Power Automate Flows*
(0,1 or more)

Custom Entities
(0,1 or more)

Copilot Framework Skills
(0,1, or more)

System Topics (8 pre-defined in a copilot)

Includes: Greeting, Goodbye, End of conversation survey etc. Recommend minimal editing e.g., greeting message only. Think of these as building blocks for your conversation.

Conversation Tree

Consists of trigger phrases, multiple nodes (message, question, etc.), conditions, the ability to use entities and call actions (flows or skills).

Trigger Phrases (read only in system topics)
(0, 1 or more)

Prebuilt Entities
(0,1 or more)

Custom Entities
(0,1 or more)

Power Automate Flows*
(0,1 or more)

Copilot Framework Skills
(0,1, or more)

*To use Power Automate flows in an agent built with Copilot Studio, they must be in a solution that's within the same Dataverse environment as the agent

Topic structure

Creating and designing efficient topics



Topics are discrete conversation paths that, when used together, allow for users to have a conversation with a copilot that feels natural and flows appropriately.



While there's no one size fits all, given how topics can be triggered, it's a good practice to distinguish between:

- ✓ **Topics that will trigger based on user utterances.** These can almost be seen as your entry points topics.
If you have trigger phrases that overlap multiple topics, consider having a catch-all topic and then redirect to other topics after clarifying questions. With entity extraction and slot filling, clarifying questions can be skipped if already answered.
- ✓ **Topics that will trigger when called from a redirect action, activity or event.**
These can be called by multiple topics and can have input and output variables. They're ideally reusable, bite-size, topics.
- ✓ **A topic can also be both,** triggered through intent recognition or by an explicit redirect.
- ✓ **Conversational boosting and fallback:** topics that trigger when no matching topic is triggered based on a user query.

Handling unrecognized intents

Answering for unplanned user queries

1

The **Fallback** topic gets triggered when Copilot Studio doesn't understand a user utterance and doesn't have sufficient confidence to trigger any of the existing topics.

2

There are many ways to handle unrecognized intents: using **Generative Answers** to look for the answer on various data sources and/or using the Fallback topic to integrate with other systems. For example, question answering in Azure Cognitive Service for Language allows you to offload large volumes of question-and-answer pairs. It also has a chitchat model to handle random questions to the copilot.

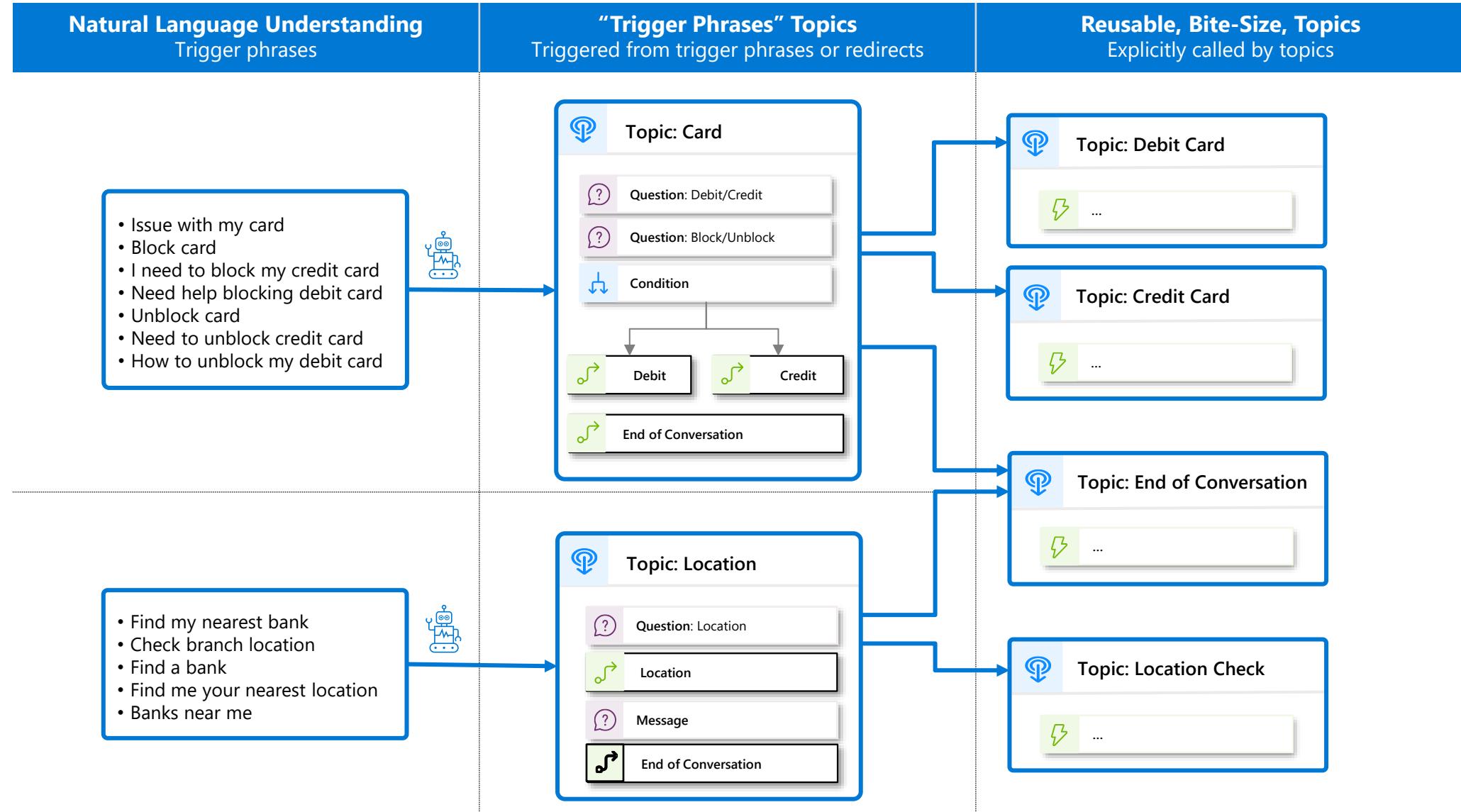
3

If Generative Answers are enabled on the copilot, the **Conversational Boosting** topic also triggers on the unknown intent event and triggers before the Fallback one.

4

While it's important to leverage the Conversational Boosting and Fallback capabilities, it's also important to make sure that the **core scenarios and topics** of your copilots are properly handled through custom topics and their outcomes defined (resolved, etc.).

Disambiguation with topic design



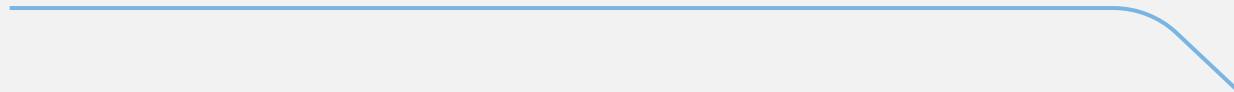
Choosing your language

The common approaches are:

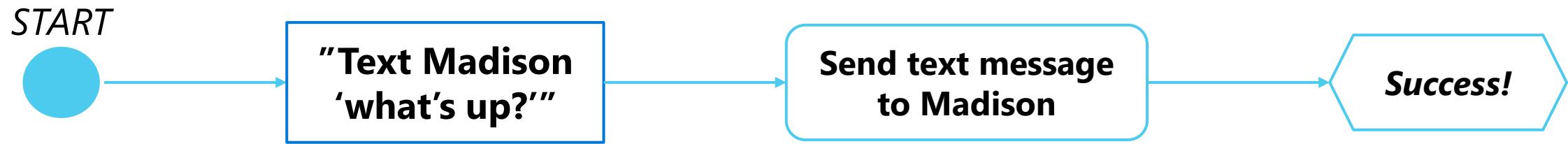
1. One copilot per language.
2. One copilot for multiple languages, with translations provided as part of the copilot configuration.
Translations need to be updated each time the copilot is updated or when new content is added.
3. One copilot for multiple languages, with translations provided real-time, at runtime, through a relay copilot sitting between the user and the copilot. This allows deploying more languages rapidly, but it also adds a dependency on a relay copilot and a real-time translation layer (e.g., Azure Service Copilot and Azure Cognitive Services Translator).

Language	Authoring canvas/End-User	Generative answers	Generative actions
Chinese (Simplified)	✓	✓	Preview
Chinese (Traditional)	✓		Preview
Czech	✓	✓	Preview
Danish	✓	✓	Preview
Dutch	✓	✓	Preview
English	✓	✓	Preview
Finnish	✓	✓	Preview
French	✓	✓	Preview
German	✓	✓	Preview
Greek	✓	✓	Preview
Hindi	✓	✓	Preview
Indonesian	✓	✓	Preview
Italian	✓	✓	Preview
Japanese	✓	✓	Preview
Korean	✓	✓	Preview
Norwegian	✓	✓	Preview
Polish	✓	✓	Preview
Portuguese (Brazil)	✓	✓	Preview
Russian	✓	✓	Preview
Spanish	✓	✓	Preview
Swedish	✓	✓	Preview
Thai	✓	✓	Preview
Turkish	✓	✓	Preview

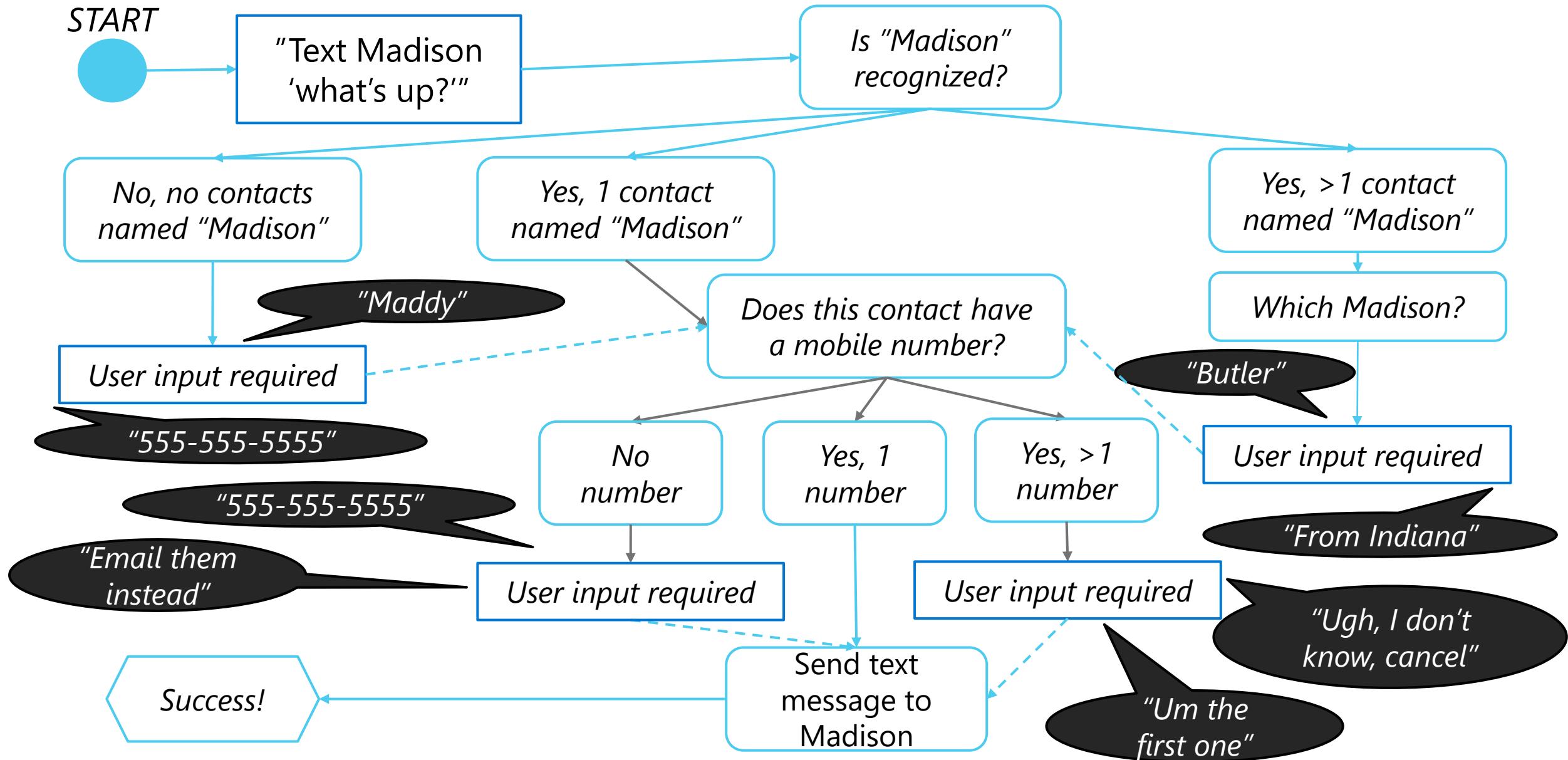
AI

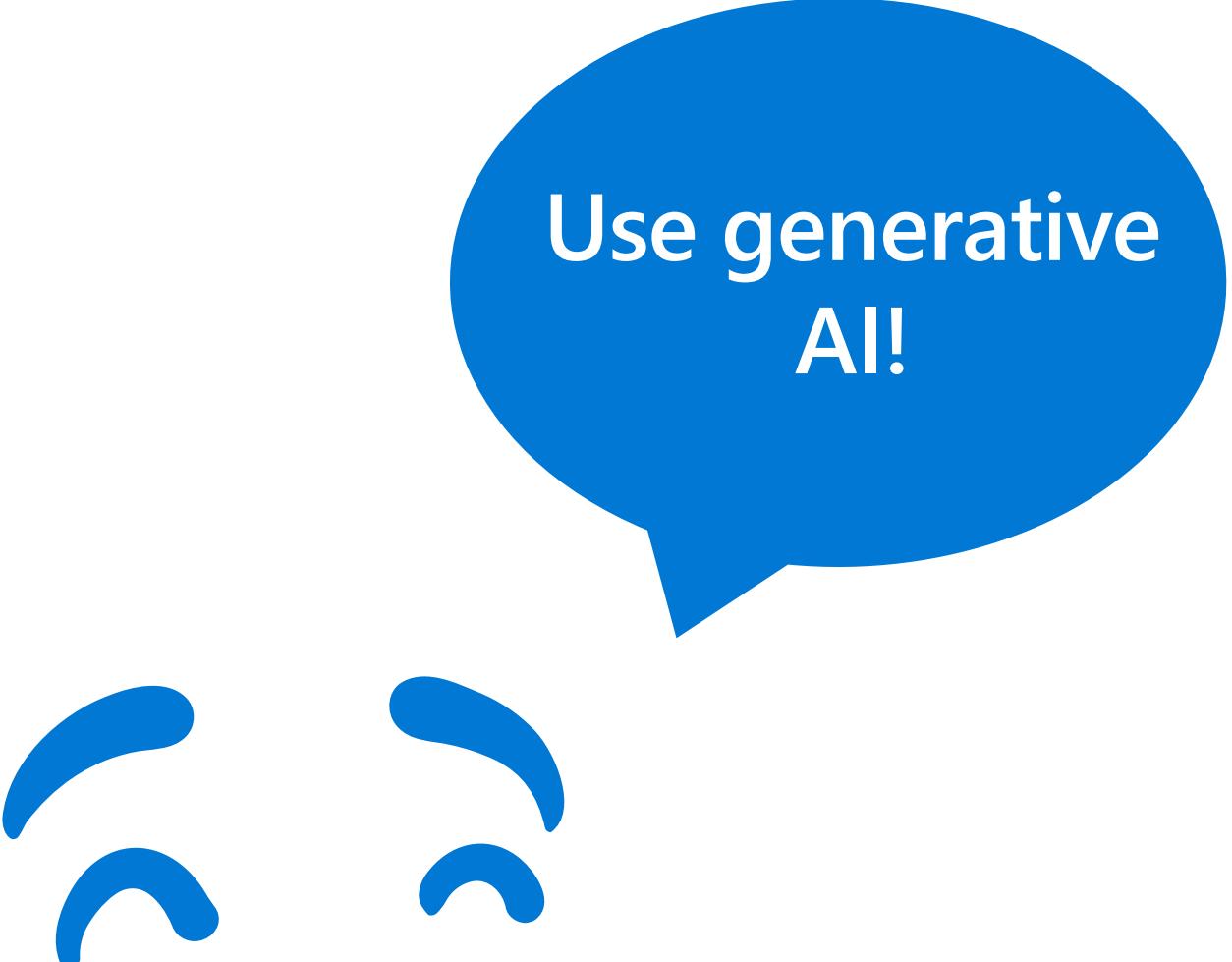


It's easy to know where a conversation begins and ends...



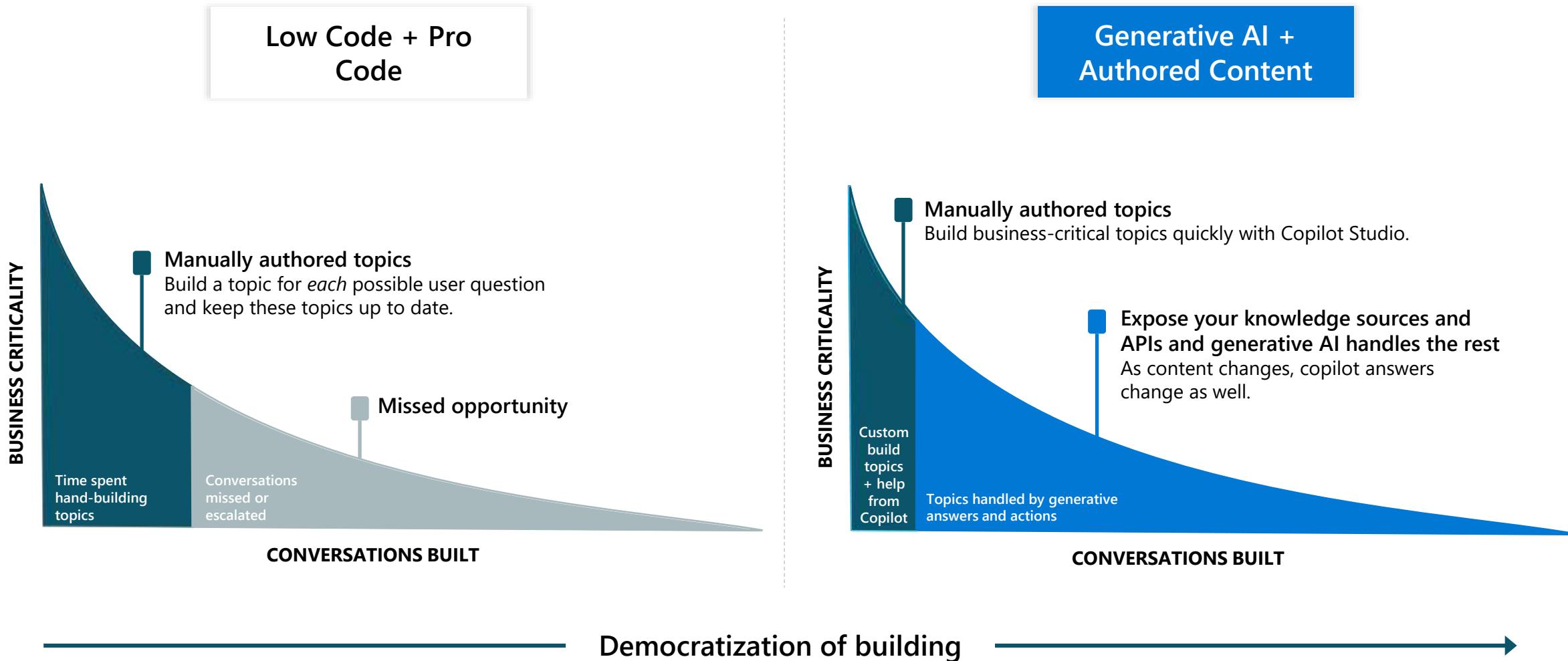
The middle is the hard part...





Use generative
AI!

Generative AI is changing conversational AI



Generative AI in Copilot Studio | Powered by Azure OpenAI Service

CONNECT AND EXTEND

M365 Copilot Azure OpenAI Studio Power Apps Power Pages Teams Dynamics 365

The diagram illustrates the integration of various Microsoft services through a central hub. At the top, a blue header bar contains the text "CONNECT AND EXTEND" and logos for M365 Copilot, Azure OpenAI Studio, Power Apps, Power Pages, Teams, and Dynamics 365. Below this is a large white box with rounded corners. Inside, a circular icon with a double-headed arrow indicates connectivity. The box is divided into sections: "Generative Conversations" (dark blue header), "Generative Assistance" (light blue header), "TO ANSWER" (light blue header), "TO ACT" (light blue header), "TO BUILD" (light blue header), "Generative Answers" (with a screenshot of a multi-turn conversation interface), "Generative Actions" (with a screenshot of a mobile app interface), and "Generative Builder" (with a screenshot of a complex flowchart). At the bottom, there are four rows of buttons: "External" (3P Search APIs, External URL), "Internal" (OneDrive URL, Documents, SharePoint URL), "Tools" (Power Platform Connectors, Copilot Topics, Skills, Power Automate Flows), and "Edit & Refine" (Topics, Trigger Phrases, Entities, Variables, Adaptive Cards, Branching).

Generative Conversations

Generative Assistance

TO ANSWER

TO ACT

TO BUILD

Generative Answers

Copilot Studio boosts conversational coverage by dynamically generating multi-turn answers based off an organization's content in real-time in response to unanticipated questions.

Generative Actions

Copilot Studio generates dialog and takes action through dynamically chaining existing building blocks which can handle queries that were not anticipated or previously built.

Generative Builder

Copilot Studio Copilot assistant helps build, design and modify Copilot topics through natural language.

External

3P Search APIs
External URL

Internal

OneDrive URL
Documents
SharePoint URL

Tools

Power Platform Connectors
Copilot Topics
Skills
Power Automate Flows

Edit & Refine

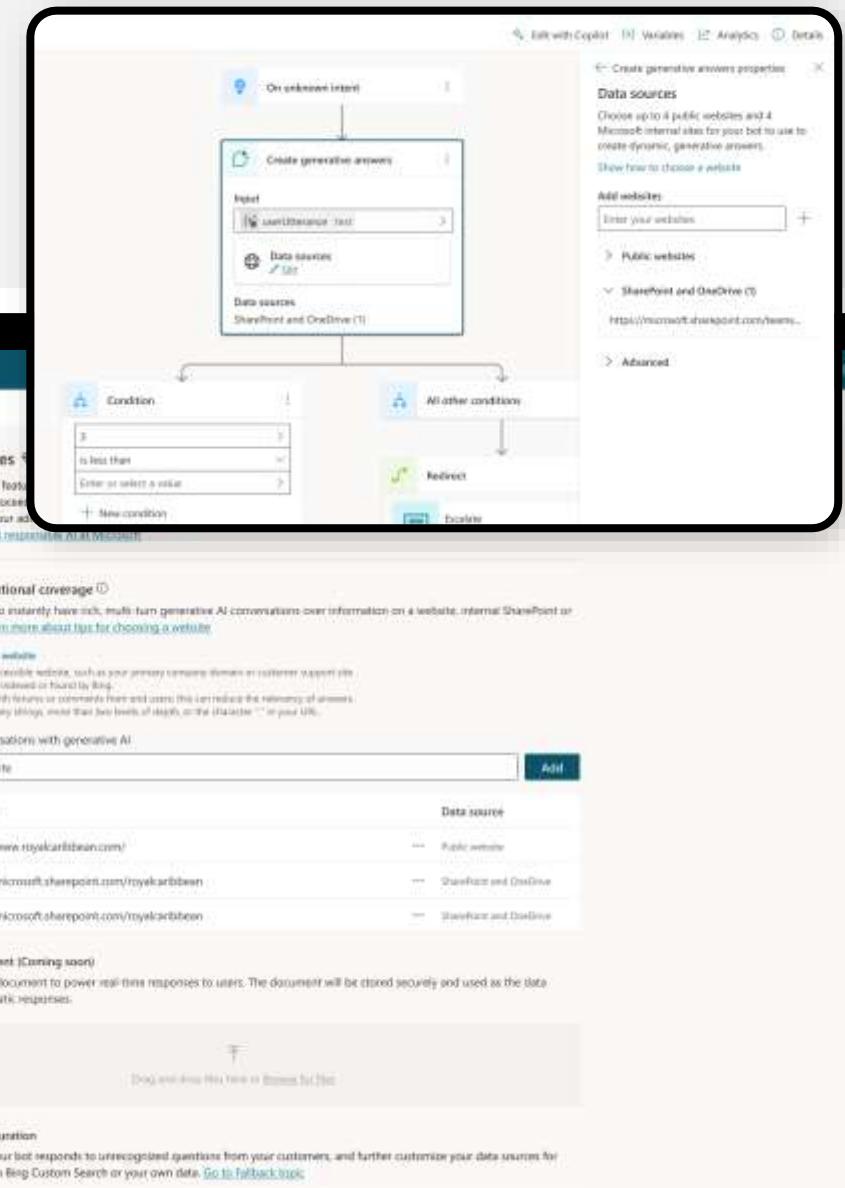
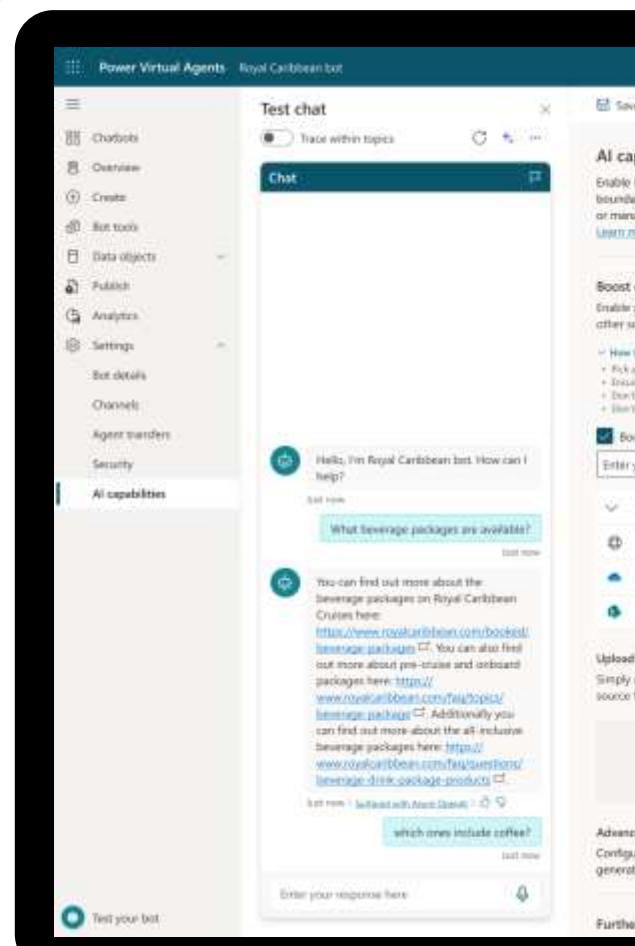
Topics
Trigger Phrases
Entities
Variables
Adaptive Cards
Branching

Generative answers

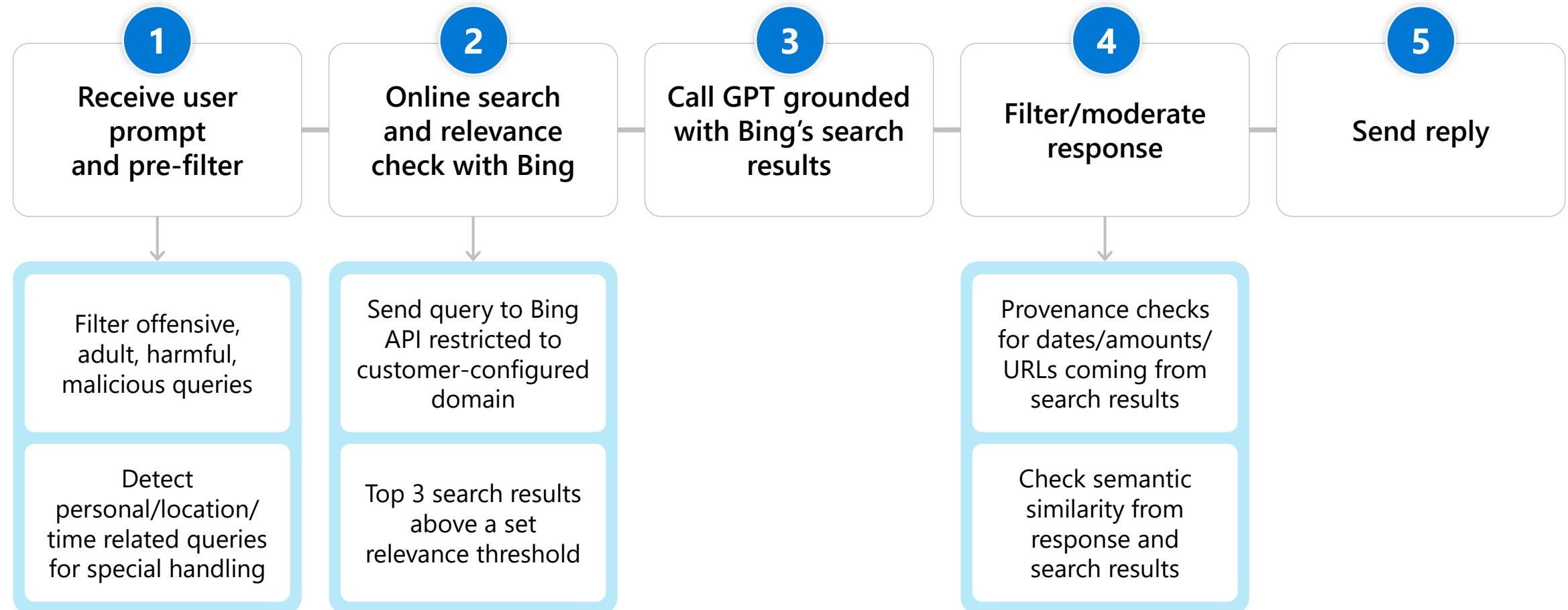
Enable multi-turn chat over your own internal and external knowledge sources and sites with generative answers

Bots can answer thousands of questions out of the box in seconds

You can even pull data from an API or other backend system and enable generative chat over it



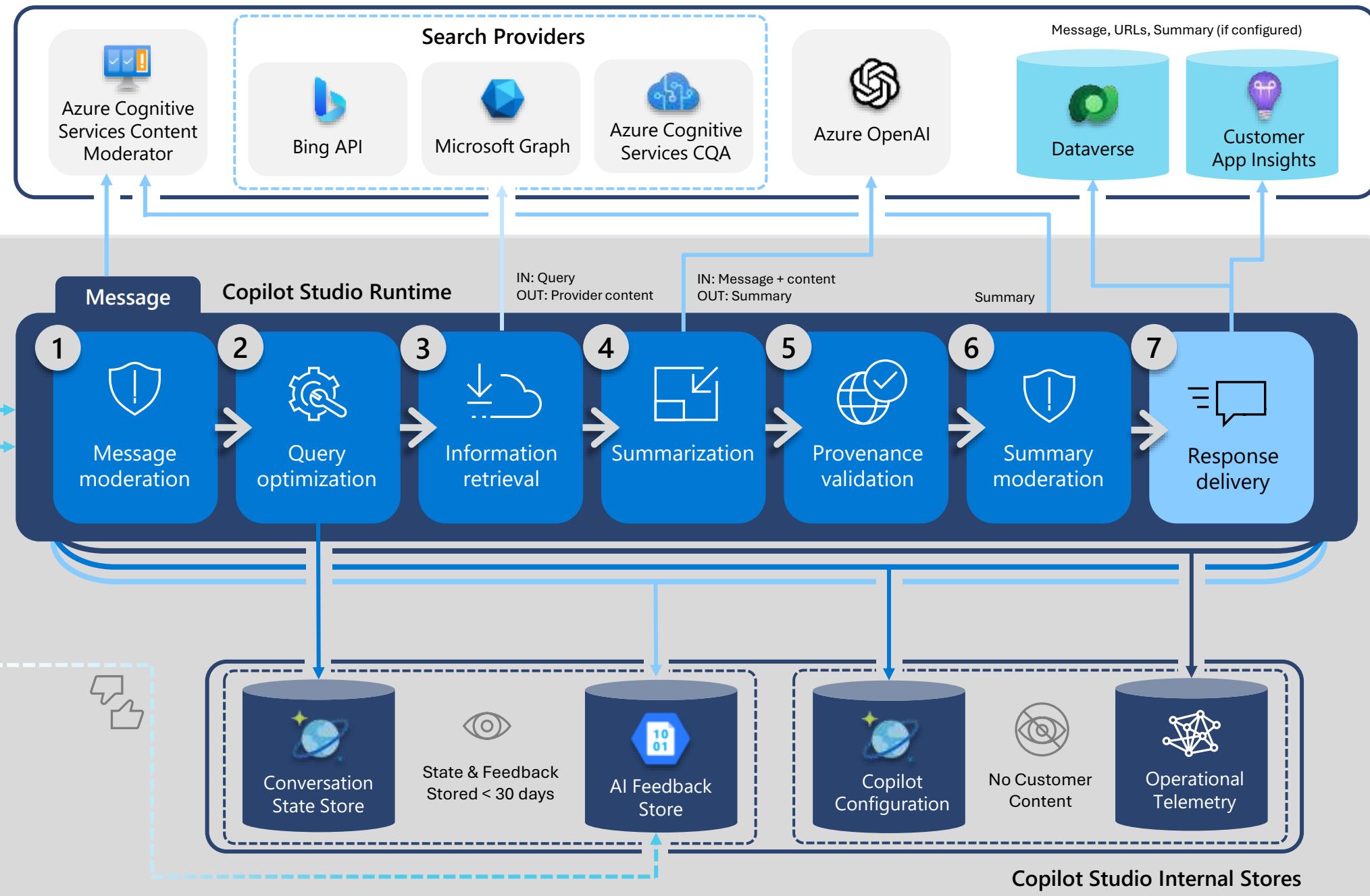
Generative Answers: How does it work?





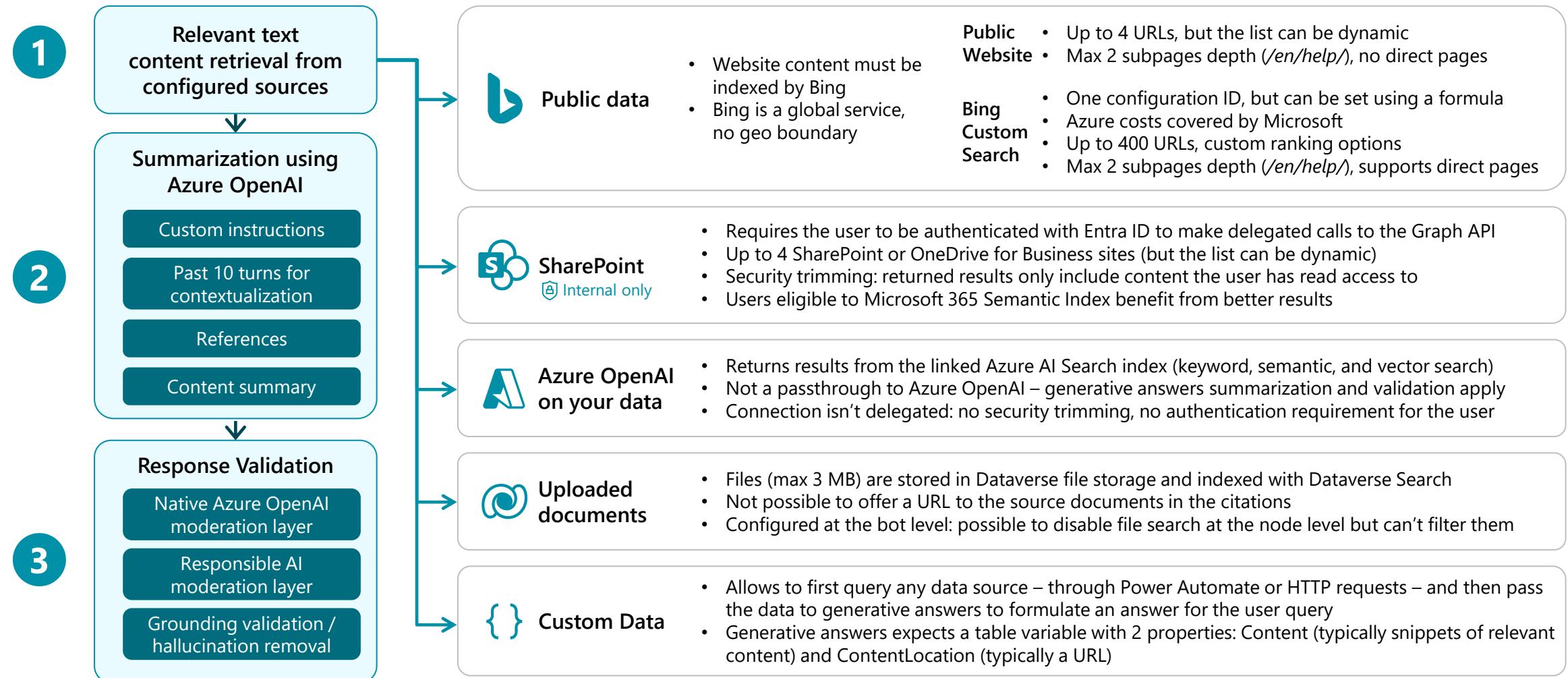
Microsoft Copilot Studio

Generative Answers Architecture



Generative answers considerations

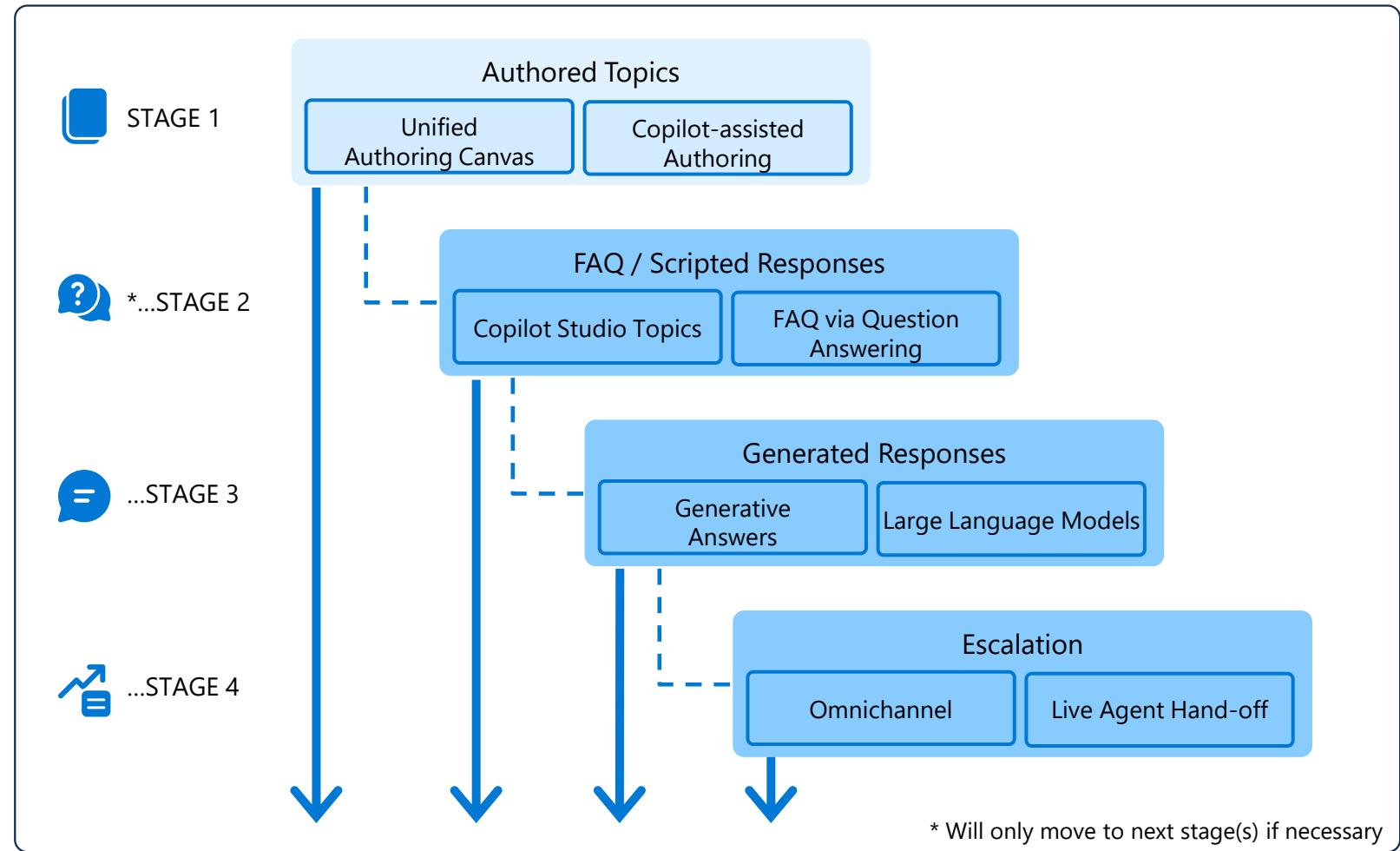
Generative answers processes and data sources



New design patterns with generative AI

New paradigm in topic responses

- This shows how generated responses are plugged into a dialog manager (Copilot Studio) to ensure that you remain in control of the user experience while allowing for authored experiences that are key functions of your copilot, scripted responses that are key for managing the answers you want scripted (such as marketing-controlled responses) work in conjunction with generated responses allowing the enterprise to remain in full control of the experience.
- This allows for an end-to-end enterprise conversational platform to build effective and managed experiences that delight customers, while reducing the overhead and cost of maintaining fully scripted experiences of the past.



Additional recommended content

Appendix section on this deck

Learn about alternative scenarios about how to infuse generative AI into topics.

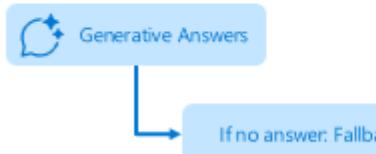
Infusing generative AI into topics example

Finding the right place for generative AI in your new or existing copilots

- Generative answers unlock new use cases for copilots where dialog paths no longer need to be fully anticipated.
- By plugging generative answers into your internal and external data sources, the copilot can search and summarize answers for user queries.
- It's not an 'either' choice: you can configure generative answers wherever you choose in your topics, and the data sources can both be dynamic, hard coded, or enriched with context variables.
- It's still a good idea to have generative answers also configured in the Conversational boosting topic that triggers before Fallback, to try to catch and answer user queries with broader data sources before they get to Fallback.
- While planning for generative answers, it's important to plan for follow-up questions (should they remain in context of the previous answer or trigger a new topic?) and how you will measure, track, and validate that the generated answers are accurate and answer the user questions.

Pattern #1:

Placing Generative Answers as the first level of unknown intent logic before Fallback.



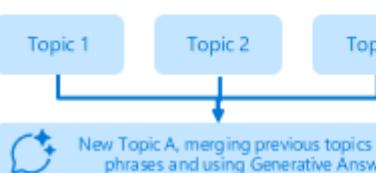
Pattern #2:

Enriching your existing Fallback



Pattern #3:

For simple, single-turn question & answer topics, group them into a single or multiple new topics with their past trigger phrases



Generative actions runtime

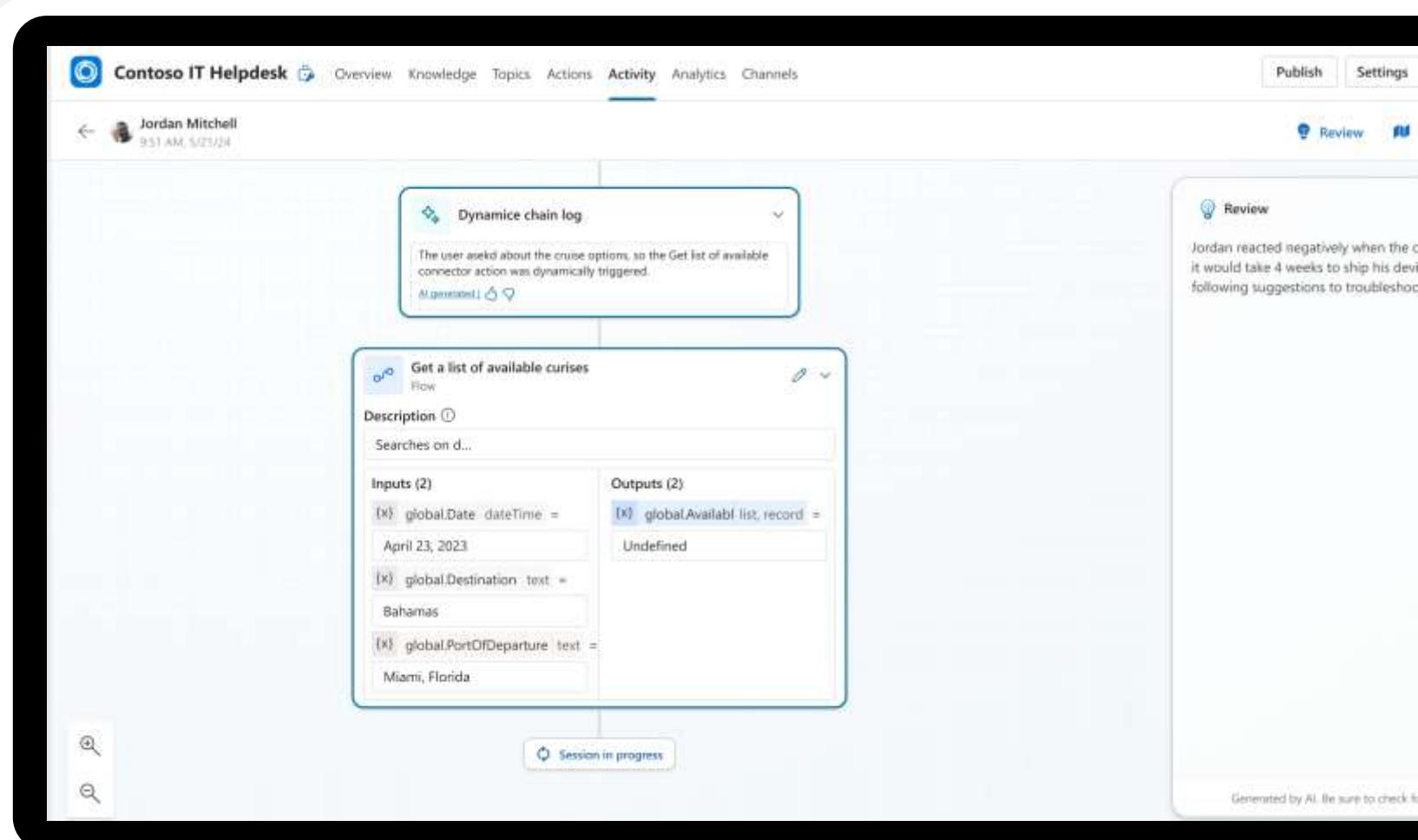
Test and trace feature to see it in action

Dynamically chains plugins together to produce actionable customer responses

Handle multi-intent queries that were not anticipated or built by the user

Automatically slot-fill further details to get the information needed for the task

Powered by the Azure OpenAI Service with “LangChain” concepts



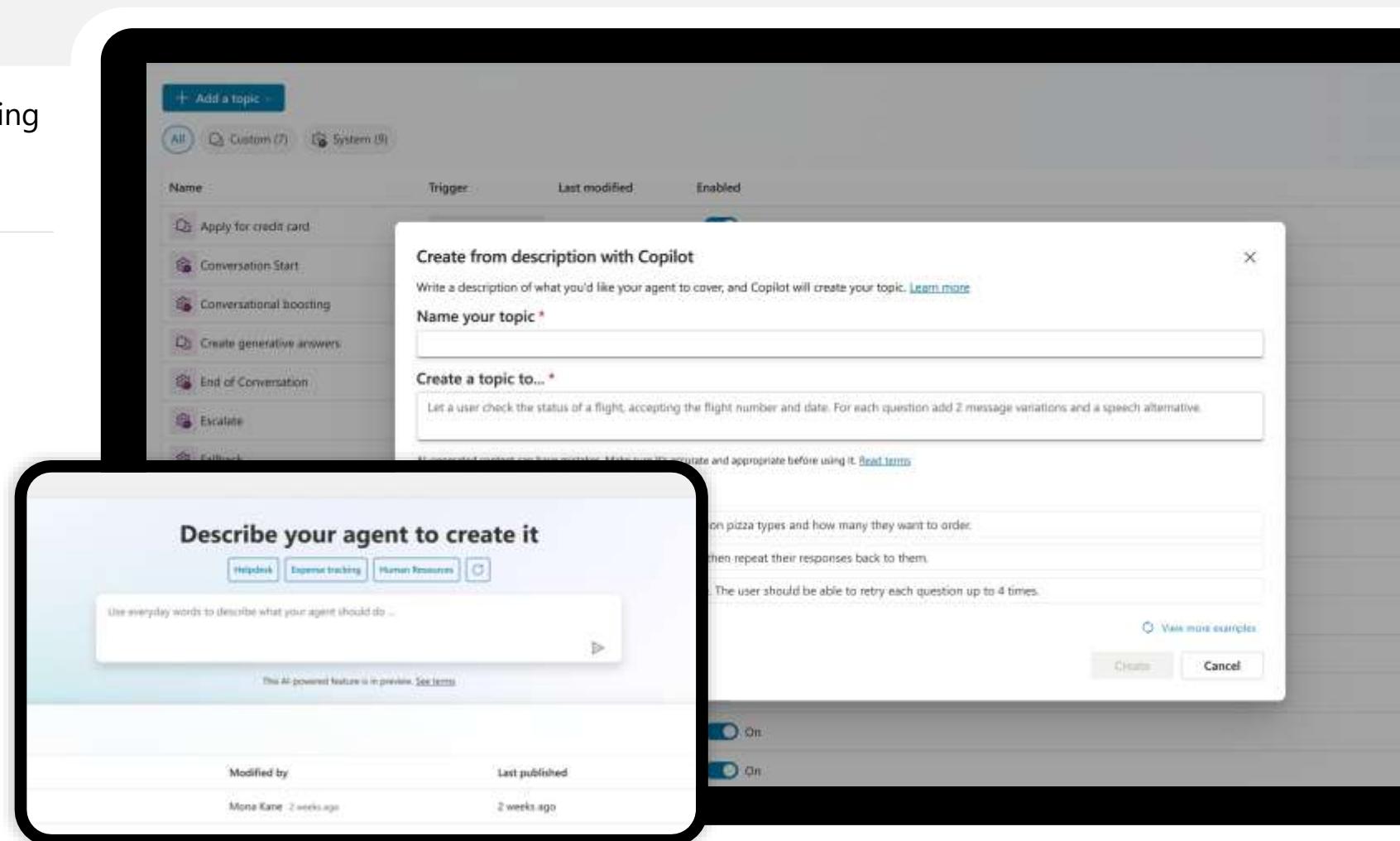
Generative building

Use AI assistance to build and modify agents - all through natural language

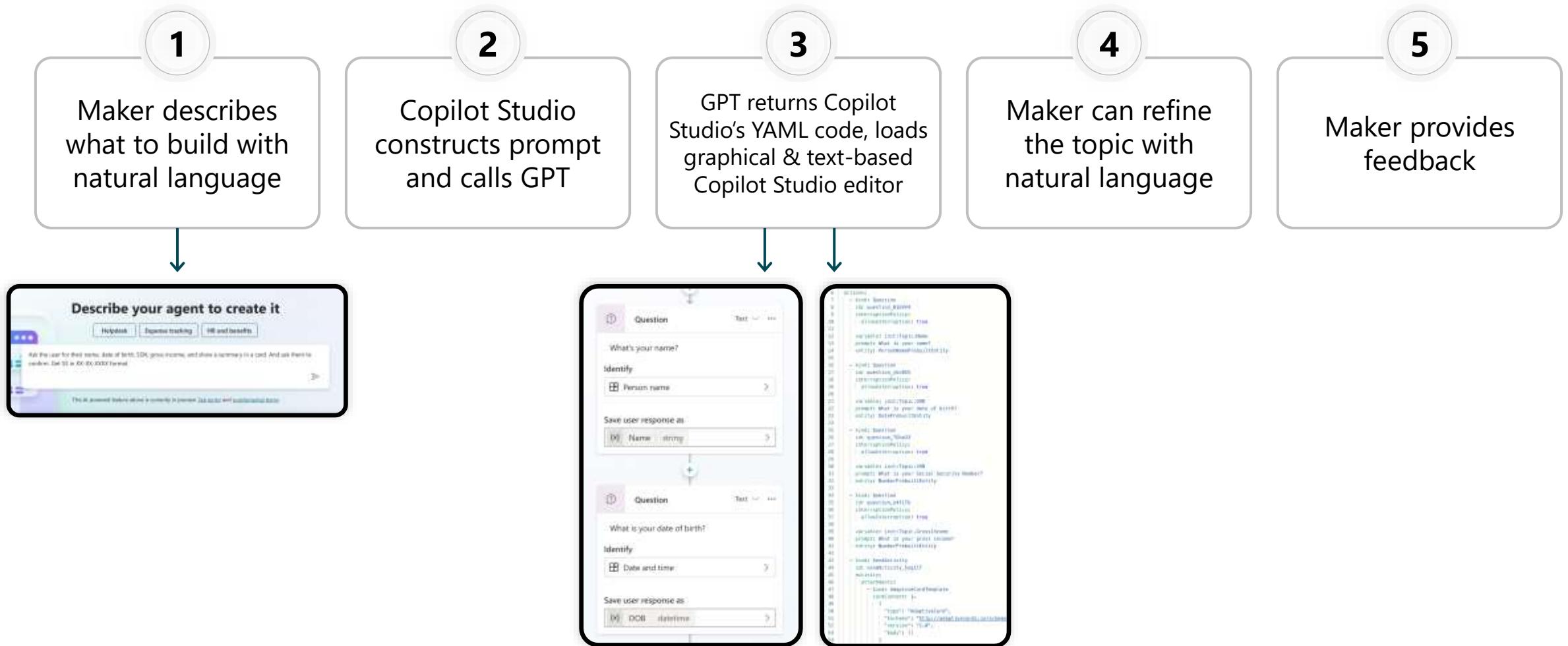
Build a complete custom agent by describing what you want your agent to do in natural language

Use the in-product embedded Copilot experience for:

- Topic creation
- Topic iteration
- Response generation
- Adaptive Card generation
- Topic improvement suggestions
- Suggested trigger phrases, topic names, topic descriptions
- Transcript generation
- Topic suggestions



How does generative building work?



Building copilots agents

Building copilot agents pillars



Microsoft Copilot Studio

Build copilots agents, your way

Design

Enhance

Manage

What's in Copilot Studio?



Agent Building Studio

Makers of all skill levels can use low code and AI to create their own agents and extend Microsoft 365 Copilot

Workspaces



Create

Quickly get started using natural language or an agent pre-built for you



Library

View your full list of custom agent components that enable knowledge and actions



Agents

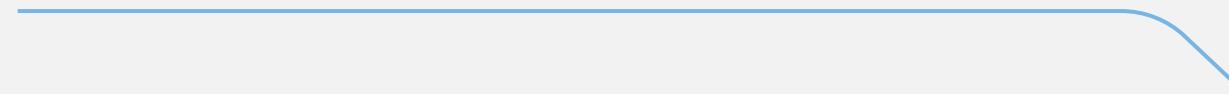
Connect to your org's knowledge, create topics, add actions, view analytics, choose which channels to deploy to and more



Admin Studio

Deploy agents securely using central administration, built-in security roles, and simple management across environments to maintain compliance and governance.

Design



Design powerful, connected agents

Handle complex queries with ease

Design intelligent conversations with greater control over the LLM such as robust variable and dialog management, logic, and responses.

Design personalized, responsive interactions

Engage employees or customers with rich, dynamic interactions that remember user content and context.

Customize your copilot how you want

Build custom plugins, connectors, and prompts, and surface your business data where you need it.

Connect to your organization's knowledge bases

Use generative AI to dynamically respond using your organization's real-time content.

Create automated workflows

Use Power Automate to trigger automation across your business with UI, API, DPA, and RPA automation capabilities.

Escalate to live agents when needed

Continue the conversation with full context with an end-to-end customer engagement platform.

Build the way you want

Users of all skill levels can create and test together

Preview

Templates

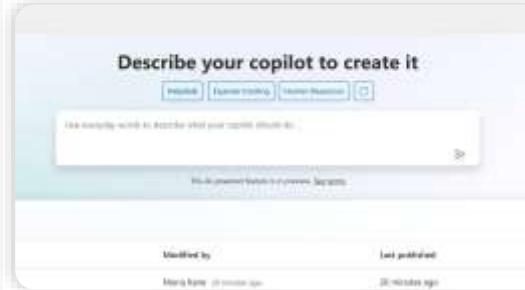


Get started quickly

Choose from a diverse set of pre-built scenarios across popular industries and functions.

Preview

Natural language



Build conversationally

Build copilots by engaging in a conversational, natural, human-like experience.

Visual canvas



Navigate a modern UX

Design your conversation by following the low code graphical interface.

Code



Switch to YAML

Share and re-use topic logic between developers and copilots in a side-by-side view.

Explore agents prebuilt for you

Choose from a variety of agents that are ready to deploy or customize further to fit your business needs

Copilot Studio

M365 Copilot Business Chat

Safe travels	Team navigator	Self-help	IT helpdesk	Case management	Idea Coach	Prompt Coach
Leave management	Awards & recognition	Weather	Wellness check	Benefits	Career Coach	Learning Coach
Inclusivity	Financial insights	Citizen services	Sustainability insights	+ more coming soon	Writing Coach	+ more coming soon

* Some listed options may only be available in preview

Customize your agent

Easily tailor your copilot's building blocks to meet your unique business needs in a comprehensive, end-to-end studio

Building blocks



Knowledge

Existing enterprise data in or outside of M365 that copilot can query



Actions

Tasks and processes your copilot can perform across LOB services/apps



Logic

Defined conversation paths for your copilot to follow when triggered



Channels

Where and how your end users engage with your copilot

Knowledge

Add your **public and enterprise data** sources using copilot connectors.

Your copilot will be able to **dynamically generate multi-turn answers** in real time using your enterprise data.

Allows you to create an **immediately useful** agent.

Supported data sources include:

Public websites

SharePoint / OneDrive

Dataverse

Microsoft Fabric (coming soon)

File uploads

Microsoft Graph

Add available knowledge sources (Powered by Copilot connectors)

Users with edit permissions for this copilot can also reuse your connections for other topics within the copilot. [Manage security settings](#)

Keywords for the data you're looking for

Featured

- Add existing knowledge**
Converts previous data sources to knowledge for this copilot
- Public website**
Incorporate any relevant web content found on Bing
- Files**
Upload documents from your local computer
- SharePoint and OneDrive**
Securely integrate and manage internal data
- Dataverse**
Customize and deploy structured data tables
- Microsoft Fabric**
Accelerate data analysis with AI capabilities

Bring your enterprise data (16)

- Enterprise website (preview)**
- Azure DevOps (preview)**
- Custom connector (preview)**
- Jira (preview)**
- ADLS Gen2 (preview)**
- Oracle SQL database (preview)**
- ServiceNow (preview)**
- File share (preview)**
- CSV (preview)**
- Microsoft SQL (preview)**
- MediaWiki (preview)**
- Salesforce (preview)**
- Confluence (preview)**
- Azure SQL (preview)**
- Zendesk (preview)**
- Power Platform connector**

Better SharePoint Search

Lower latency & higher quality responses

New PDF parsing mechanism **reduces latency by 45%**

Improved chunking, document & passage selection logic
improves response quality by 40%

Significant quality improvements to the underlying search itself by transitioning **from keyword to semantic index**

15% more answers with relaxed summarization prompt

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Overview of Microsoft Search

Set up

Manage access to files and sites

US government environments

Microsoft Search FAQs

› Get insights

› Provide answers

› Data sources

› Microsoft Graph connectors

› Federated Search connectors

› Semantic index

Semantic index for Microsoft 365 Copilot

› Customize and configure

Learn /

Semantic index for Copilot

Article • 08/28/2024 • 4 contributors

In this article

[What is an index?](#)

[How the semantic index helps manage your data](#)

[Features](#)

[How the semantic index works](#)

[Show 15 more](#)

Semantic index is generated from content in [Microsoft Graph](#). It's used to aid in the generation of contextually relevant responses to user queries. It allows organizations to search for content based on vectors (mathematical representations of features or attributes) and return relevant results. Combined with enhancements across the Microsoft Graph, semantic index connects relevant information in your organization. It's built on Microsoft's comprehensive approach to security, compliance, privacy, and respects all organizational boundaries within the organization.

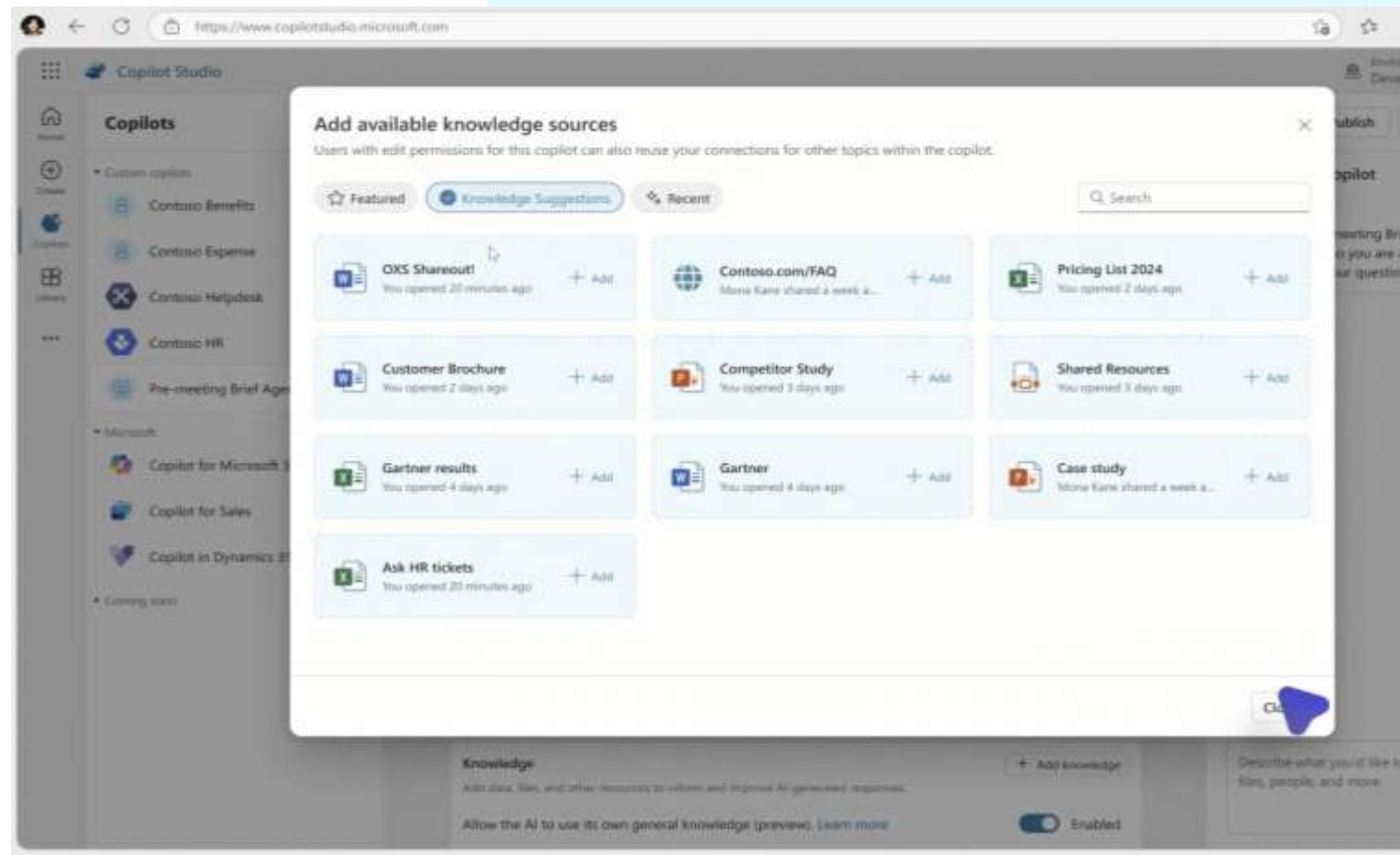
[Learn more](#)

Knowledge Curation

Analyzes your knowledge base to provide **visibility** over which sources are being used and where there are **unanswered questions** and themes.

Provides a **guided way** to filter sources and even **add custom knowledge** to fill gaps in the knowledge base

Recommends knowledge from within your organization that is relevant to your copilot and scenario.



Actions

Easily connect to your key line of business systems.

Enable your agent to automate your business processes and complete tasks.

Types of actions:

Prebuilt connectors

Choose from 1400+ prebuilt Power Platform connectors to popular data sources and apps

Custom connectors

Create a custom connector for any publicly available API

Flows

Bring in automated workflows built using Power Automate

Prompts

Provide custom instructions to the GPT model using AI Builder

Skills

Add a bot built using Azure Bot Framework as a skill

Step 1 of 3: Choose an action
Create an action or browse through our list of actions you want to use to get information from external sources. [Learn more](#) X

Discover an action
Search for flows, skill actions, and commonly used connector actions

Search

11 actions found

Connectors Custom Connectors Flows Skills Dataverse

 Untitled Get information about industries, solutions, services and cont...	 Run a flow built with Power Automate for desktop Desktop flows
 Delete a row Excel Online (Business)	 Run script Excel Online (Business)
 Get a row Excel Online (Business)	 Run script from SharePoint library Excel Online (Business)

Cancel

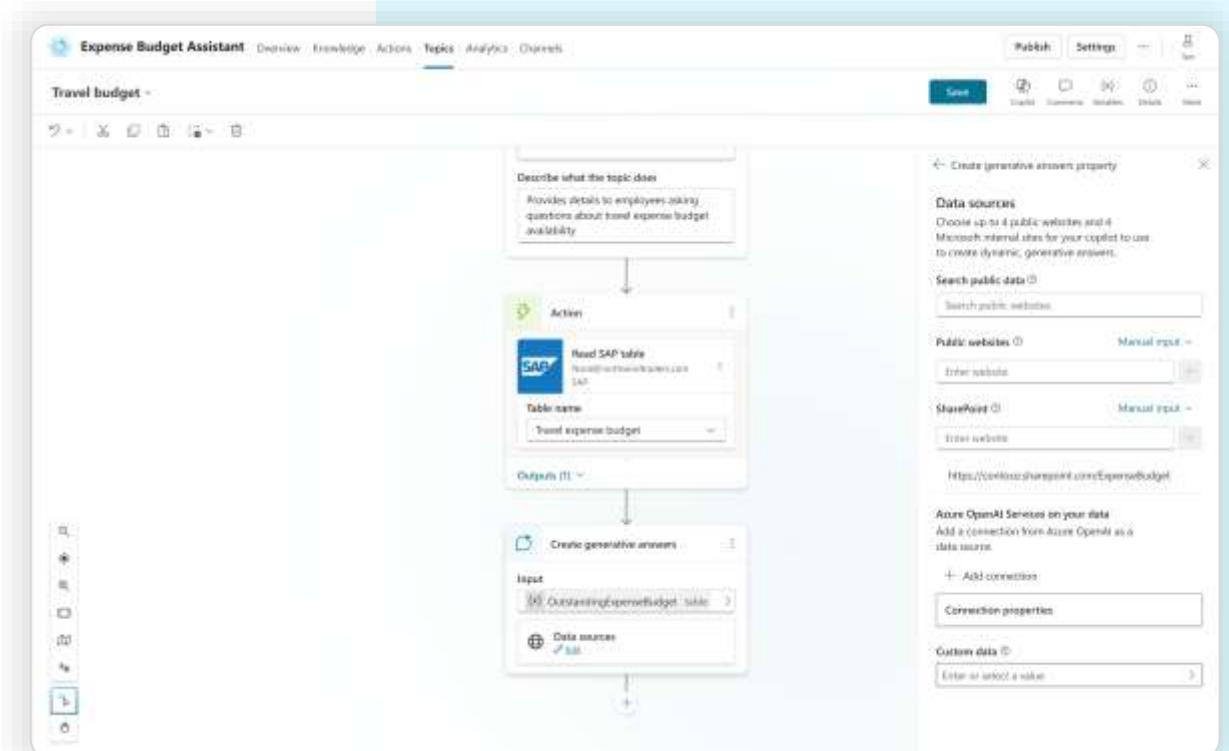
Logic

Have **complete control over critical scenarios** by designing specific step-by step topics.

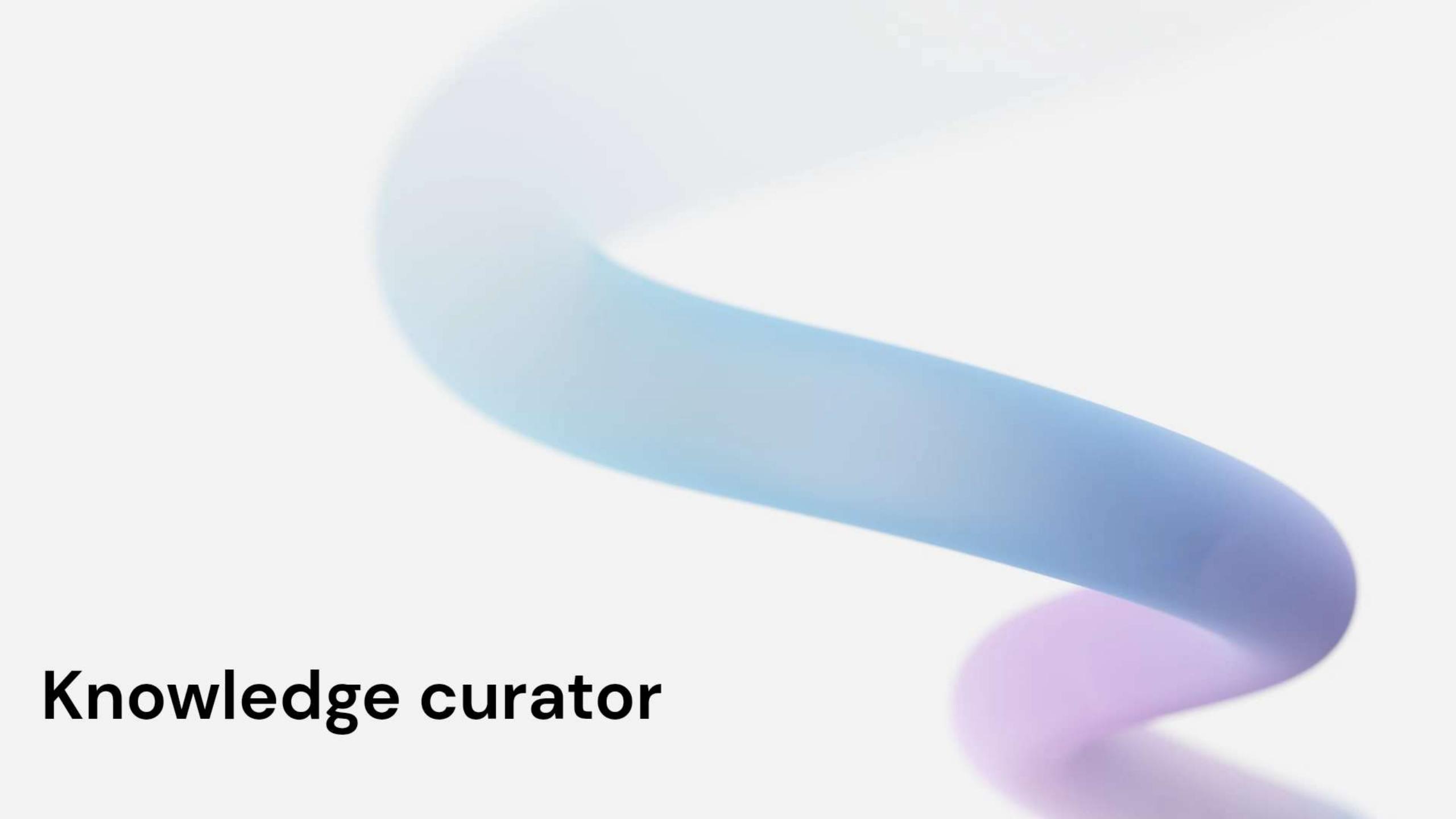
Enable your agent to **automatically select the most appropriate action or topic** to respond to a user using generative AI.

Easily mix and manage both **generative and custom dialog** in one system.

Connect to your contact center so your copilot can escalate and hand off the conversation with full context to a live human agent.



Creating an agent with generative orchestration

The background of the slide features a subtle, abstract design. It consists of several thick, curved bands that overlap each other. The top band is a light blue color, transitioning into a darker shade towards the right. Below it, a thinner band is a light purple color, also curving to the right. The overall effect is one of depth and movement.

Knowledge curator

Autonomous agents

Handle variability and complexity at infinite scale

Independently begins work based on autonomous triggers

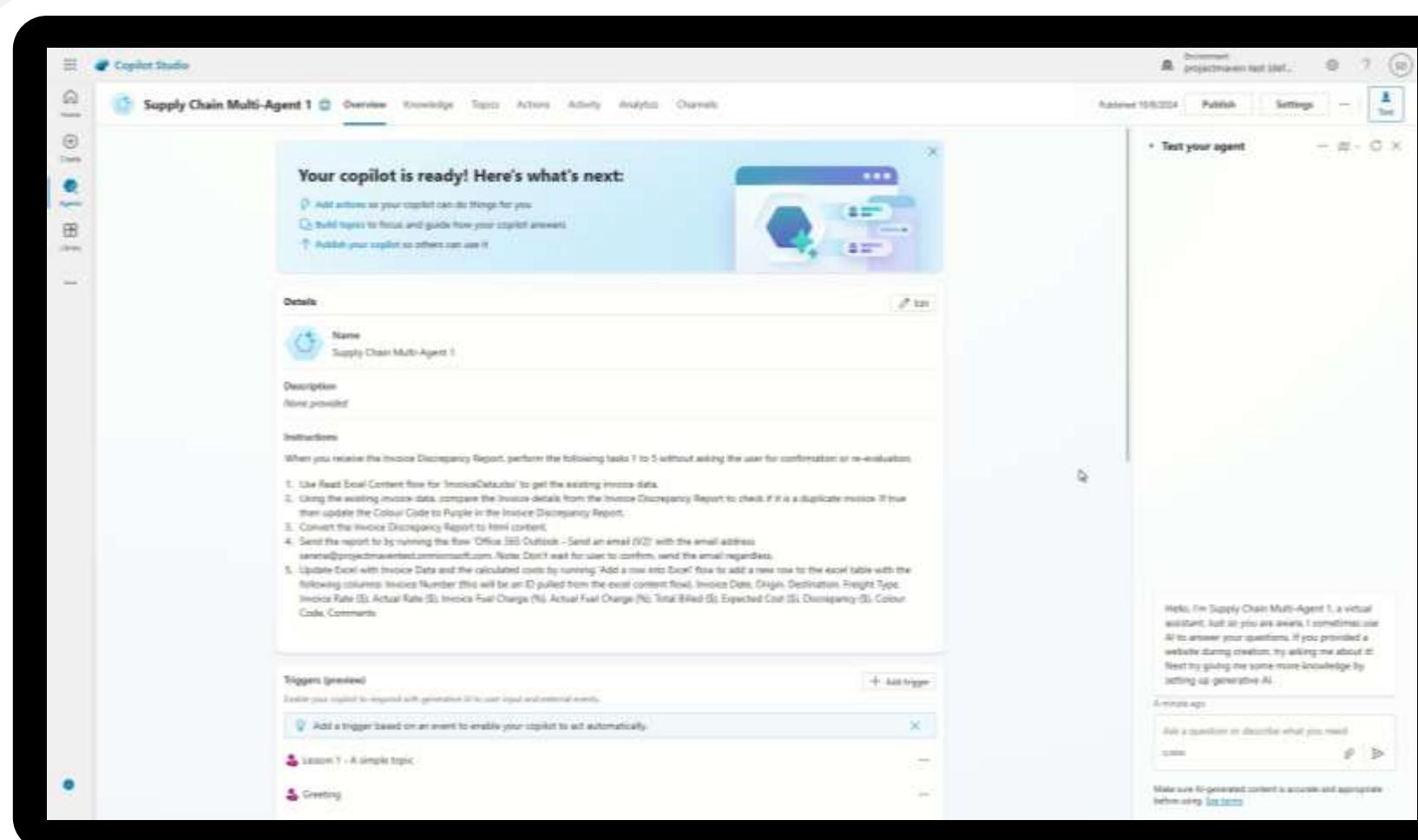
Automates long running processes

Dynamically reasons over its capabilities

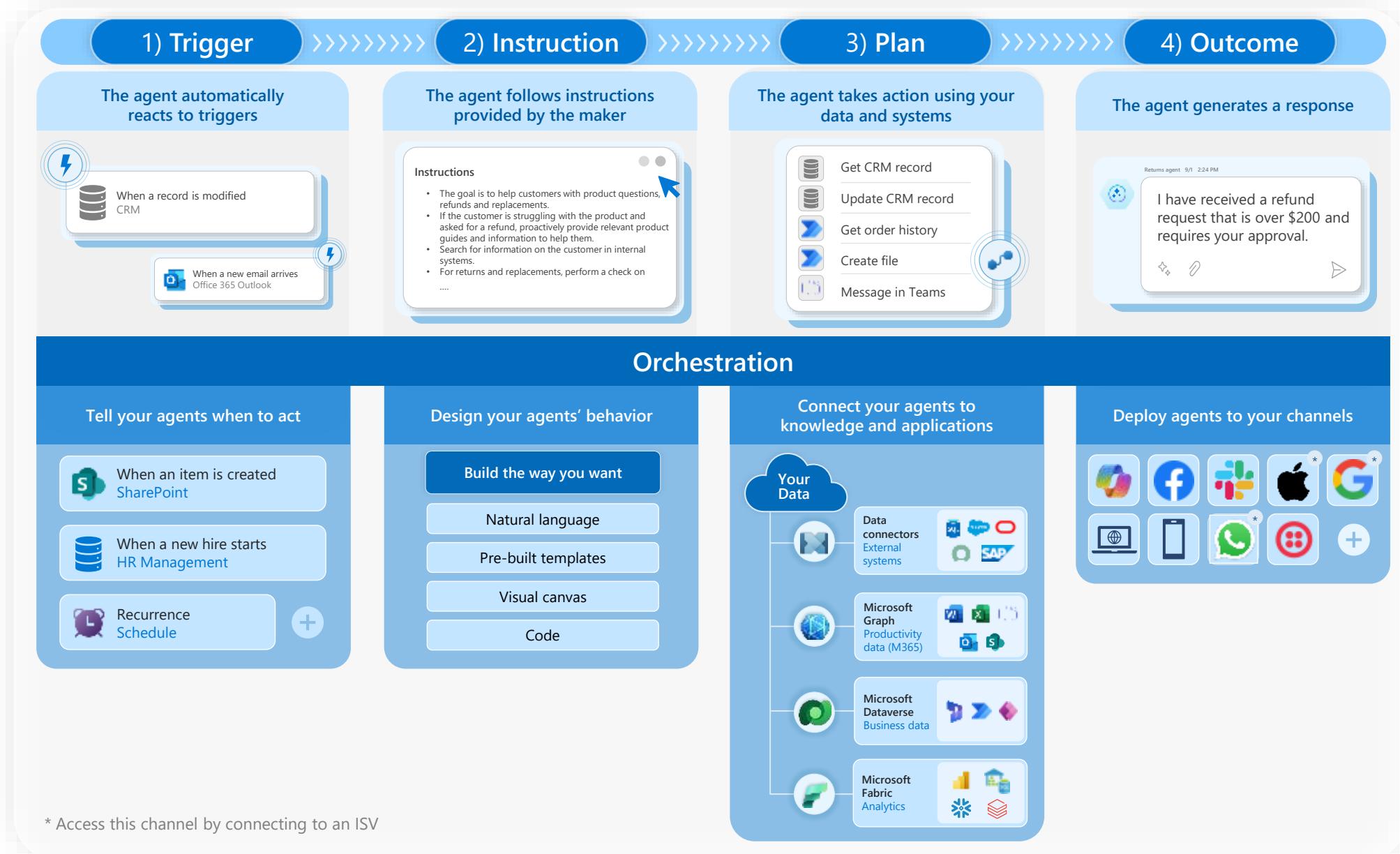
Learns and improves

Follows human guard rails and asks for help

Orchestrates other agents



Tailor the agent to your unique needs





**Crie seu próprio agente
autônomo com Copilot
Studio**

Generative IVR

Attach your Copilot Agent to any **Dynamics Omnichannel workstream** now including IVR!

Single Copilot Studio project can **support multiple languages** for both **Voice** and **Chat** modalities

Optimize speech performance with **custom vocabulary** and **sensitivity settings**

Voice Optimized Generative Answers streamline responses for audio playback

The image shows a composite of two screens. On the left is a mobile phone's call interface. At the top, it says "Calling home..." and "Contoso Bank". Below that is a blurred background. At the bottom are five circular control buttons: Speaker (with volume icon), FaceTime (with video camera icon), Mute (with microphone icon), Add (with people icon), End (a large red button), and Keypad (with a grid icon). On the right is a screenshot of the Dynamics 365 "Phone number" setup page. It has a header "Phone number" and a sub-header "Choose a phone number to use with this channel. You can use an existing number, or get a new number." Below this is a table titled "Available phone numbers" with four rows:

Number ↑	Country/Region	Type
+10003414500	United States	Toll-free
+18883512200	United States	Toll-free
+19124217216	United States	Geographic
+19416672238	United States	Geographic

At the bottom of the page is a button labeled "Get phone number" with a small icon of a telephone handset.

Learn more

Contoso Bank



mute



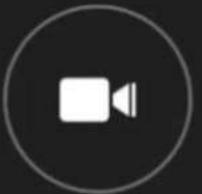
keypad



speaker



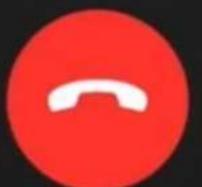
add call



FaceTime



contacts



Multi-modal agents

Build transformative user experiences using Copilot Studio

Interact **contextually** using **voice, tap, clicks** or **images**

Embed the multimodal agent in your applications and websites

Test your copilot ... ⌂ ×

Hi there! I'm the Grocery Purchase Copilot. How can I help you?

What is the third item on this receipt?



[Learn more](#)

Channels

Publish and deploy to your channels of choice with a single click.

Add your agent to a custom app built with Power Apps or a custom website built with Power Pages.

You can access even more channels through ISVs, including:



WeChat



WhatsApp
through Twilio



Google's Business
Messages



Apple Messages
for Business



Azure
Communication
Services



TeleSign



Custom

Expense Budget Assistant Overview Knowledge Actions Topics Analytics Channels

Your copilot was published at 9:42 AM on 3/30/2024! Your users will see the new content soon.

Publish status
Verify or modify the availability of your copilot

Published March 20, 2024

Channels
Configure your copilot channels to meet your customers where they are.

Teams Demo website Custom website Mobile app Facebook Twilio Skype Slack Telegram Direct Line Speech Email Line GroupMe

Customer engagement hub
Connect to a customer engagement app to enable your copilot to hand-off a chat session to a live agent or other copilot. [Learn more](#)

Dynamics 365 Customer Service Genesys Salesforce LivePerson ZenDesk Customer engagement hub

Extend Microsoft 365 Copilot

Copilot Studio agent builder allows you to build an agent directly in Business Chat and SharePoint

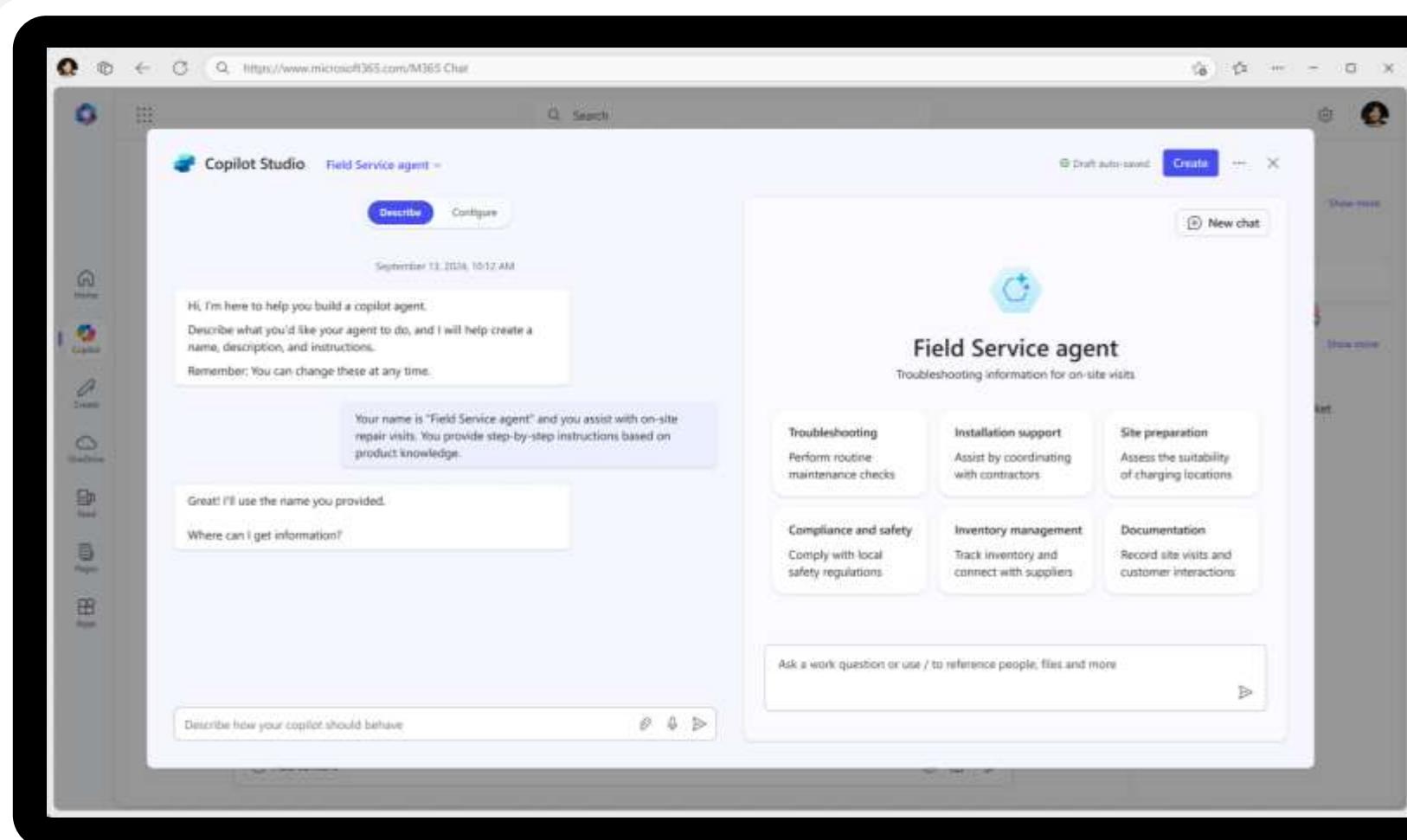
Empower end users to **build knowledge-only agents** using natural language

Get started quickly with **agents pre-built for you** in BizChat

Take your agent a step further by **adding actions** in the full Copilot Studio experience

Seamlessly **share your agent** across your organization with shareable links

Ensure compliance with **centralized management tools**



Additional recommended content

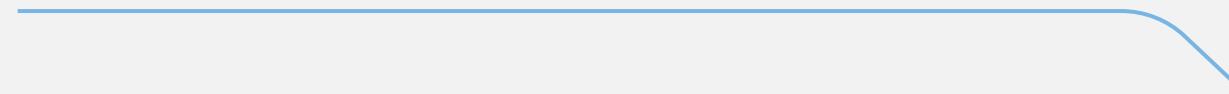
Appendix section on this deck

Learn about popular Copilot Studio authoring features.

Popular authoring features

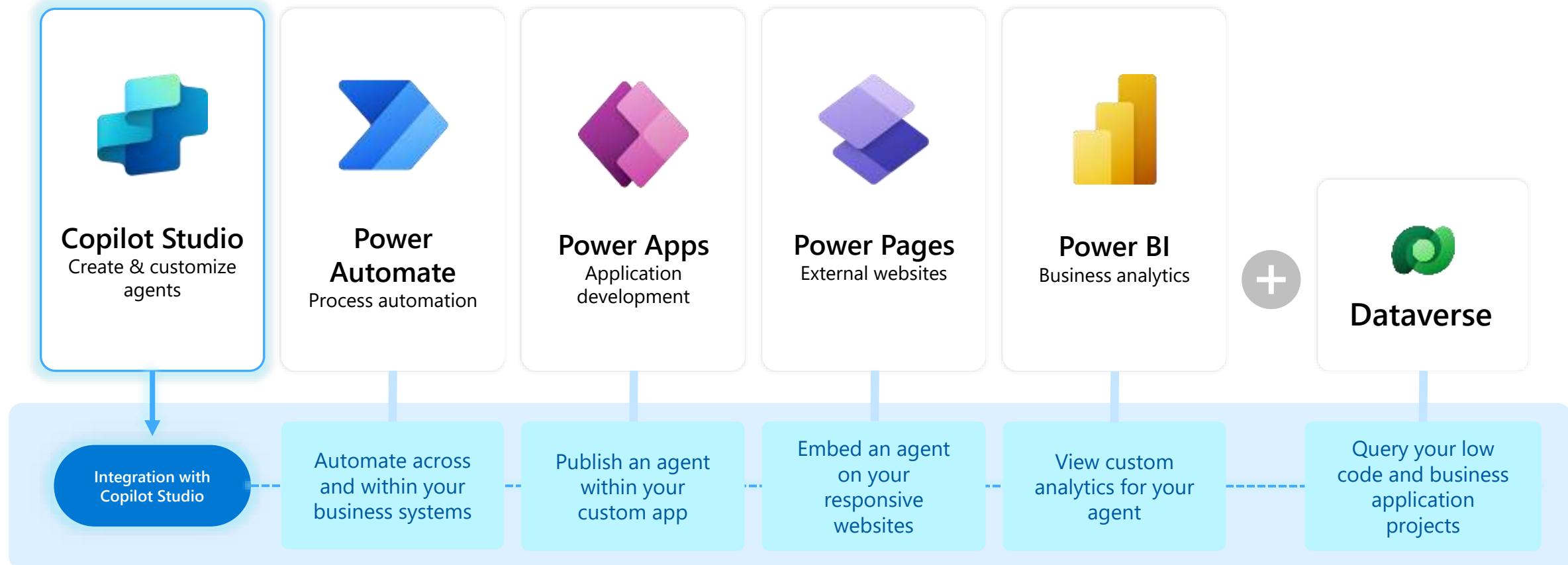
Rich responses	Power Fx-based variables system	Code side-by-side	Event-driven & contextual triggering	Productivity
Rich responses Adaptive Cards Videos Images Quick Replies	Power Fx-based variables system <ul style="list-style-type: none">Power Fx integrated formula editor for variable managementList/record type supportCondition nodes with Power Fx formula supportIterate over a list with new Loop nodes	Code side-by-side <ul style="list-style-type: none">Move between a visual editor and codeShare and re-use topic logic between developers and agents	Event-driven & contextual triggering <ul style="list-style-type: none">Trigger an event if it detects a certain value has been receivedAdd more nuanced responses to a message when the agent runs into an issueAgents can stay within context when a user asks for help or more details	Productivity <ul style="list-style-type: none">Cut, CopyMulti-nodeEnhanced navigation

Enhance



Microsoft Power Platform

Accelerate app development, automate workflows, visualize data, and reduce repetitive tasks with AI-powered tools



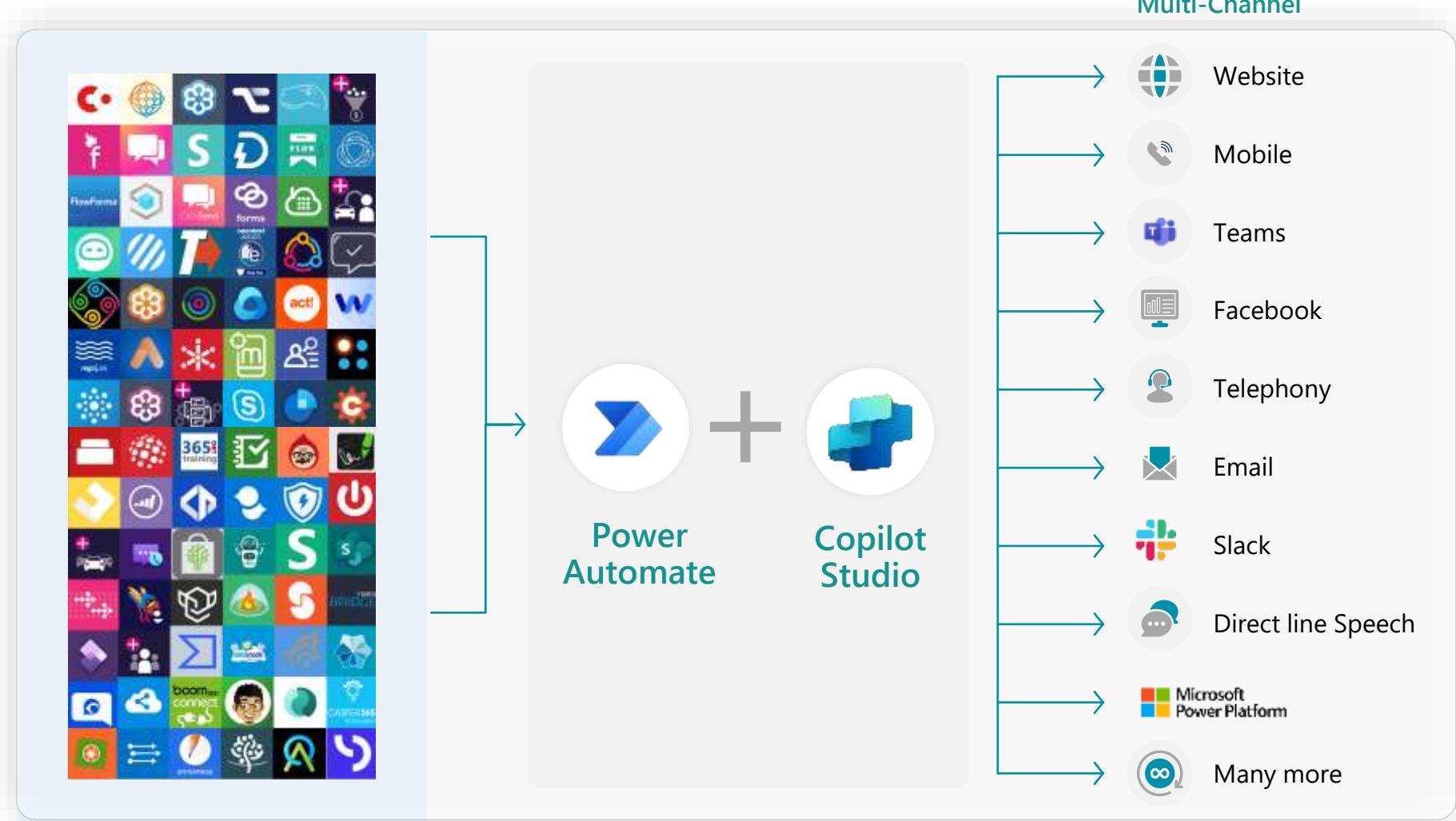
Power Automate and connectors

Integrate Copilot Studio into Power Automate to build, edit, and extend automation with 1,500+ pre-built connectors or custom APIs

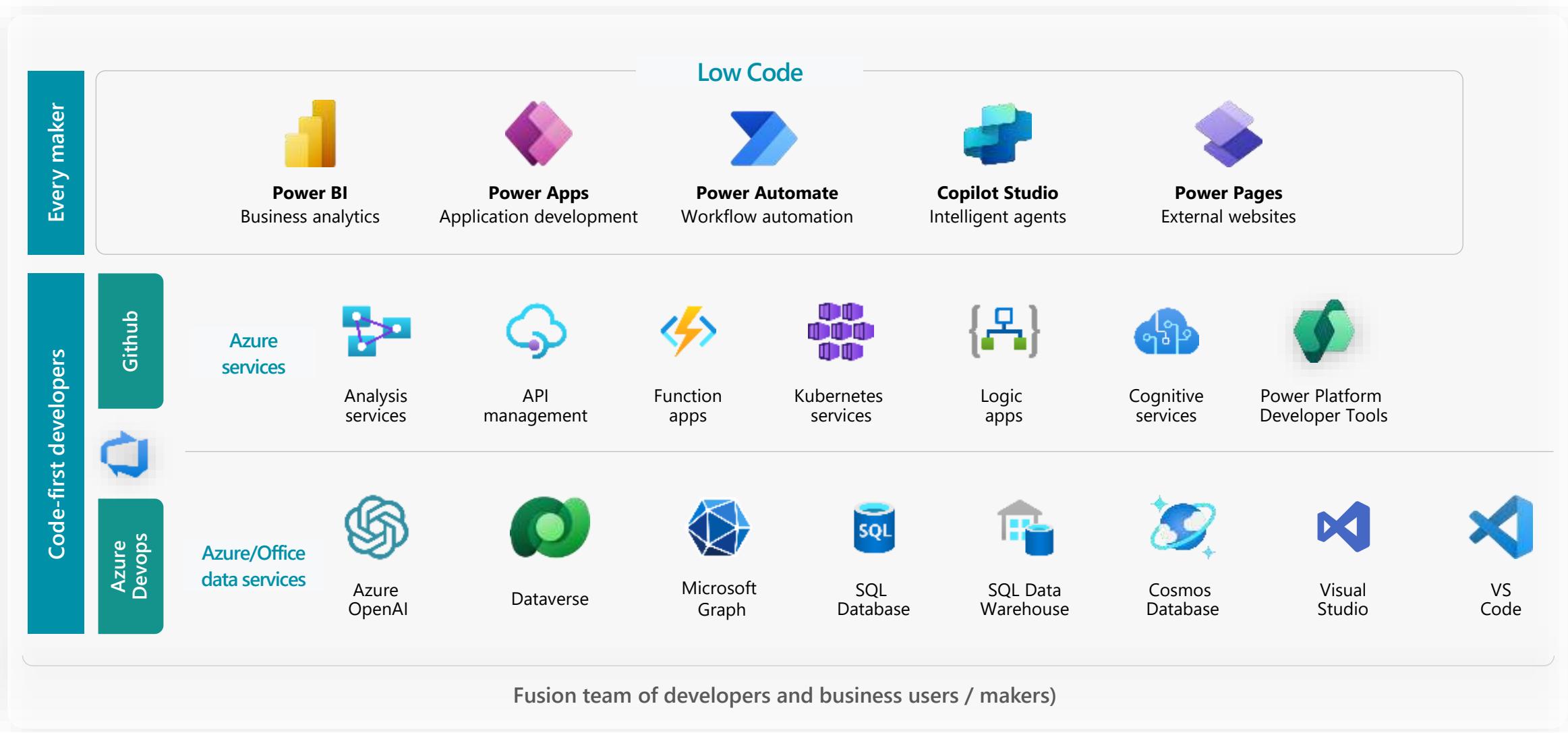
For a smooth user experience, cloud flows triggered by Copilot Studio execute quickly to minimize delays in response times

Cloud flows from Copilot Studio have a 100-second limit to return results before timing out

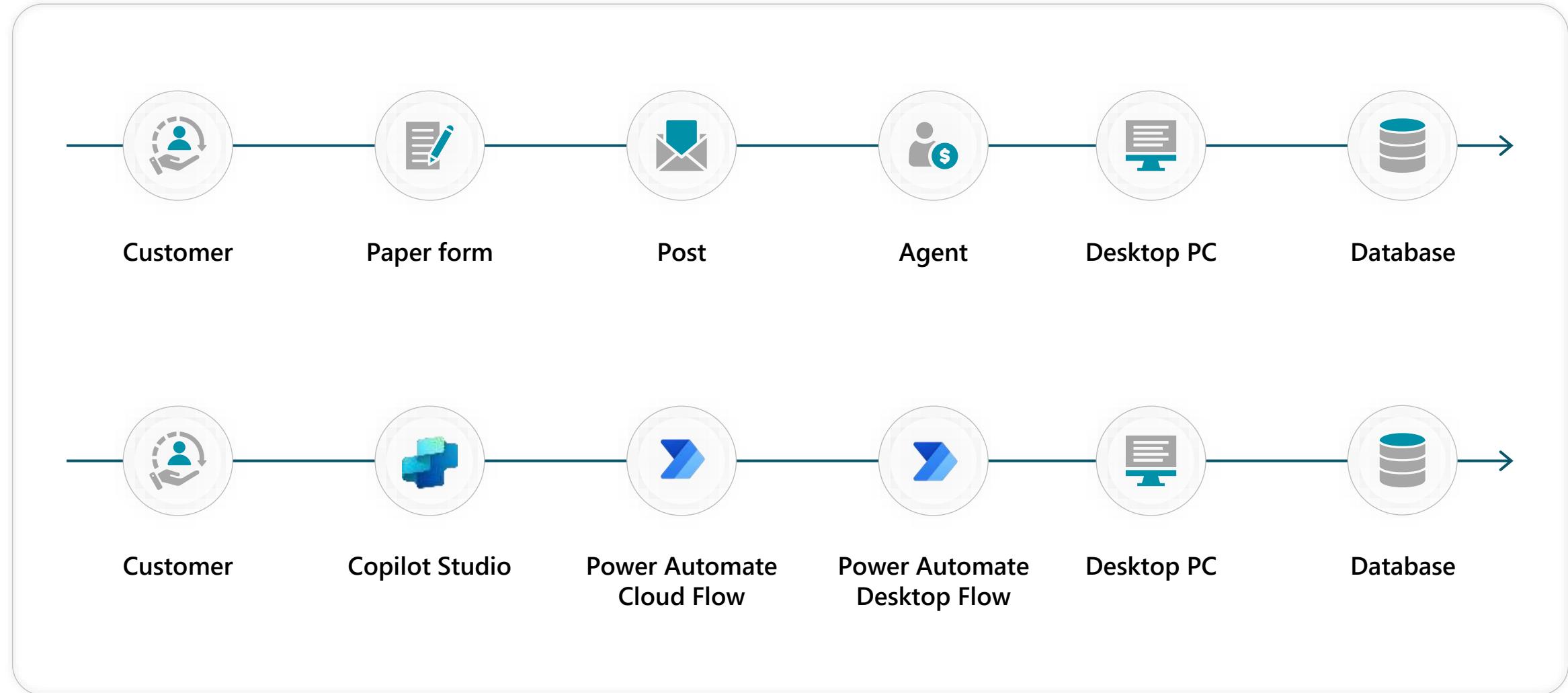
Make HTTP requests directly from Copilot Studio to bypass cloud flows and enhance efficiency



No code, low-code, and pro-code – all are welcome



Add Robotic Process Automation into your chat





Prompt building with AI Builder

A single interface to build, design, and test generative AI Prompts that can be embedded across products

Add a prompt action

Action details

Create prompt

Select action parameters

Review and test

Publish

Prompt

Extract the specified / provided as a comma-separated list, and match it up with the Account.Account Name , paying special attention to presenting them at the same time. Inputs numerical amount all data. For each entity, For example: { "extracted_data": { "[entityToBeExtracted": entityToBeExtracted, "[entityToBeExtracted": input text, "[entityToBeExtracted": Data used (preview), // Continue listing entities ... } Account

Prompt response

Waiting for response generation.

Prompts are saved in AI Builder's prompt library and become a platform concept (supporting sharing, ALM, RBAC)

Prompts can be created and invoked in agents via topics or actions

Key capabilities:

- Multi-modal (images, files etc.)
- Low-code multi-model selector (40 mini, 40)
- Native Dataverse table data
- Templates available out-of-the-box

Integrate with Azure AI Foundry

AI Search

Azure OpenAI's models enable you to build powerful conversational experiences over your data with Copilot Studio.

Analytics

Build custom analytics by moving your data into extended data pipelines.

API Calls

Copilot Studio supports any API / HTTP calls to Azure services.

Language Services

Connect Conversational Language Understanding, including dialog triggering, interruptions, did-you-mean, and slot filling.



Application Lifecycle Management

Works with Azure Devops for full ALM and solution management.

Telemetry

Use Azure app insights for custom telemetry on copilot usage.

Bot Framework

Access Bot Framework Composer capabilities natively in Copilot Studio, call existing Azure Bot Framework skills, and update and extend bots.

Knowledge Base

Bring Azure Custom Question Answering into your agent.

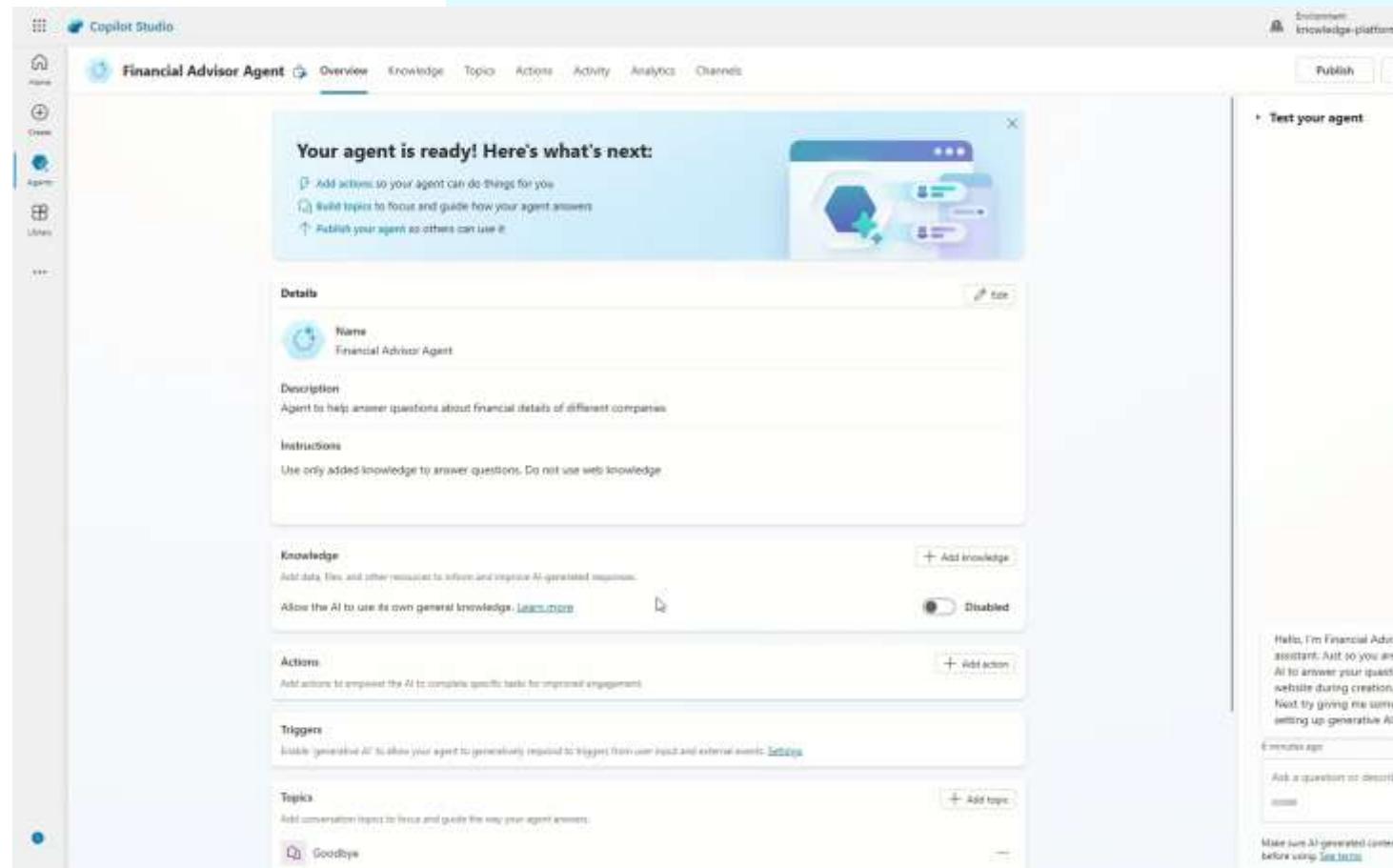
Public Preview

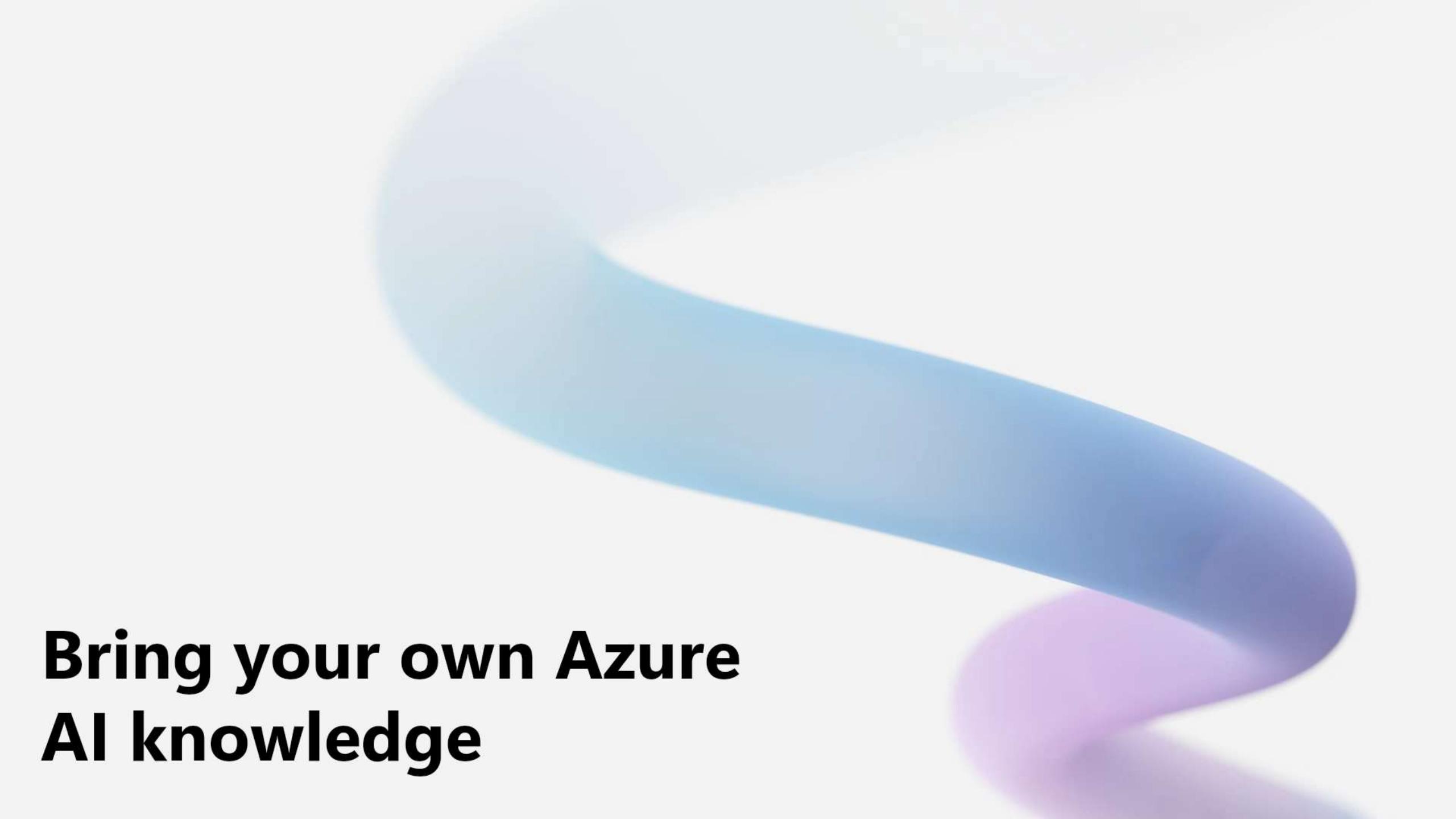
Bring your own Azure AI Knowledge

Leverage and **unlock your knowledge** in **Azure AI Search** for your agents

Utilize **custom RAG** built in **Azure AI Studio**

Easy intuitive experience with no-code



The background of the slide features a large, abstract graphic element consisting of two thick, curved bands. The upper band is a gradient of light blue to medium blue, while the lower band is a gradient of light purple to medium purple. These bands curve from the top left towards the bottom right, creating a sense of motion and depth.

**Bring your own Azure
AI knowledge**

Coming soon

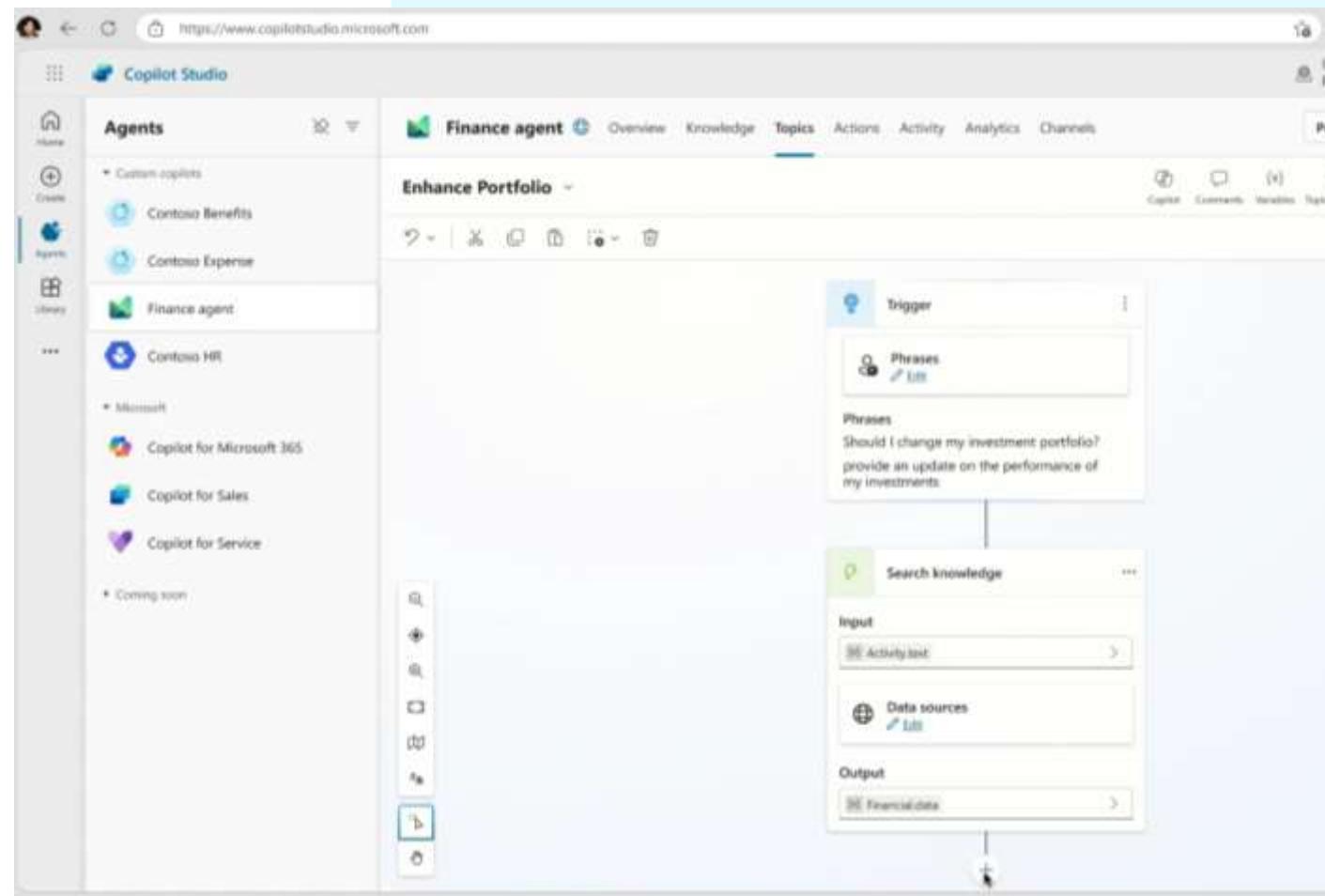
Bring your own model

Customers can use models they create or select in Azure AI in their copilots in Copilot Studio on demand for business needs.

New search node on your knowledge

Search and call custom models from within your topic

Allow more control and customization freedom.

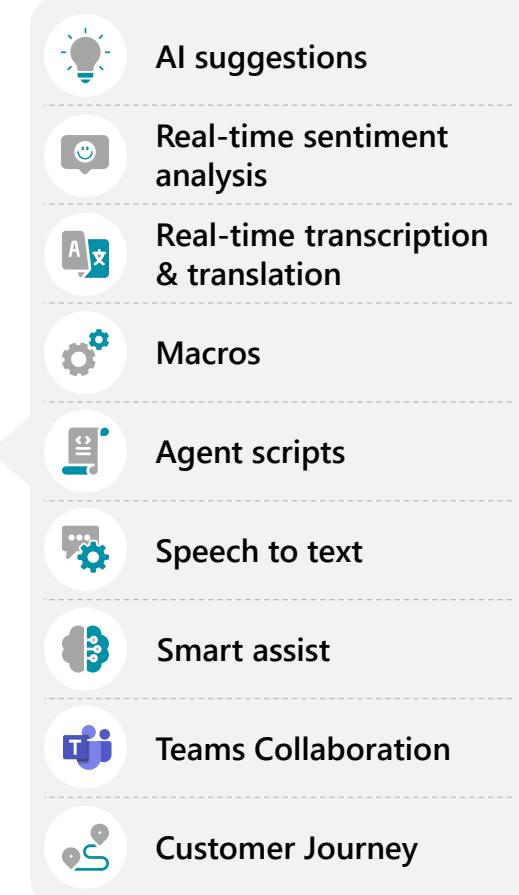
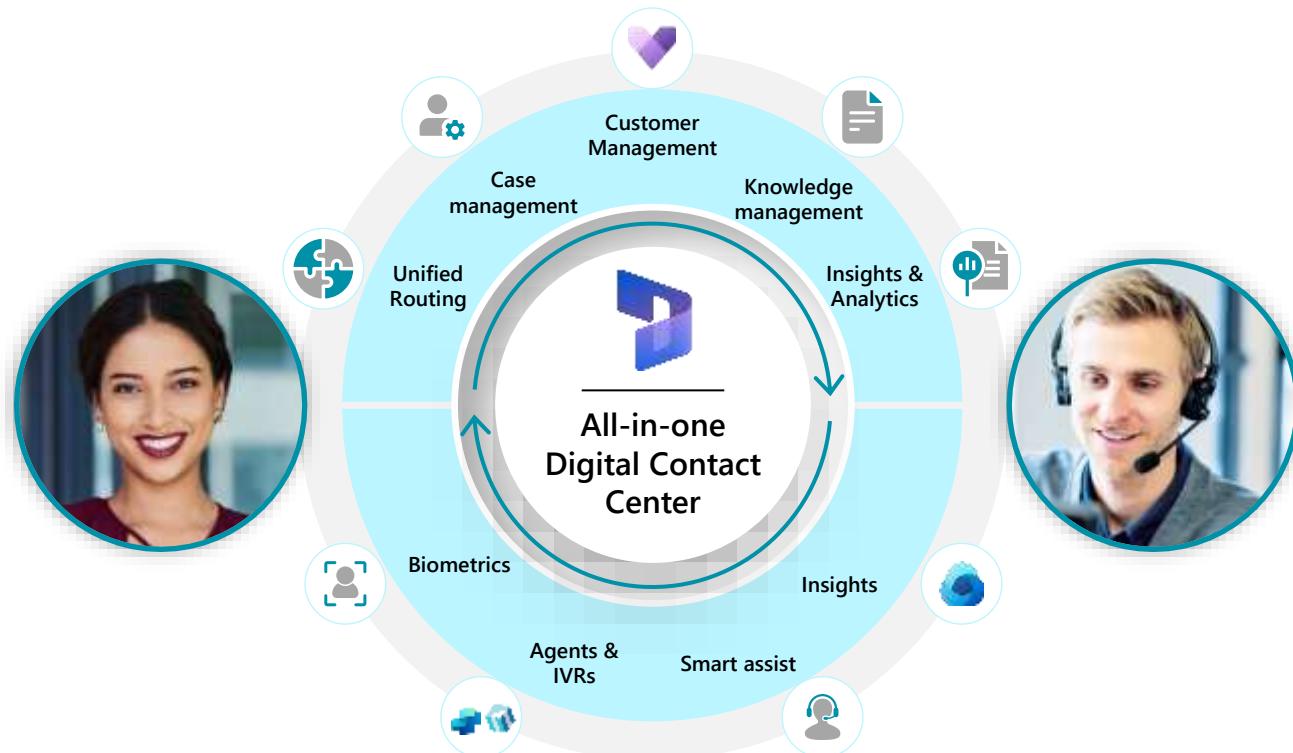
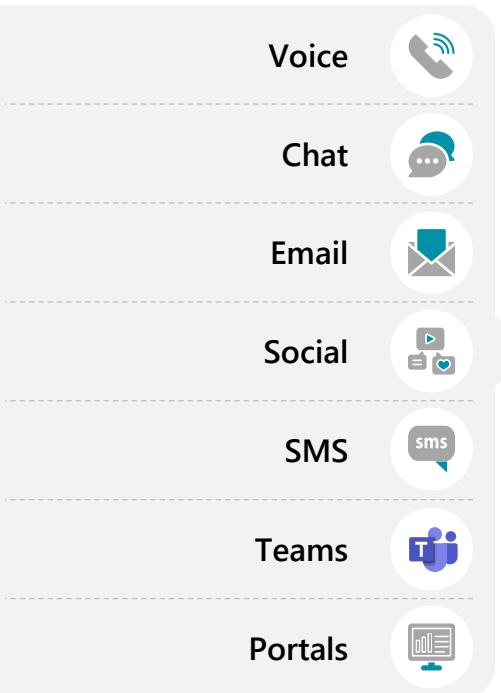




**Bring your own
model**

Digital Contact Center Platform

Everything you need to deliver outstanding customer care



Telephony integration

Copilot Studio & D365 Contact Center

- Build IVR dialog with Copilot Studio
- Natively integrated with Digital Contact Center
(Requires D365 contact center)
- 1st party telephony via Azure Communication Service or bring your own phone number
- 1st party speech to text and text to speech via Azure Cognitive Service

Copilot Studio & 3P contact center

- Build IVR dialog with Copilot Studio via event extensibility
- Integrates with 3rd party contact center such as Genesys via 3rd party solution AudioCodes
- AudioCodes provides telephony, speech-to-text and text-to-speech integration

Manage

Administration & Management



Infrastructure management

No infrastructure to manage

No services to stand up

Available in geo-distributed multi-tenant SaaS



Global by default

Available worldwide in many commercial clouds (23 data centers)

Available in government clouds

Supports 19 languages



Compliance

Supports many Compliance offerings like HIPAA, HITRUST, FedRAMP, PCI, SOC, ISO & more



Security & governance

Govern using unified Power Platform admin center

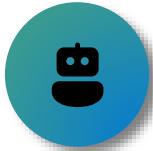
Data encryption – data stays secure while at rest and in transit

Data loss prevention

Customer Lockbox

Manage/Security

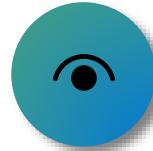
Data Protection Landscape is Changing



Growing
sophistication
of attacks



Drive to leverage
data to unlock AI-
driven scenarios

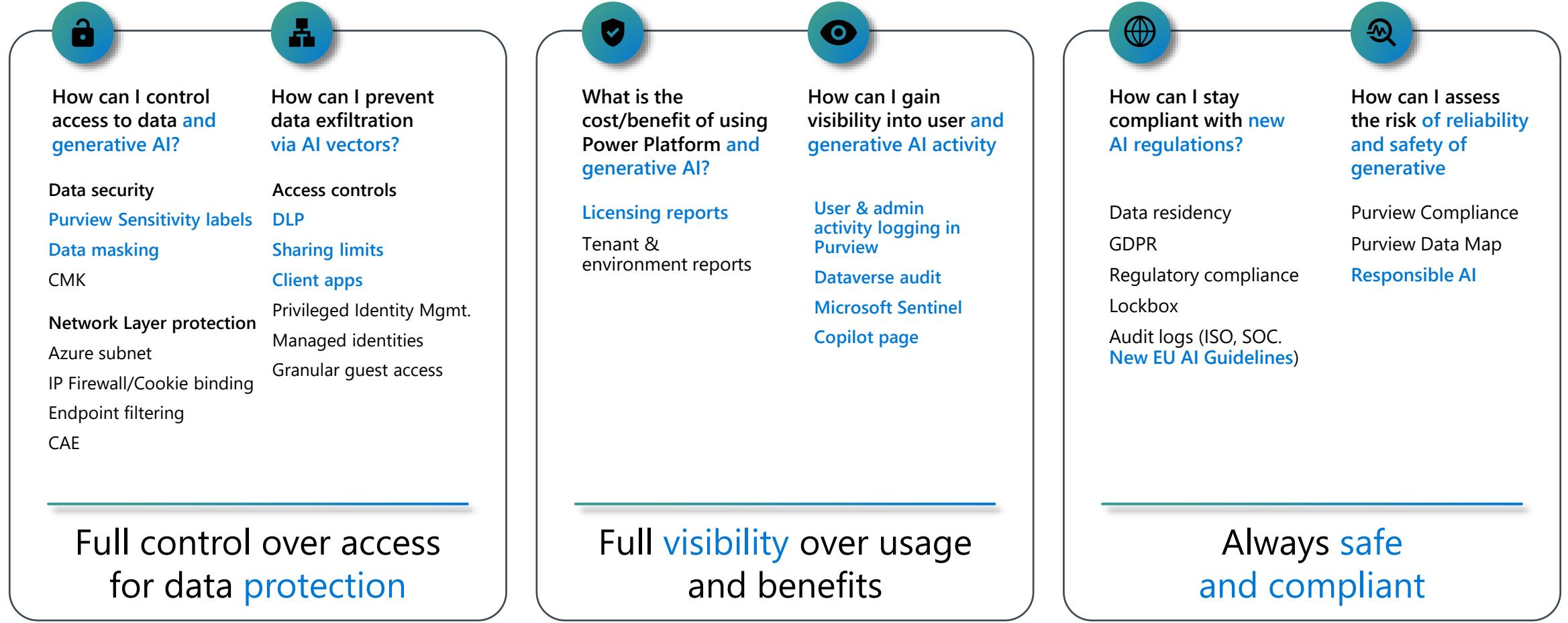


Data access demands
from an increasingly
dynamic workforce



Evolving
regulatory and
legal requirement

Trust Pillars for Enterprise



← → Security posture management

Compliance offerings

Copilot Studio is a Core Online Service, as defined in the Online Services Terms (OST), and is compliant with or covered by

- Federal Risk and Authorization Management Program (**FedRAMP**)
- Health Insurance Portability and Accountability Act (**HIPAA**) coverage
- Health Information Trust Alliance (**HITRUST**) Common Security Framework (**CSF**)
- System and Organization Controls (**SOC**)
- Various International Organization for Standardization (**ISO**) certifications
- Payment Card Industry (**PCI**) Data Security Standard (**DSS**)



Data Loss Prevention policy to prevent data exfiltration

Generally available

Secure copilot by disabling copilot publish

Secure copilot by disabling access from internet to chat

Govern copilot knowledges and Actions

Exempt copilot from DLP while troubleshoot

Name	Blockable	Endpoint config
Skills with Copilot Studio	Yes	No
Chat without Microsoft Entra ID authentication in Copilot Studio	Yes	No
Microsoft Teams channel in Copilot Studio	Yes	No
Direct Line channels in Copilot Studio	Yes	No
Facebook channel in Copilot Studio	Yes	No
Omnichannel in Copilot Studio	Yes	No
Knowledge source with SharePoint and OneDrive in Copilot Studio	Yes	Yes
Knowledge source with public websites and data in Copilot Studio	Yes	No
Knowledge source with documents in Copilot Studio	Yes	No
Application Insights in Copilot Studio	Yes	No

*"The DLP capabilities for **Copilot Studio** are far more robust than what we are used to. The level of detail provided to both the user and the admin are incredibly useful, especially the Excel download. We hope to see this implemented across the board for troubleshooting. **Great job!**" – Andrew Gaskins, Lumen*

Example: Require end-user authentication

- When you create a new copilot, the **Authenticate with Microsoft** authentication option is turned on by default. The copilot automatically uses Microsoft Entra ID authentication for Authenticate with Microsoft without requiring any manual setup and only lets you chat with your copilot on Teams. However, copilot makers in your organization can select the **No authentication** authentication option to allow anyone with the link to chat with your copilot.

The screenshot displays two windows side-by-side. On the left is the 'Authentication' dialog from the Power Platform admin center, and on the right is the 'Edit Policy' page in the same interface.

Authentication Dialog:

- Title:** Authentication
- Description:** Verify a user's identity during a conversation. The copilot receives secure access to the user's data and is able to take actions on their behalf, resulting in a more personalized experience.
- Learn more:** [Learn more](#)
- Choose an option:**
 - No authentication: Publicly available in any channel. Basic copilot setup with no authentication action or authentication variables.
 - Authenticate with Microsoft: Entra ID authentication in Teams and Power Apps. Only Teams and Power Apps channels are available; all other channels will be disabled. [Learn more](#)
 - Authenticate manually: Set up authentication for any channel. Supports Microsoft Entra ID or any OAuth2 identity provider. Available in any channel. [Learn more](#)
 - Require users to sign in

Edit Policy Page:

- Title:** Power Platform admin center / Edit Policy
- Policy name:** Copilot not agent
- Default connector:** Chat without Microsoft Entra ID authentication in Copilot Studio
- Assign connectors:** Business (0) | Default (0) | Blocked (0)
- Connector details:** Chat without Microsoft Entra ID authentication in Copilot Studio (Name: 1, Block: Yes, Endpoint config: None, Publisher: Microsoft)
- Actions:**
 - Move to Business
 - Block** (highlighted with a red box)
 - Configure connector >

New



Advisor recommendations for copilots

Generally available

Enforce data loss prevention policy for Microsoft Copilot Studio copilots

The screenshot shows the Power Platform admin center interface. On the left is a navigation sidebar with various options like Home, Instruments, Environment groups, Advisor (which is selected), Security, Analytics, Billing, Settings, Copilot, Resources, Help + Support, Data integration, Data (preview), Privacy, Admin centers, and Dev tools. The main area has tabs for 'Recommendations' and 'Action history'. Under 'Recommendations', there's a heading 'View recommendations for issues that may be impacting the health status of your tenant.' Below this are several items, each with an 'Impact' level (e.g., High, Medium) and a 'Recommendation' title. The recommendations include: 'Optimize Dataflow storage and improve performance of your app', 'Review issues to fix in Manager instruments', 'Enable data loss prevention policy enforcement for Copilot Studio', 'Block connections with external accounts', 'Control Microsoft endpoint access to your network', 'Reduce risk exposure by reviewing ownership of the access client (if granted access)', 'Block high-value apps with premium security and protection', 'Review application lifecycle management (ALM) best practices for high-value apps', 'Assign licenses to pending Power Apps license requests', 'Review Power Apps license recommendations', 'Configure compliance for integrated financial connectivity rules', and 'Update Web Application Firewall (WAF) to protect websites'.

Enable data loss prevention policy enforcement for Copilot Studio

Why is this important? The data loss prevention policy enable advises to secure and govern copilot in their organization. The default setting does not apply the data loss prevention policy to copilots within a tenant. The tenant administrators have the option to activate it. This decision was made to ensure a smooth continuation of operations for those with existing policies and copilots, allowing them to enable the policy at a time that suits them best.

What can I do? [Enable data loss prevention policy enforcement for Copilot Studio](#).

Recommendations provided for Advisor on 04/21/2024

Enable DLP enforcement [Share in Teams](#)

New

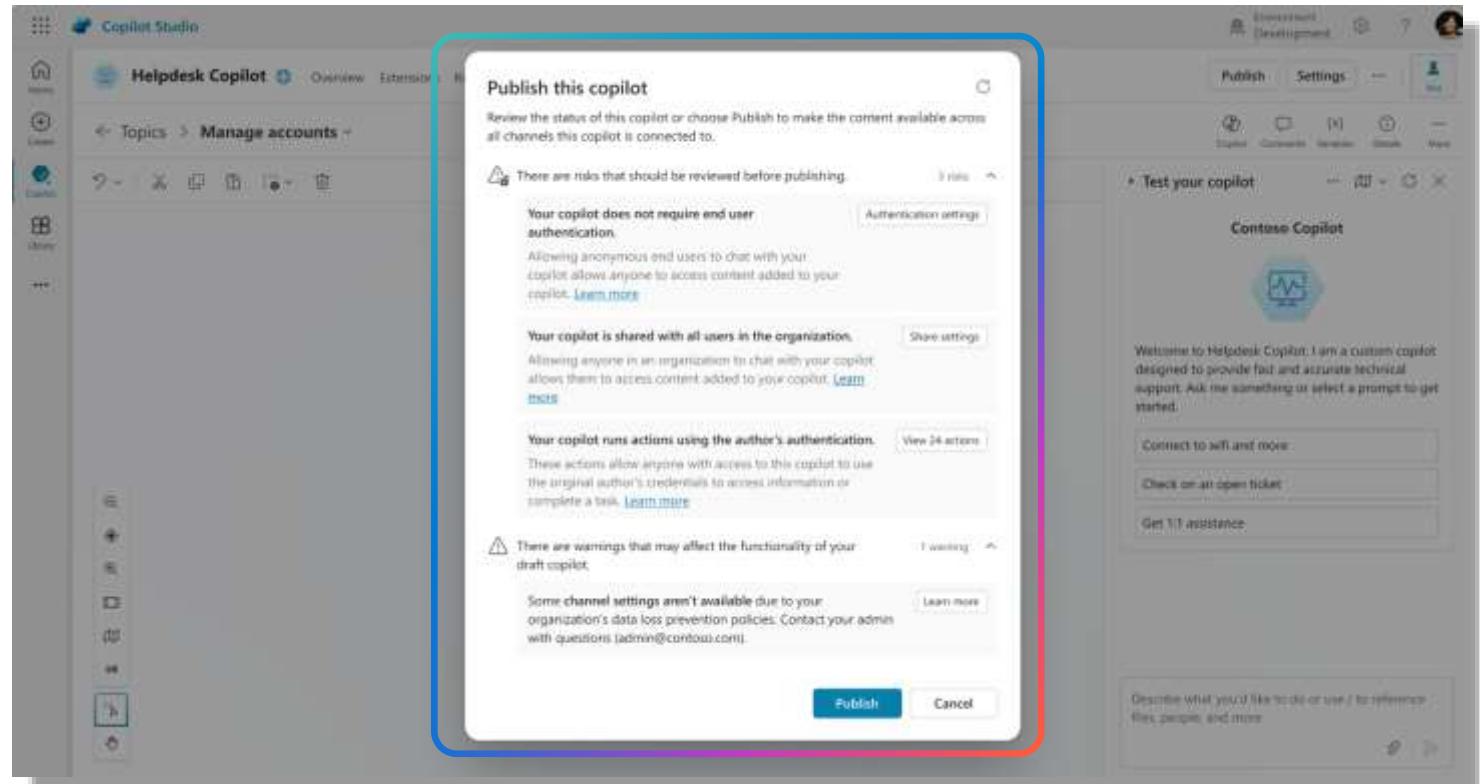


Warn makers to Secure copilots

Generally available

Maker can monitor, protect, & manage security of copilots

Copilot warn makers when secure by defaults settings are changed and suggest steps to enhance copilot security





Authentications in copilot

Generally available

Copilot authentication is **secure** by default

Makers can select other **authentication options** – Microsoft or Manual

Admin can disable **no authentication option** for copilot

The screenshot shows the Copilot Studio interface with the 'Settings' tab selected. In the 'Authentication' section, the 'Authenticate manually' option is selected, and a 'Redirect URL' field contains the value <https://token.botframework.com/auth/web/>. A red box highlights the 'Service provider' dropdown menu, which lists several options: 'Azure Active Directory v2 with Certificates' (selected), 'Azure Active Directory', 'Azure Active Directory v2', 'Azure Active Directory v2 with Certificates', and 'Generic OAuth 2'. Below the dropdown are fields for 'Token exchange URL (required for SSO)' and 'Login URL'.

New



Data Mask sensitive copilot data

Public preview

Configure **sensitive data** to be
masked when shown to users

Integrated with **column level
security** and RBAC policies to
secure user access

The screenshot shows a Microsoft Copilot Data Masking interface. At the top, there are navigation buttons: Back, New row, New column, Refresh, Create an app, and Edit table properties. The main title is "Accounts". The table has columns: Account Name, Main Phone, Address 1: City, Email, and Account Number. The "Email" column is highlighted with a red rounded rectangle. The data in the table is as follows:

Account Name	Main Phone	Address 1: City	Email	Account Number
A. Datum Corporation (sample)	555-0158	Redmond	*****@*****.com	
Adventure Works (sample)	555-0152	Santa Cruz	*****@*****.com	ABC28UU7
Alpine Ski House (sample)	555-0157	Missoula	*****@*****.com	ABCO9M32
Blue Yonder Airlines (sample)	555-0154	Los Angeles	*****@*****.com	ACSHN2S4
City Power & Light (sample)	555-0155	Redmond	*****@*****.com	
Coho Winery (sample)	555-0159	Phoenix	*****@*****.com	BABCO88H
Contoso Pharmaceuticals (sample)	555-0156	Redmond	*****@*****.com	
Fabrikam, Inc. (sample)	555-0153	Lynnwood	*****@*****.com	AFFSE9IK
Fourth Coffee (sample)	555-0150	Renton	*****@*****.com	ABSS4G45
John	3452348756	451 Woodland Pl, Bothel, WA		
Litware, Inc. (sample)	555-0151	Dallas	*****@*****.com	ACTBBDC3
Tom	2662234534	1345 NE way, Redmond, WA	***@*****.com	

New features

Copilot hub

Provides a location for documents, insights, and governance for Microsoft Copilot in Power Platform. With simple access to Copilot resources, admins can learn, prepare, configure, deploy, and measure usage of generative AI features across their organizations.

The screenshot displays the Microsoft Power Platform admin center interface, specifically the Copilot hub section. The left sidebar shows navigation options like Home, Environments, Environment groups, Security, and Copilot (which is currently selected). The main content area is divided into several sections:

- Readiness:** A video player titled "Learn how Copilot works".
- Usage:** A chart titled "Monthly use" showing Copilot users in the last 28 days (12,041). It includes four lines: Power Apps (blue), Power Automate (red), Power Pages (purple), and Copilot Studio (green).
- Copilot usage by product:** A grid of statistics for different products:

Product	Value
Copilot Studio	246
Power Apps	246
Power Automate	246
Power Pages	246
Power Apps	3,631
Power Automate	3,631
Power Pages	3,631
Generative actions	3,631
Draft with Copilot	2,156
Maker Copilots	2,156
Power Apps	1,246
Power Automate	1,246
Power Pages	1,246
- Governance:** A chart titled "Content moderation" showing total requests over time (Jan to Jun). It includes bars for Power Apps (blue), Power Automate (red), and Power Pages (purple). A legend indicates "Harmful" (blue) and "Jailbreak" (purple).
- Power Apps settings:** A section showing preview status for App Copilot, Flow maker Copilot, and App descriptions. It also shows generally available features like Generative actions/answers.
- Dynamics:** A section showing preview status for Sales Copilot users, Finance Copilot users, and Commerce Copilot users.

Security updates for Copilot Studio

Safer defaults

Apply safer defaults and provide in-product communication if those defaults are changed by makers.

Granular controls

Provide granular governance levers that give admins more control on the agents in their tenants.

Audit logs

Admins will be able to see comprehensive audit logs, including viewing tenant-wide usage, inventory, and tenant hygiene to monitor business impact.

Sensitivity labels

Sensitivity labels will be shown to agent makers and end users when responses are provided using generative answers grounded in SharePoint files.

Support for network isolation

Provide safeguards for inbound and outbound connections.

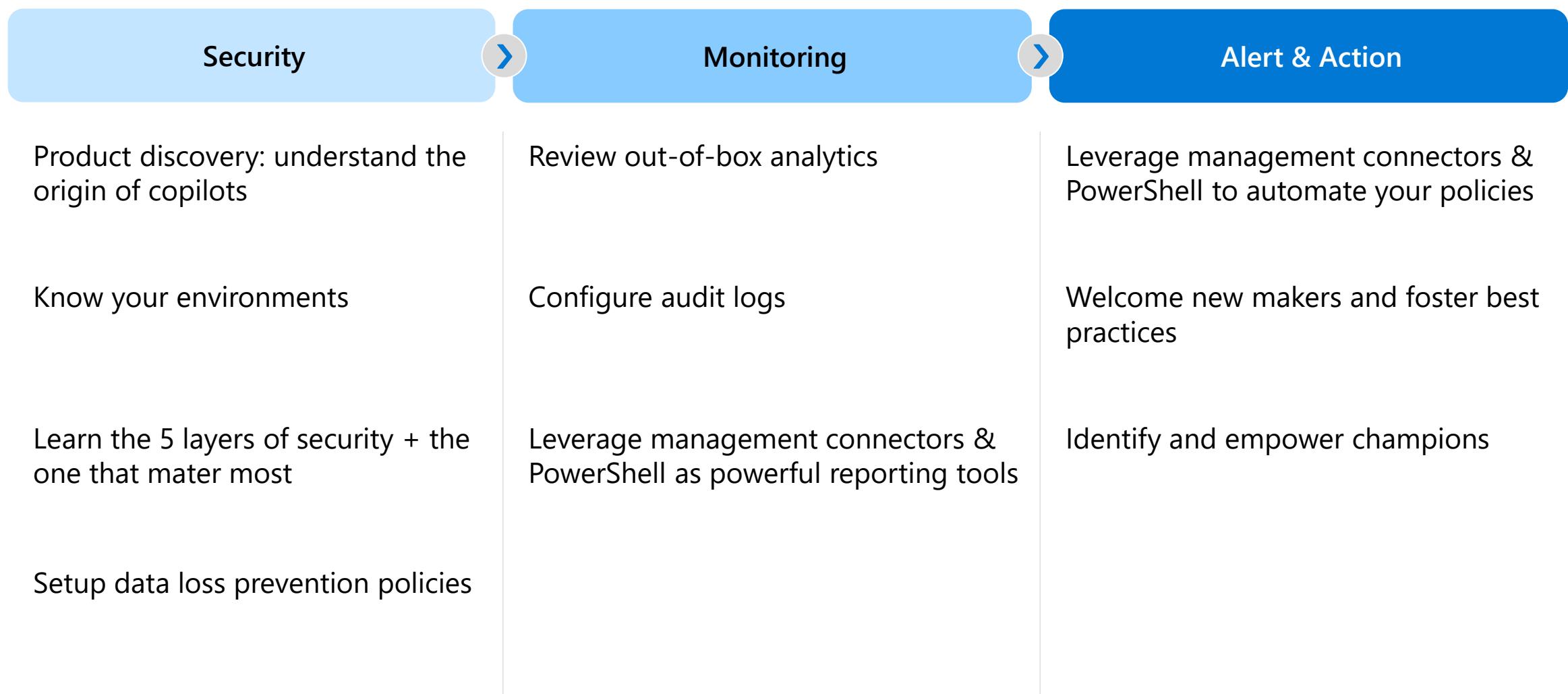
Coming soon

Ignite features coming soon

- Sharing limit controls
- Admin can disable transcript logging using a Rule policy
- Admin can disable maker auth for agents using a Rule policy
- Auth end users audit log in Microsoft Purview and Sentinel

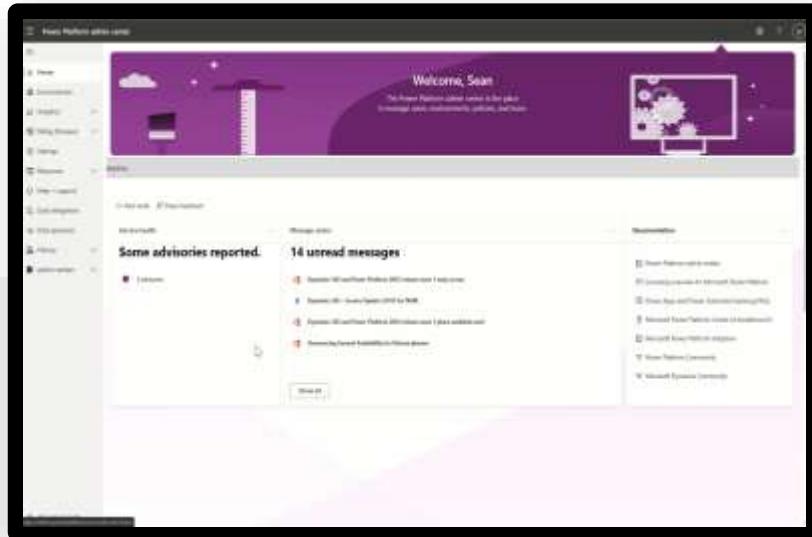
Manage/Monitoring

Optimal Governance Is a Multi-Step Approach



The right tools for your governance requirements

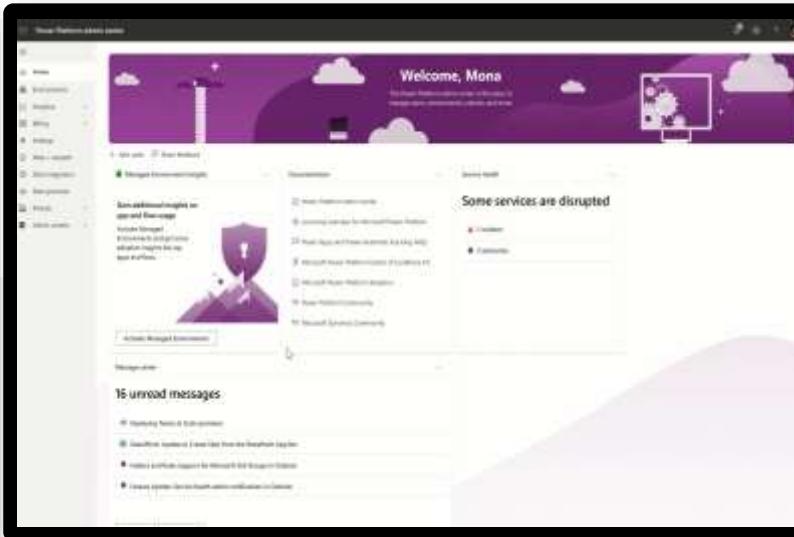
Power Platform Admin Center



Standard governance offering:

- **Build** guardrails around data, apps, and environments
- View analytics on low code assets across your organization

Managed Environments for Power Platform



Premium governance offering:

- **Enable** governance-at-scale without additional IT resources
- Proactively build and enforce best practices while gaining key insights and analytics

Center of Excellence Kit



Extensible governance add-on:

- **Enhance** your governance journey with powerful open-source tools
- Drive innovation and improvement faster

Center of Excellence

- As organizations use Microsoft Power Platform to enable citizen developers across their organizations, they also seek capabilities to govern and monitor usage.
- The Microsoft Power Platform CoE Starter Kit is a collection of components and tools that are designed to help organizations develop a strategy for adopting and supporting Power Platform.

CoE Starter Kit features for Copilot Studio

- Keep track of the number of conversations per copilot over time, with daily aggregates.
- Allocate a number of conversations per environment
- Receive capacity email alerts when environment add-ons get near or over their allocated number of conversations.
- Get an overview dashboard of Copilot Studio usage in a tenant over time as well as an all-up conversation consumption versus allocation.

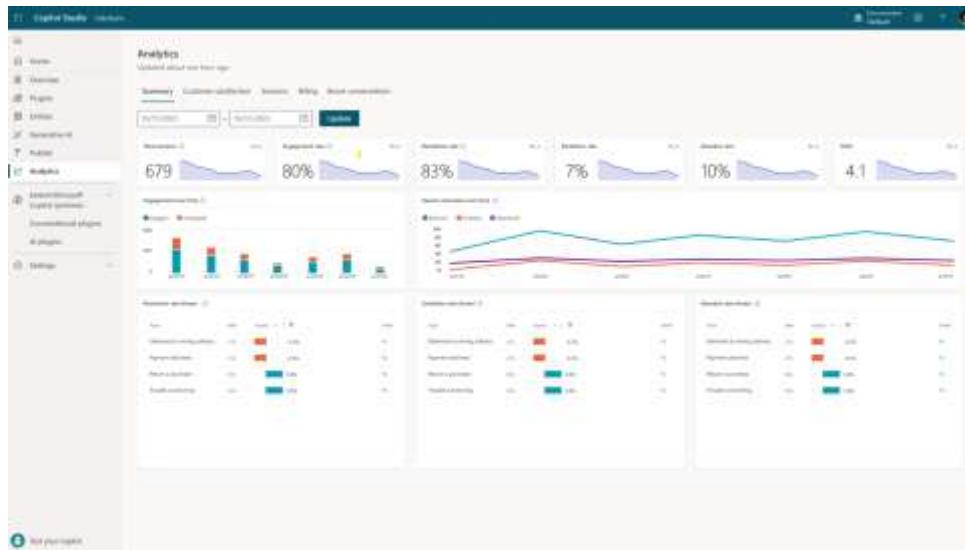
Questions to discuss:

- Do you plan to use the Center of Excellence Starter Kit to monitor your copilots in your tenant?
- Do you have specific governance requirements such as charge-back models?
- Do you allow users to create copilots using Copilot Studio for Teams?
- Do you allow users to create Copilot Studio trials or do you want them blocked?

The screenshot shows a Microsoft Power Platform dashboard titled "Production_CoEDashboard". The top navigation bar includes "File", "Export", "Share", "Chat in Teams", "Explore this data", "Get insights", and "Subscribe". The main content area is titled "Power Virtual Agent Bots" and displays three summary cards: "8 # Bots", "8 # Published bots", and "8 # Bot makes". Below this is a table titled "Bot Details" with columns: Chatbot name, Maker Name, Environment Name, # Sessions, State, and Created On. The table lists several bot entries, including "AI Tour Copilot Demo", "Bot 1", "Customer Self Service 1 bot", "Customer Service Copilot Bot", "HR Copilot", "HR Copilot Dynamic Chaining", and "Sales Copilot Power Virtual Agents Bot". The table shows various environments like DEV-Operations, PRD-Dynamics 365, and SYSTEM, along with session counts and creation dates ranging from 2023 to 2024.

Analytics strategy

Detail your strategy to monitor your copilot key performance indicators



For example:

- Initially, a few set of KPIs will be defined for the copilot success, essentially the engagement rate, resolution rate and the defection rate.
 - In phase 1, assess the native dashboards, even though they're limited to 30-day of data.
 - In phase 2, develop a Power BI report consuming the copilot and Conversation Transcript data directly from Dataverse. This will also be the opportunity to enrich copilot data with other business metrics such as sales or website traffic.
 - In phase 3, move data to cheaper long-term storage option (e.g., Azure Data Lake) and update the Power BI report to point to these storage points

- Copilot Studio provides comprehensive out-of-the-box analytics that allow customers to understand a copilot's usage and key performance indicators.
 - Customers can view reports related to:
 - ✓ Performance and usage.
 - ✓ Customer satisfaction.
 - ✓ Session information.
 - ✓ Topic usage.
 - ✓ Billed sessions.
 - However, there are often scenarios where you'll need to create or use custom analytics. For example, you may need to:
 - ✓ Share analytics with non-makers or users.
 - ✓ Report on conversation transcripts data for a period longer than the default last 30 days.
 - ✓ Design a report not covered by out-of-the-box analytics.

Questions to discuss:

- Do you have an analytics strategy?
 - Do you plan to develop your own custom analytics?
 - If you are going to create your own reports, please detail how and where you plan to store the data.

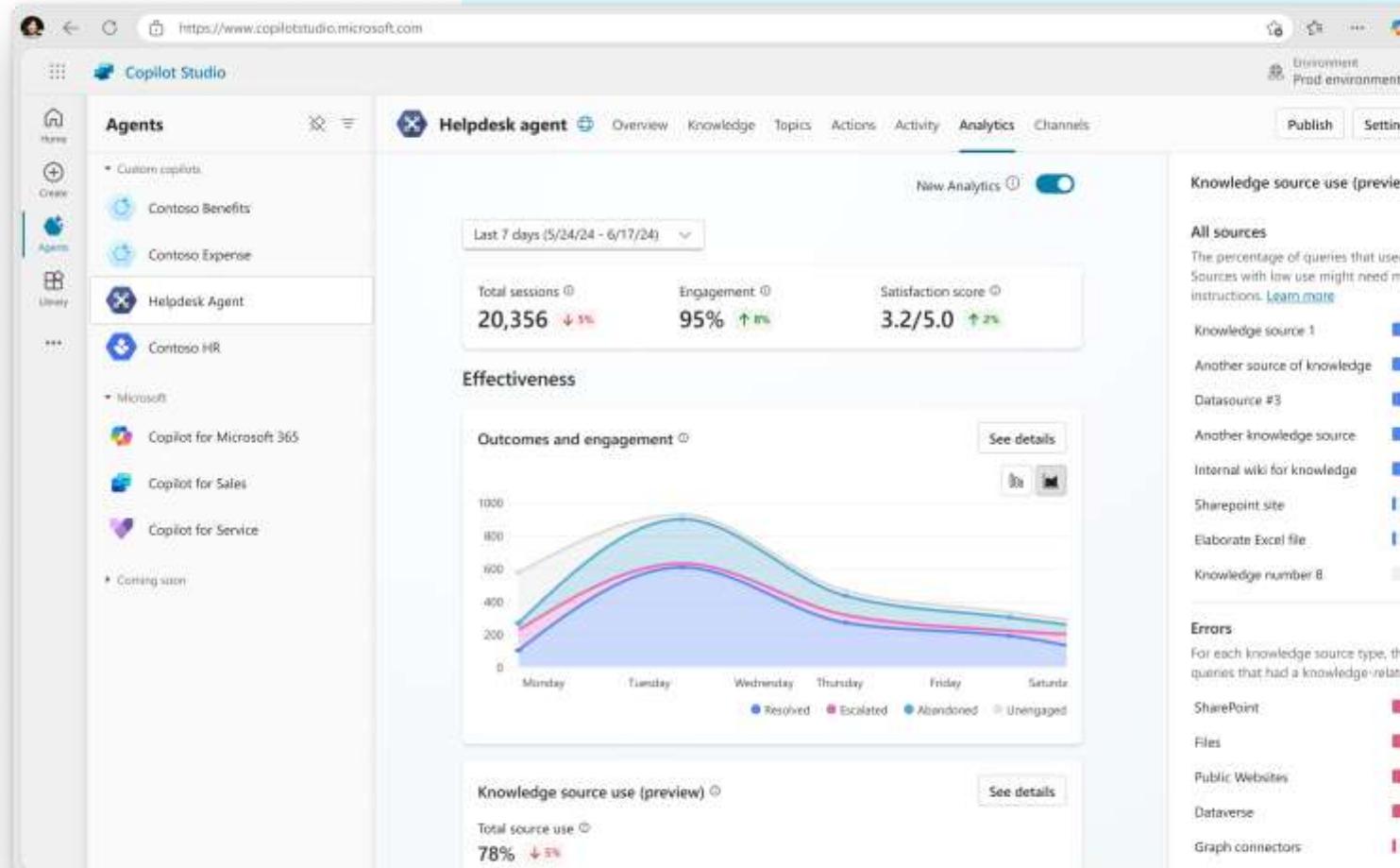
Improved analytics

Updated modern UI is **responsive** and **scalable**, supporting **advanced user interactions**.

Session data now **updates within an hour**, with **data retention extended to 90 days** for deeper trend analysis.

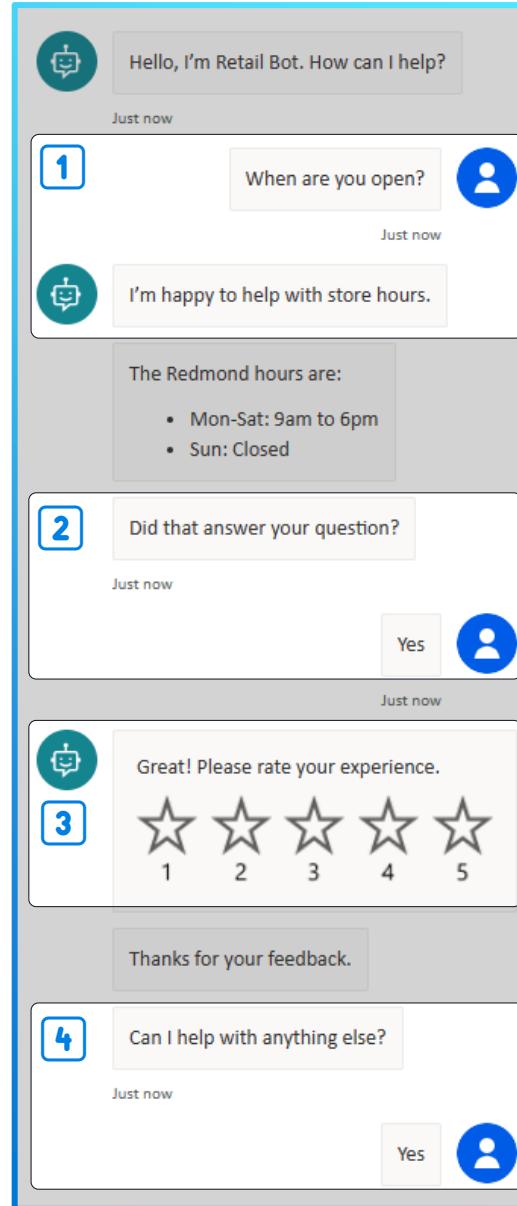
KPIs showing **engagement rate**, **satisfaction score**, **trend comparisons** and **detailed insights** through a side pane.

Knowledge section with **data performance metrics**, including **error rates** and **customer satisfaction feedback**.



Engagement and outcomes

- Tracking conversation engagement and outcomes is crucial to **measure the copilot performance metrics** and spot areas for improvements in the analytics dashboard.
- A **conversation** with a Copilot Studio copilot can generate one or multiple **sessions**.
- A conversation can have multiple sessions when a user has new questions after an initial conversation completed (❸).
- Sessions are either **Unengaged** or **Engaged**. Unengaged sessions always have an outcome of **None**.
- A session is engaged (❶) by either triggering a **custom topic** or the **Escalate** topic.
- Engaged sessions outcome can be either:
 - ✓ **Abandoned**
 - ✓ **Resolved**
 - ✓ **Escalated**
- It's important to end conversation with the **End of Conversation** topic (❷) so that the end-user can confirm their issue was resolved or not (and potentially escalate).
- The **Confirmed Success** topic displays a **CSAT survey** (❸) to capture a 0-5 score.
- A 'conversationOutcome' can also be set at the node level in the code editor view.



Questions to discuss:

How do you track engagement and session outcome? For example:

- Every conversation path, including Generative Answers ones, end with the End of Conversation topic.
- End of Conversation topic is customized to make the resolution validation as simple as possible for the end-user.
- Conversation outcomes are also set at specific node levels (in the YAML).



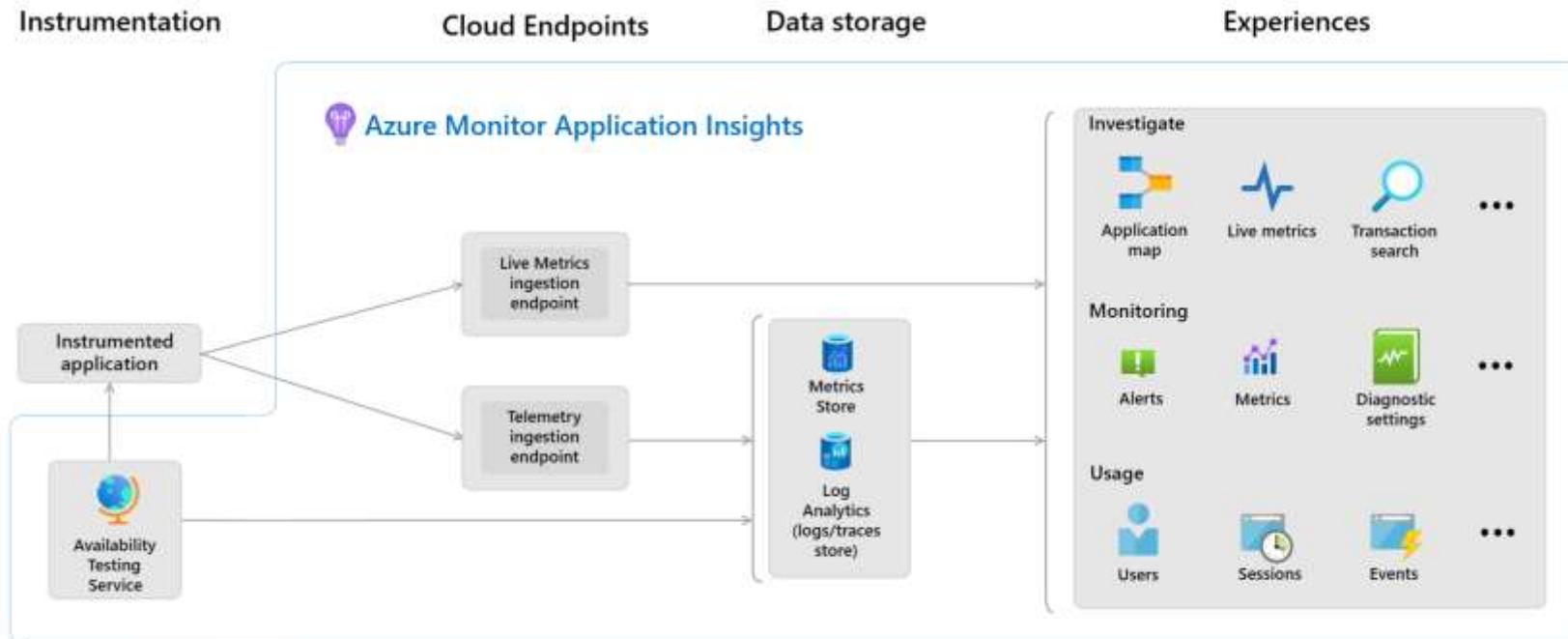
Improved analytics

Monitoring

In addition to the native analytics features within Copilot Studio, you can send telemetry data to Azure Application Insights.

In addition to the native analytics features within Copilot Studio, you can send telemetry data to Azure Application Insights.

- Telemetry offers insights into your copilot by tracking:
- Logged messages and events sent to and from your bot
- Topics to be triggered during user conversations
- Custom telemetry events that can be sent from your topics



Questions to discuss:

- How do you plan to technically monitor your copilots? Azure App insights?
- How do you plan to technically monitor your integrations and cloud flows?
- Do you have other technical monitoring requirements and plans? Like client load time

Azure Application Insights example

Monitoring generative answers results and moderation

The screenshot shows the Azure Application Insights search interface. On the left, a query is displayed:

```
customEvents
| where name == "GenerativeAnswers"
// | where cloud_RoleInstance == "MS Learn Chatbot" // Bot Name
extend cd = todynamic(customDimensions)
extend conversationId = tostring(cd.conversationId)
extend topic = tostring(cd.TopicName)
extend message = tostring(cd.Message)
extend result = tostring(cd.Result)
extend SerializedData = tostring(cd.SerializedData)
extend Summary = tostring(cd.Summary)
extend feedback = tostring(todynamic(replace_string(SerializedData, "$", "")).value)
project cloud_RoleInstance, name, timestamp, conversationId, topic, message, result, feedback, Summary
order by timestamp desc
```

The results table on the right displays the following data:

cloud_RoleInstance	name	timestamp [UTC]	conversationId	topic	message	result	feedback	Summary
MS Learn Chatbot	GenerativeAnswers	11/22/2023, 4:52:30.856 PM	302287e9-9ca7-44e2-860c-985...	Conversational	What is the patient discharge process?	Answered	The patient discharge process involves cohesive joint w...	
Microsoft Copilot Studio Demo	GenerativeAnswers	11/21/2023, 9:15:28.783 AM	ANGtaAV/vlu21EFxrlegV3n-us	SharePoint or OneDrive for Business	What is the patient discharge process?	Answered	The patient discharge process involves cohesive joint w...	
MS Learn Chatbot	GenerativeAnswers	11/20/2023, 3:31:36.750 PM	9094d8ba-d29d-46cf-bdea-645...	Conversational boosting	What is Copilot Studio?	Answered	Microsoft Copilot Studio is a platform that allows you to ...	
MS Learn Chatbot	GenerativeAnswers	11/20/2023, 3:14:22.060 PM	9094d8ba-d29d-46cf-bdea-645...	Conversational boosting	What is Power Virtual Agents?	Answered	Power Virtual Agents is a platform that allows you to cr...	
MS Learn Chatbot	GenerativeAnswers	11/20/2023, 3:13:04.886 PM	98787c69-ccea-45ab-878d-73f...	Conversational boosting	microsoft store	Filtered by High Content Moderation		
Microsoft Copilot Studio Demo	GenerativeAnswers	11/18/2023, 6:53:26.307 PM	FoeHwLxvYvJYFq52ye8vZ-us	SharePoint or OneDrive for Business	What is the patient discharge process?	Answered	The patient discharge process involves cohesive joint w...	
Microsoft Copilot Studio Demo	GenerativeAnswers	11/18/2023, 6:51:51.553 PM	e933479a-bb63-4221-a9e7-c4e...	SharePoint or OneDrive for Business	What is the patient discharge process?	Answered	The patient discharge process involves cohesive joint w...	
MS Learn Chatbot	GenerativeAnswers	11/18/2023, 12:18:38.803 AM	E4gKZ9mQMWCI210GAtlv3f-us	Conversational boosting	what is copilot?	No Search Results		
MS Learn Chatbot	GenerativeAnswers	11/16/2023, 11:28:00.962 PM	9juuiz7RlI5FdYf6asqSxS-us	Conversational boosting	copilot studio	Filtered by Open AI		
MS Learn Chatbot	GenerativeAnswers	11/16/2023, 11:27:43.621 PM	9juuiz7RlI5FdYf6asqSxS-us	Conversational boosting	what is copilot?	No Search Results		
Microsoft Copilot Studio Demo	GenerativeAnswers	11/16/2023, 9:36:46.399 PM	Cqz1Ukrp9Mml2WH03V4vtv-us	SharePoint or OneDrive for Business	What is the patient discharge process?	No Search Results		
MS Learn Chatbot	GenerativeAnswers	11/15/2023, 12:43:05.627 AM	ee81d804-feb6-4bac-acdf-b0d...	Conversational boosting	What is Power Apps?	Answered	Power Apps is a suite of apps, services, and connectors ...	
MS Learn Chatbot	GenerativeAnswers	11/15/2023, 12:42:43.349 AM	ee81d804-feb6-4bac-acdf-b0d...	Conversational boosting	what is power automate?	Answered	Power Automate is a service that allows you to automa...	

Governance applied to Copilot agents

Manage/Best Practices

Application lifecycle management (ALM)



First and foremost, ensure your team is checking into source control!



Copilot Studio ALM is like the rest of the Power Platform



Your copilot is packaged together with dependencies
(Power Automate Flows, connectors) into a solution



A solution file is a .zip! Unzip it and check it in!



Lots of further reading:

[Application lifecycle management \(ALM\) with Microsoft Power Platform](#)

Application Lifecycle Management

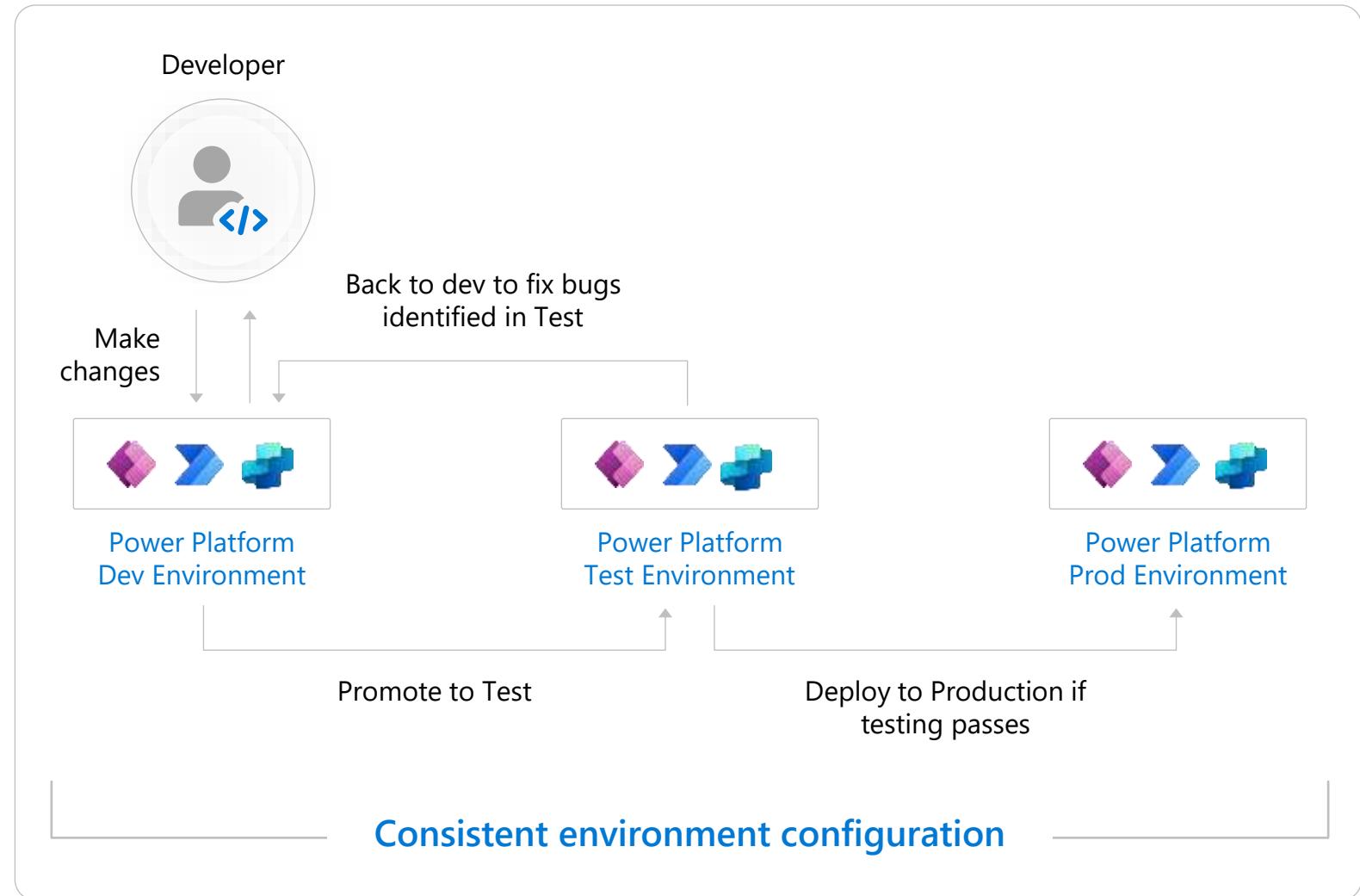
Customers have bot lifecycle management requirements - governance, development, and maintenance.

Customers can export and import copilots across multiple environments – development, test and production.

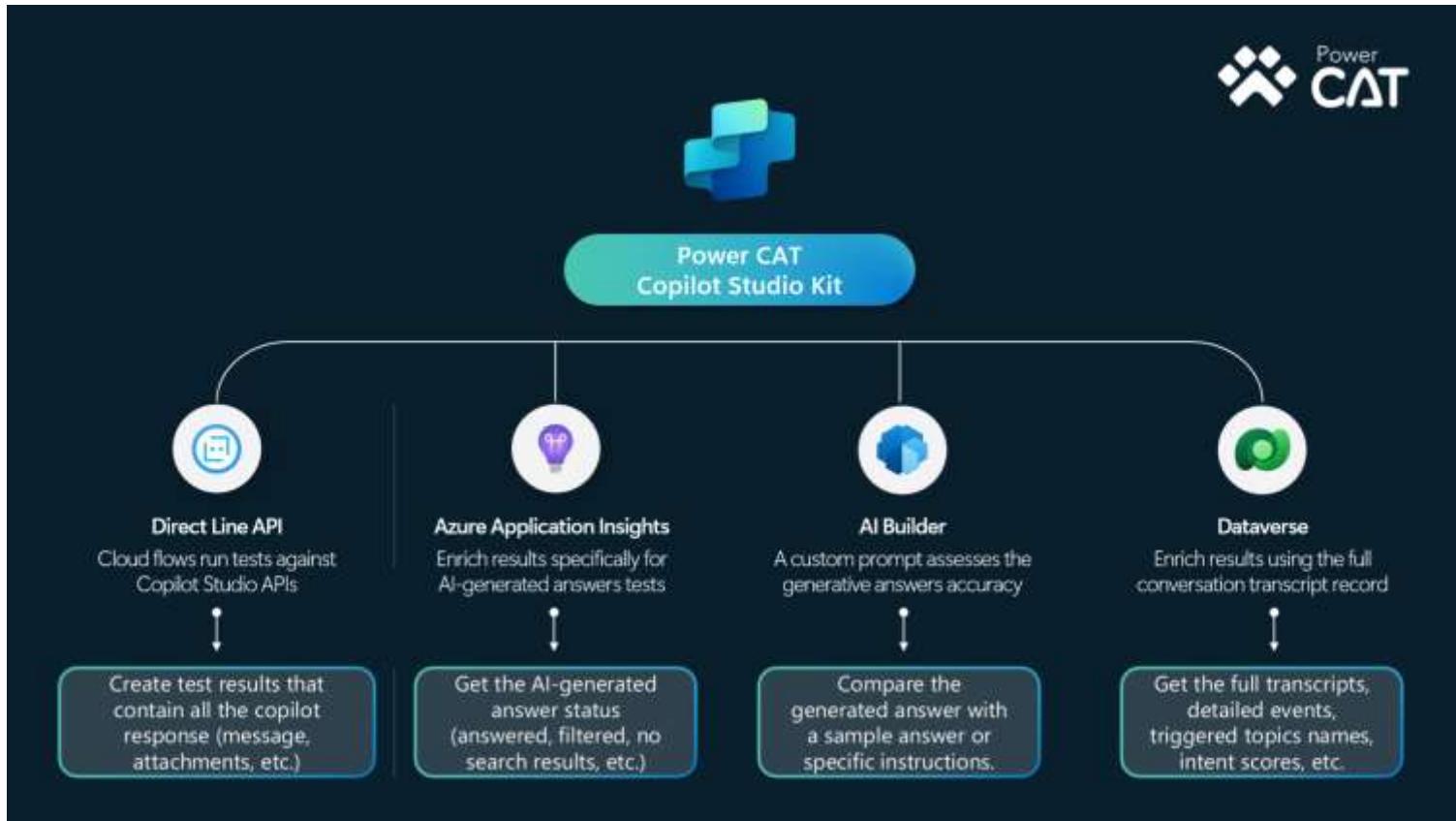
Learn more:

aka.ms/PVA/export-import

aka.ms/powerplatform/ALM



New! Power CAT Copilot Studio Kit



The **Power CAT Copilot Studio Kit** is a comprehensive set of capabilities designed to augment Microsoft Copilot Studio. The kit helps makers test custom copilots, use large language model to validate AI-generated content, and track aggregated key performance indicators.

[Learn more](#)

Additional recommended content

Appendix section on this deck

Learn best practices about **security** and **user management** for Copilot agents

Security, copilot, & user management

Best practices to secure your Copilot Studio project

Assign licenses to users through Entra ID groups

Grant the 'Microsoft Copilot Studio User' license to users through a group instead of individual assignment.

Manage user access to environments through Entra ID groups

Only bot authors and a just-in-time admins should have access to your environments and data stores.

Manage security role assignment through Entra ID group teams

Within each Dataverse environment, leverage group teams to assign security roles to users.

Apply restrictive Data Loss Prevention policies to your environment

DLP policies can be applied to your environments to block all connectors that are not required by the project as well as any bot channel or setting that isn't useful for the project (e.g., unauthenticated use, use skills, etc.).

Review and only enable tenant, environment and copilot settings that are relevant

Tenant admins can disable publishing of GenAI-powered bots. Environment admins can disable GenAI features that require data movement outside of their region. Bot authors can require secured access for Direct Line. Internal chatbots can be limited for use by specific groups instead of being available to all.

Review and tighten security of all integrations

Connections should require strong authentication. Secrets should be stored in a secure location (e.g., Azure Key Vault). Leverage delegation, impersonation or filtering for data access in the context of an end-user.

Have a gated release process to production

Deploying changes from dev to test and to prod should require reviews and be part of a gated process.

Explore additional Power Platform, Dataverse and Entra ID security features

E.g., audit logs, customer-managed keys, customer lockbox, IP firewall, network isolation, multi-factor authentication, continuous access evaluation, etc.

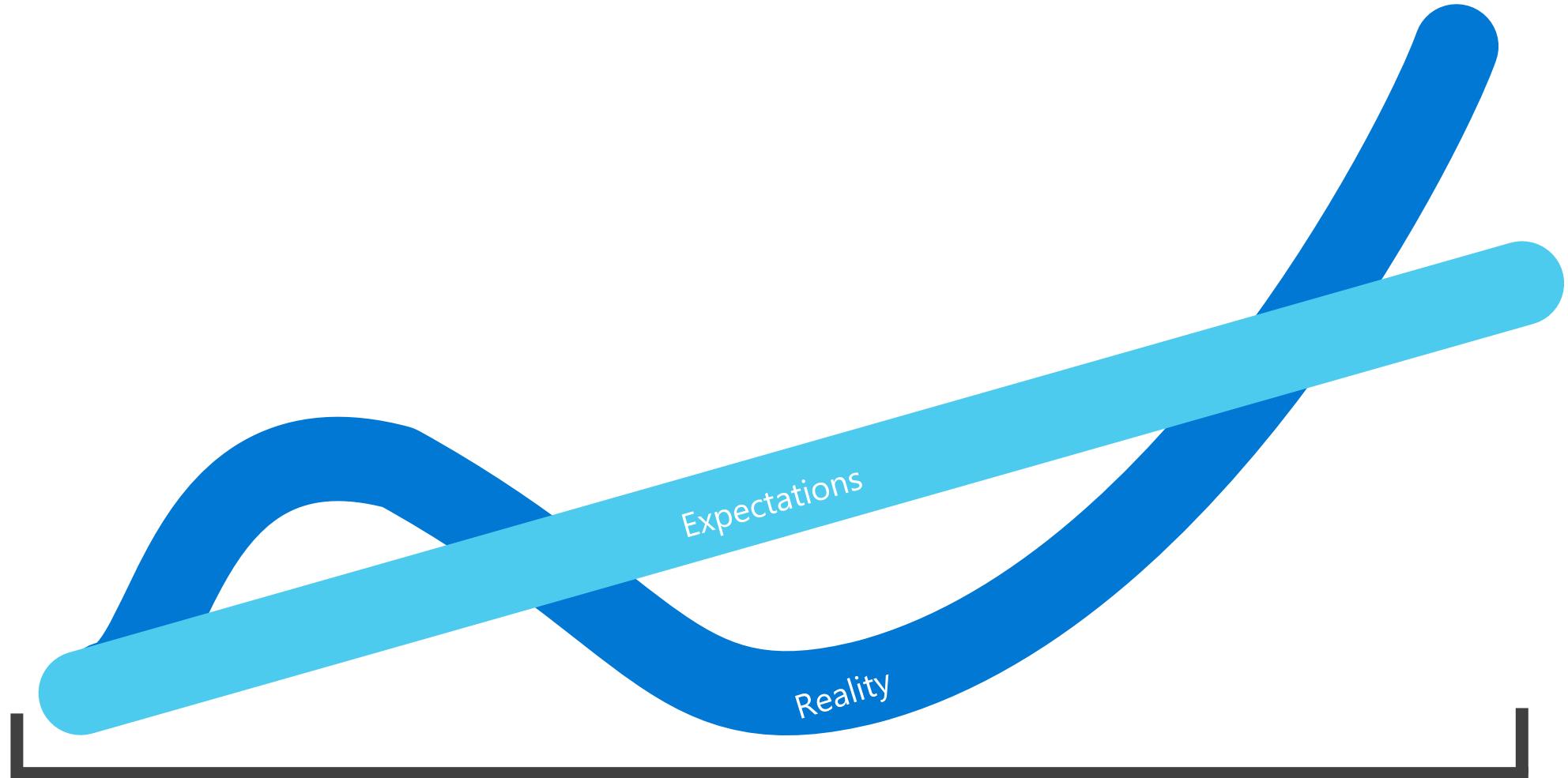
- Entra ID groups should be leveraged fully drive user license assignment, environment access, and security role assignment.
- You should apply a most-restrictive approach by default and relax requirements on an exception basis.

Useful resources:

- [Assign licenses to a group](#)
- [Control user access to environments](#)
- [Use group teams to assign security roles](#)
- [Manage data loss prevention policies](#)
- [Disable the ability to publish copilot generative answers and actions](#)
- [Configure data movement across geographic locations for generative AI](#)
- [Configure web channel security](#)
- [Share and collaborate on chatbots](#)
- [Connecting and authenticating to AI services](#)
- [Use environment variables for secrets](#)
- [Authentication variables](#)
- [Pipelines in Power Platform](#)
- [Activity logging](#)
- [Customer-managed encryption](#)
- [Customer lockbox](#)
- [IP firewall](#)
- [Virtual networks](#)
- [Microsoft Entra ID security best practices](#)

How to plan a copilot agent project

Copilot agent rollout



Questions to help you get started



- What does it mean for your agent to **truly answer** their questions?
- What are some **unexpected responses** your agent may encounter?
- What **data might you need** access to and need to integrate with various systems to do so?
- What **assumptions do your users have** when they engage with your agent?
- What **context do your users have** when talking with your agent, and does this solution fit that mental model?
- How can you design an agent that is **easy for your users** to navigate and find the answers they are looking for?



How to build effective conversational experiences?



Who is your “user”?



Things to keep in mind

- Who is your user?
- What types of conversations will your bot be having with this audience?
- And lastly where will these conversations take place?
- Don't forget who you're designing for

Users talking to agents

They know they're **not talking to a person.**

They know it's **not reciprocal.**

But their **emotional response** is very real.



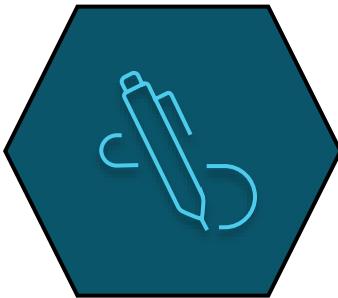
Useful conversational design best practices

- 1 Pick a scenario that will delight and will be requested repeatedly: is the scenario conversational?
- 2 Does the agent easily solve the user's problem with minimal back and forth turns?
- 3 Is the agent discoverable and easy to invoke?
- 4 Mimic human to human conversation in your design of the transcript
- 5 Prototype to uncover what is working
- 6 Create a test plan

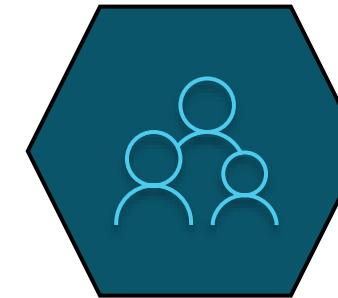
Useful conversational design best practices



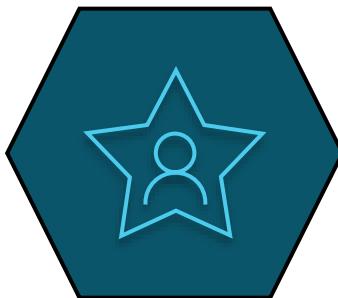
Understand your user



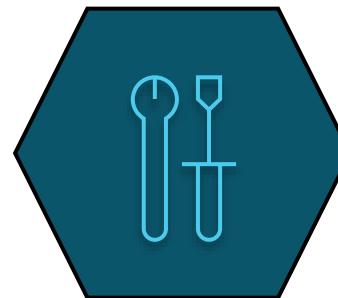
Keep it simple and clear



Be inclusive



Personality is important



Use the right tools

Useful conversational design best practices

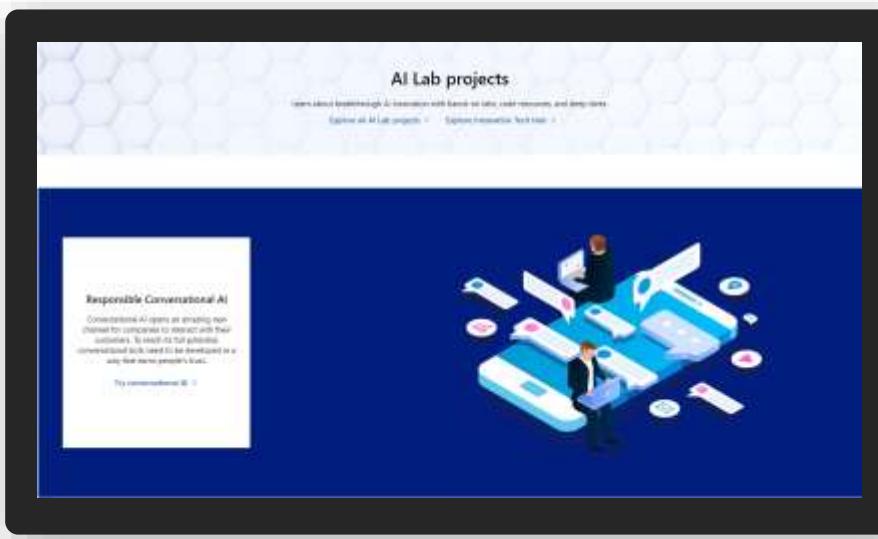
Align the agent with your organization's goals

- 1 Handling repetitive information requests when a skilled human agent is not required
- 2 Reducing the time it takes to get answers to end users
- 3 Lowering support call volume, while also handling high call volume
- 4 Improving support KPIs
- 5 Using an agent as part of the brand strategy

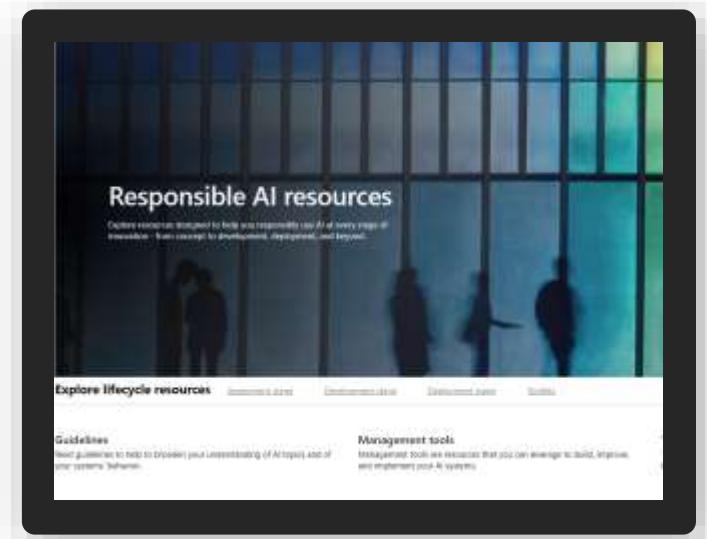
Ethical considerations



**Microsoft's framework
for building AI systems
responsibly**
aka.ms/MSFTAIFramework



**Responsible Conversational AI –
Microsoft AI Lab**
aka.ms/ResponsibleConvAI



**Responsible AI Resources
– Microsoft AI**
aka.ms/Responsible-AI-Resources

Additional recommended content

Copilot Studio implementation guide

Provides a framework to do a 360-degree review of your project. Through probing questions, it highlights potential risks and gaps, aims at aligning the project with the product roadmap, and shares guidance, best practices and reference architecture examples.

<https://aka.ms/CopilotStudioImplementationGuide>



Before you go

Plan your Power Platform adoption

Learn about your low-code maturity level

Learn how low-code can underpin your **successful digital transformation** and scale Microsoft Power Platform adoption to your **entire organization** with our adoption guide.

- Get guidance to help you **create** and **implement** the **business** and **technology strategies** to succeed with Power Platform.
- Learn about **themes, patterns, practices** and **behaviors** that underpin successful Power Platform implementations.
- Learn about how to **kickstart** your **Center of Excellence (CoE)**.

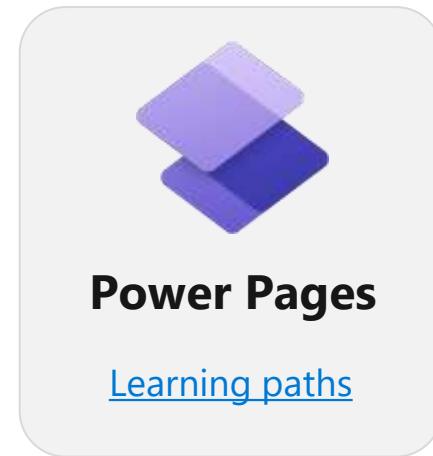
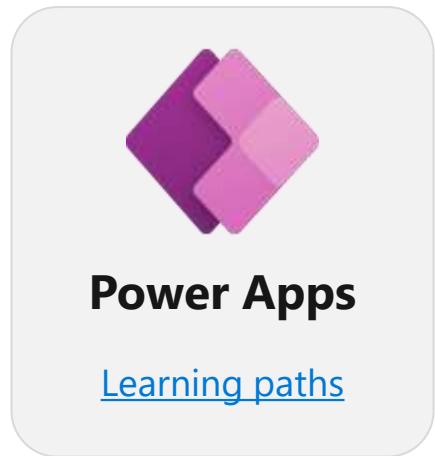
[Learn more!](#)

The screenshot displays the Microsoft Power Platform Adoption landing page. The main title is "Microsoft Power Platform Adoption". Below it, a sub-section titled "Adoption workbook" is shown, featuring social sharing icons for LinkedIn, Facebook, Twitter, and LinkedIn, along with a "Download workbook >" button. To the right, another section titled "Adoption best practices" is visible, with a "Get the best practices >" button. In the background, there are images of a smartphone showing an "Inspection" app interface and a laptop displaying a Microsoft Teams-like application window.

Get training

Use online resources or organize a “in a Day” workshops

Microsoft Learn have **online learning paths** from beginner to advanced level. **“In a Day”** workshops let you have a hands-on experience of building great business apps without writing code.

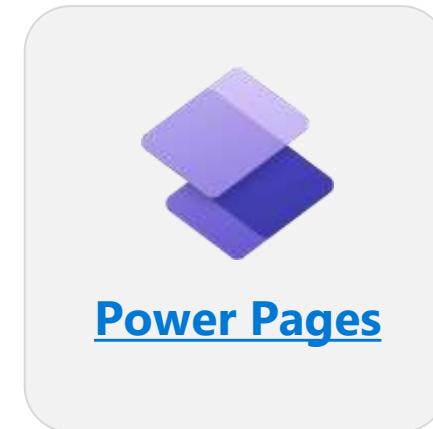
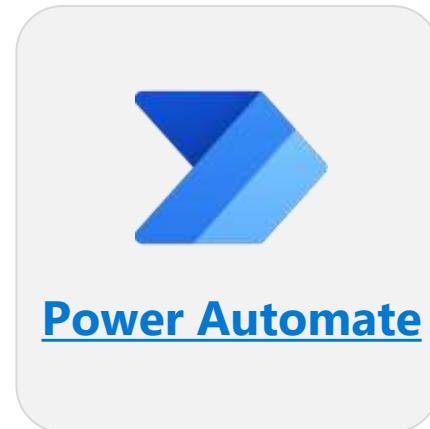
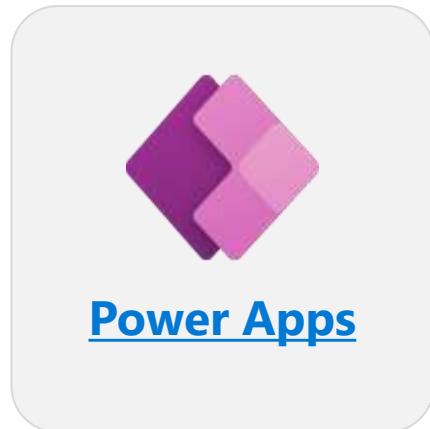


[Power Platform “In a Day”
workshops](#)

Establish guidelines and best practices

Use official documentation as a starting point

These guidelines provides **best practices**, **implementation**, and **architecture guidance** information from the **Microsoft teams** that works with our enterprise customers.



Establish guidelines and best practices

Address complex topics with Power Platform whitepapers

Get **in-depth information, solutions, and recommendations** to help you address complex scenarios and inform your decision-making.

Whitepaper	Description
Develop a tenant environment strategy to adopt Power Platform at scale	Shows you how to align your Power Platform tenant environment strategy with the product capabilities and vision.
Enterprise security with Power Platform	Shows you how to align Power Platform with your security practices.
Activating Managed Environments	Explores the features of Managed Environments in Power Platform.
Application modernization with Power Platform	Explores the benefits, strategies, and best practices of modernizing applications with Microsoft Power Platform.
Migrating apps and flows from the default environment	Outlines considerations and best practices for migrating apps and flows from the default environment.
Architecture white paper	Provides a comprehensive view of the capabilities of the Power Pages platform and how it scales, offer high reliability and availability, and protect business data
Security white paper	Describes how Power Pages offers enterprise grade security and the tools and capabilities

Establish guidelines and best practices

Power Platform Well-Architected

A framework that can improve the quality of your Power Platform workloads

- A set of **best practices, architecture guidance, and review tools** to help you make informed decisions about the design, planning, and implementation of Power Platform workloads.
- Based on the methodology and guidance of the [Azure Well-Architected Framework](#).
- Have an [assessment tool](#) to help **identify areas of enhancement** and **iteratively improve** your workloads.

[**Learn more!**](#)

The screenshot shows the homepage of the Power Platform Well-Architected website. The header features the title "Power Platform Well-Architected". Below the title is a brief description: "Microsoft Power Platform Well-Architected is a set of best practices, architecture guidance, and review tools to help you make informed decisions about the design, planning, and implementation of modern application workloads with Microsoft Power Platform." A button labeled "What is Power Platform Well-Architected?" is visible. At the bottom of the header, there are navigation links: "What's new", "Pillars", "Workloads", "Implementing recommendations", and "Assessment tool". The main content area has a dark blue background with white text. It features the heading "POWER PLATFORM WELL-ARCHITECTED" and the subtext "Design modern application workloads that are built to change and built to last." To the right, there is a diagram showing the relationship between "Power Platform Well-Architected" and four pillars: Reliability (blue), Security (orange), Operational Excellence (green), and Performance (yellow). A note at the bottom states: "Power Platform Well-Architected helps you design your modern application workloads to both meet current requirements and adapt to future needs and challenges. Start with the pillars, and then align".

Continue sua jornada de **conhecimento**

Demonstrações técnicas de Power Platform

Eventos no **Microsoft Teams** conduzidos pelos especialistas em Power Platform da Microsoft Brasil. Para participar procure seu **gestor(a) de conta** (AE) ou **especialista** (SSP).



Desenvolvimento de aplicativos

Tópicos

- Canvas Apps
- Microsoft Dataverse
- Model Driven Apps
- Power Pages

Duração

03 horas

[Saiba mais](#)

Governança e ALM

Tópicos

- Governança
- Segurança
- Monitoramento
- Centro de Excelência (CoE)
- ALM/DevOps

Duração

03 horas

[Saiba mais](#)

Hiper automação

Tópicos

- Process e Task Mining
- Cloud flows (DPA)
- Desktop flows (RPA)
- Gerenciamento e monitoramento
- Hosted machines (VMs SaaS)
- Automações e integrações

Duração

03 horas

[Saiba mais](#)

Criando copilots com Copilot Studio

Tópicos

- Ecosistema Microsoft de copilots
- Visão geral do Copilot Studio
- Recursos baseados em IA generativa
- Automações e integrações

Duração

03 horas

[Saiba mais](#)

Continue sua jornada de **conhecimento**

Power Platform Connect

Site mantido pelos especialistas em **Power Platform** da **Microsoft Brasil**. Nele você encontrará:



Biblioteca de conteúdo

Coleção de links oficiais das soluções que compõem a Power Platform

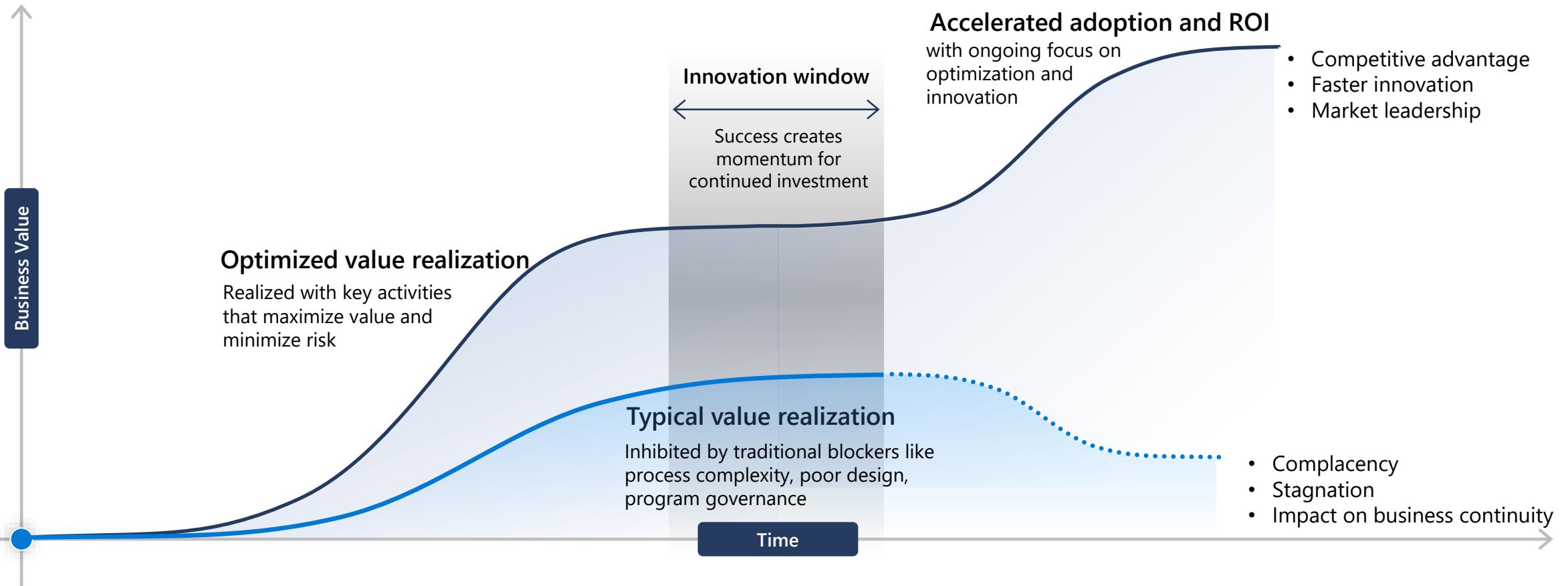
Eventos online

Eventos online promovidos pela Microsoft ou seus parceiros.

<https://microsoft.github.io/powerplatformconnect>

Maximize seus investimentos com o Microsoft Unified

Acelere seu tempo de implantação com serviços liderados por especialistas, desde o planejamento até a implantação e muito mais



Conte com especialistas para construir seus aplicativos

Com acesso direto aos especialistas da Microsoft, você pode criar aplicativos personalizados usando o Power Platform para resolver desafios de negócios e automatizar processos de negócios

O que você quer alcançar...

- Estabeleça um modelo de governança e padrões e prepare-se para a IA
- Implantação bem-sucedida da plataforma de energia em toda a empresa
- Validação de processos de projeto e desenvolvimento de arquitetura de soluções

Como entregamos...

- Assistência na criação de um Centro de Excelência (COE) para governar a criação de aplicativos e acelerar a adoção em toda a organização
- Orientação prescritiva de especialistas para acelerar a implantação com workshops de Maker e Developer para melhorar as habilidades da equipe
- Revisões técnicas e funcionais para validar planos e abordar problemas e riscos

Saiba Mais

Visite aka.ms/Enhanced-Solutions para agendarmos uma sessão com objetivo de determinar como nossas **Soluções Aprimoradas** podem ajudá-lo a alcançar os resultados desejados

Thank you!

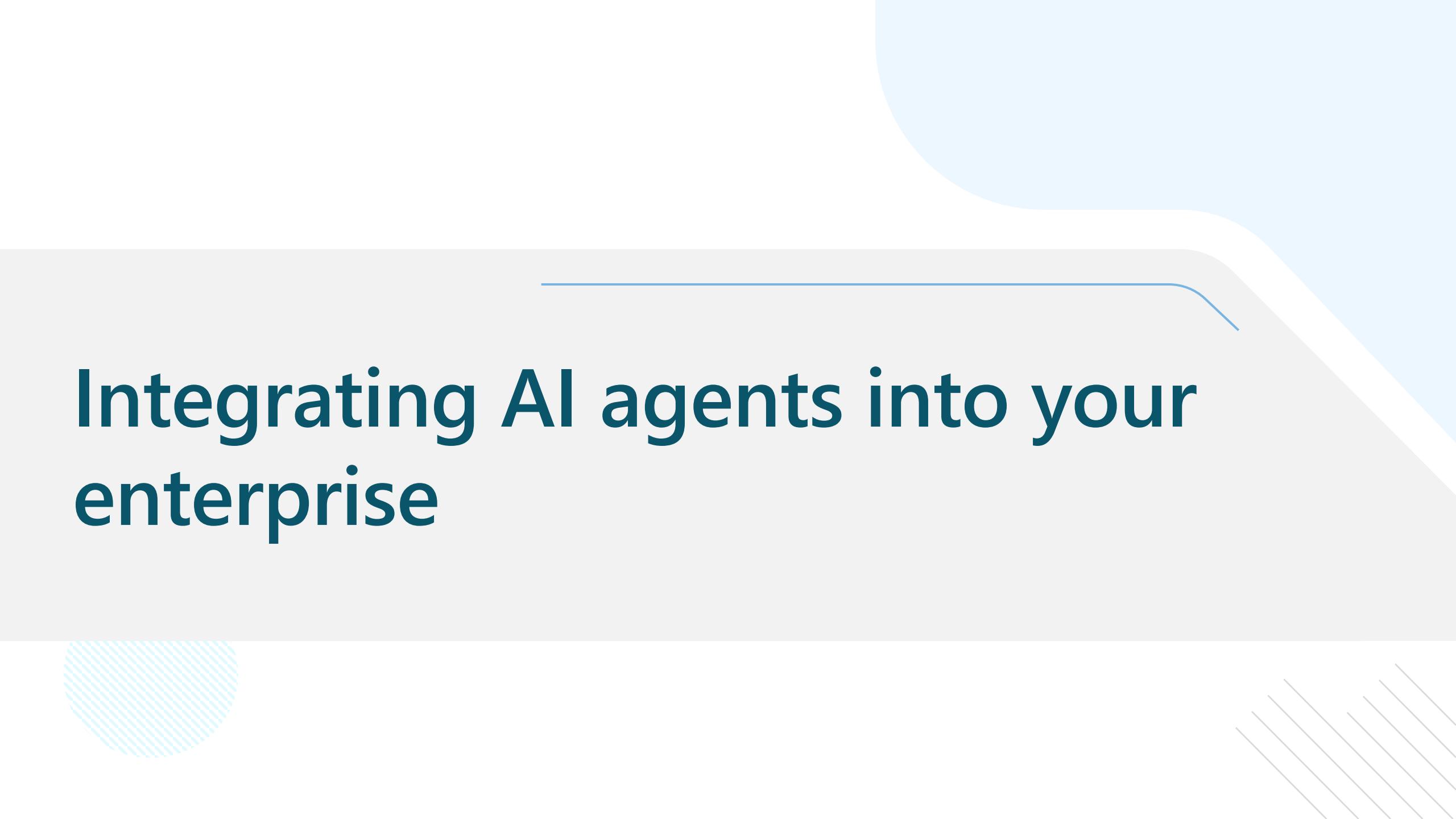
Ricardo de Souza

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 rdesouza@microsoft.com

 <https://www.linkedin.com/in/ricardodesouza/>

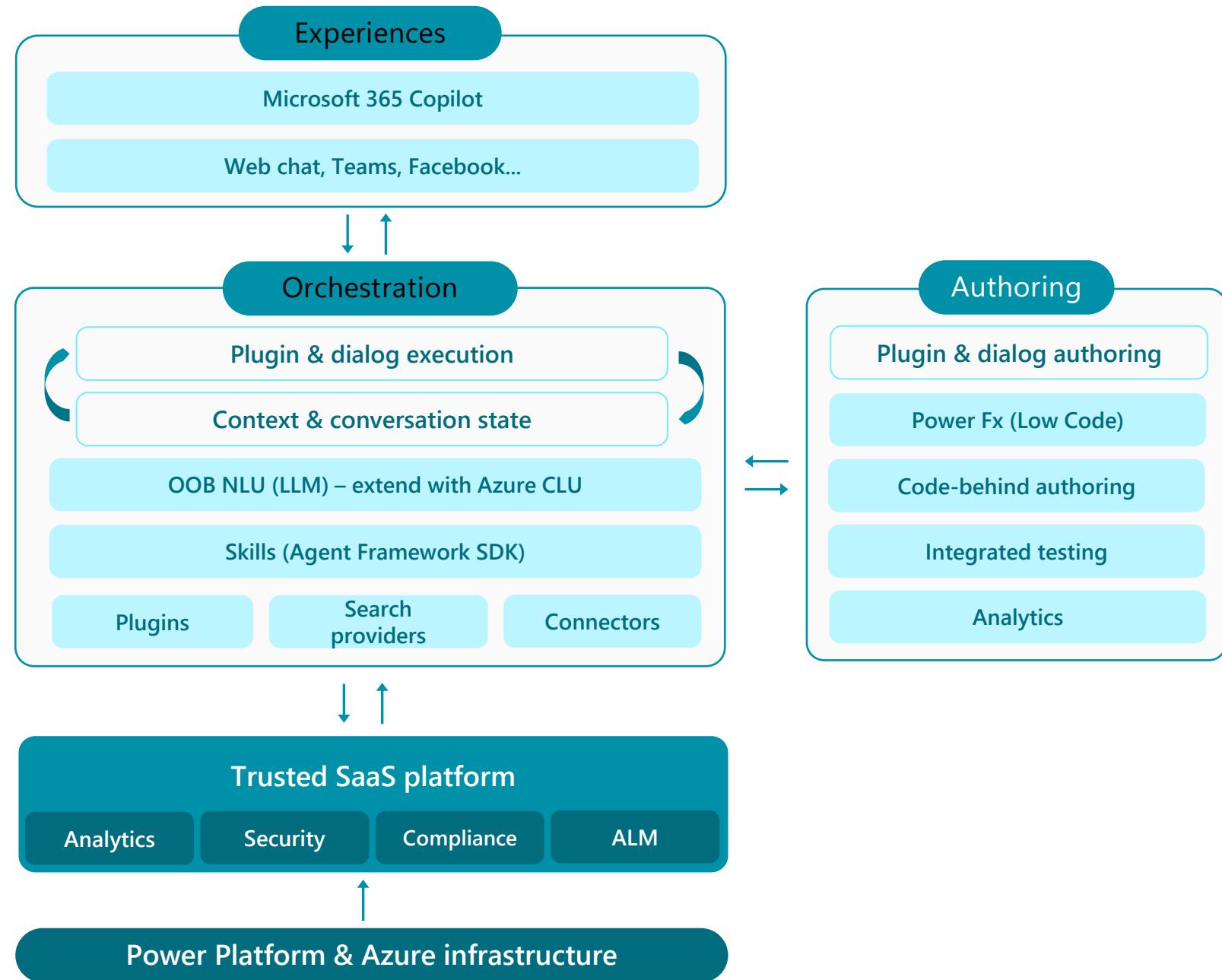
Appendix



Integrating AI agents into your enterprise

Copilot stack

Applied to Copilot Studio



Integrating into your enterprise

Legend

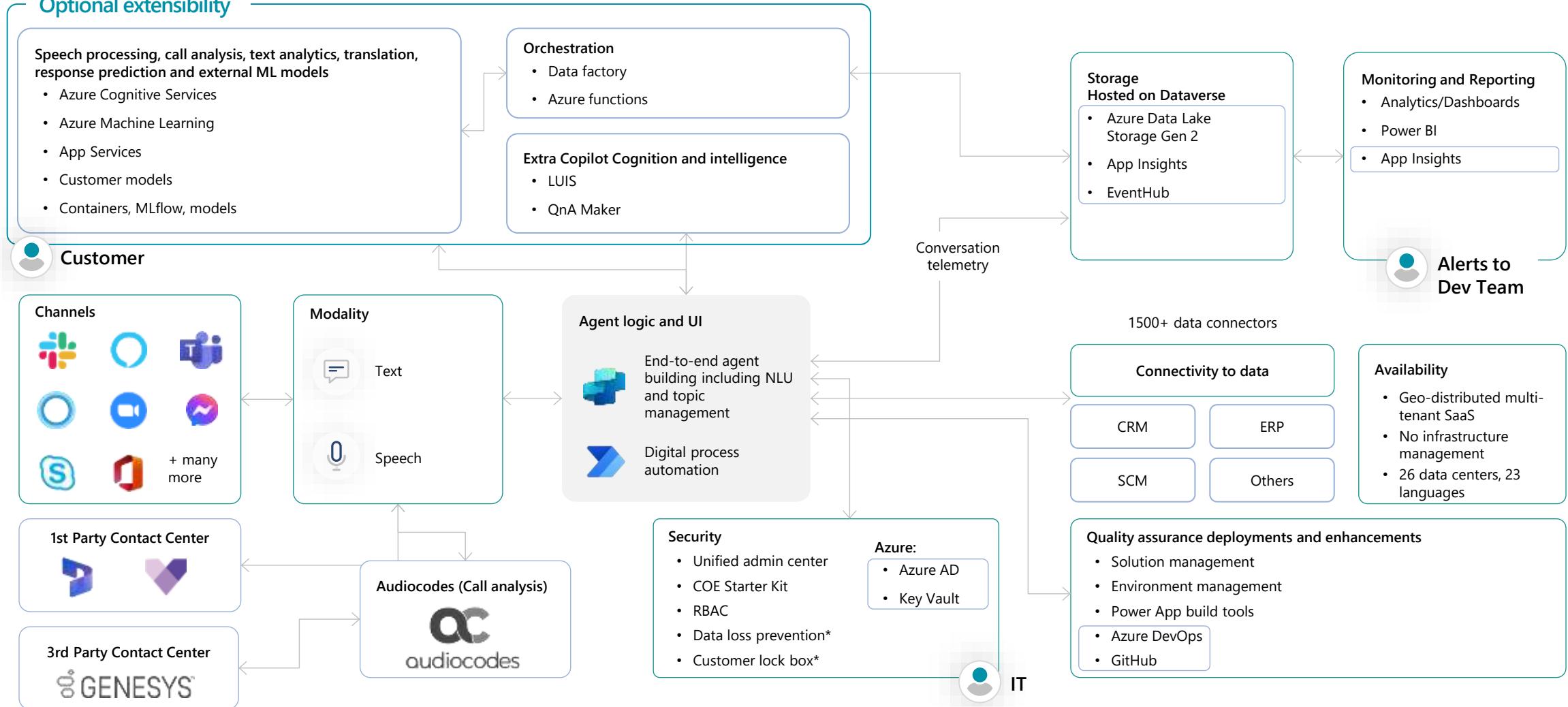
Communications

Add-ons

Incl in Copilot Studio

* Coming soon

Optional extensibility



Differences and similarities between Copilots

Comparison of agent types (1 of 2)

	Custom agents	Declarative agents	Embedded agents (Biz Chat)
Availability	Generally available	Generally available on 9/19	Public preview
Supported scenarios	B2C & B2E	B2E	B2E
Orchestrator	MCS standard or generative	Sydney	Sydney
LLM Answers	Yes	Yes	Yes
Custom Instructions	Yes	Yes	Yes
Starter prompts	No – users can use suggested actions to achieve a similar experience	Yes	Yes
Actions	<ul style="list-style-type: none"> • Connectors • Custom Connector • Flow • Skill • Prompt • Rest API (9/26) 	<ul style="list-style-type: none"> • Connectors • Custom Connectors • Flow • Prompt • Rest API (9/26) 	No
Knowledge available	<ul style="list-style-type: none"> • Websites • SharePoint • Files • Dataverse • Graph connectors • Power Platform connectors • AOAI On Your Data 	<ul style="list-style-type: none"> • SharePoint • Graph connectors 	<ul style="list-style-type: none"> • SharePoint • Graph connectors that have been configured by your admin • Full web
Topics	Yes – full advanced authoring canvas	No	No
Code editor	Yes	No	No
Adaptive card support	Yes	No	No
Adaptive card actions	Yes	No	No

Comparison of agent types (2 of 2)

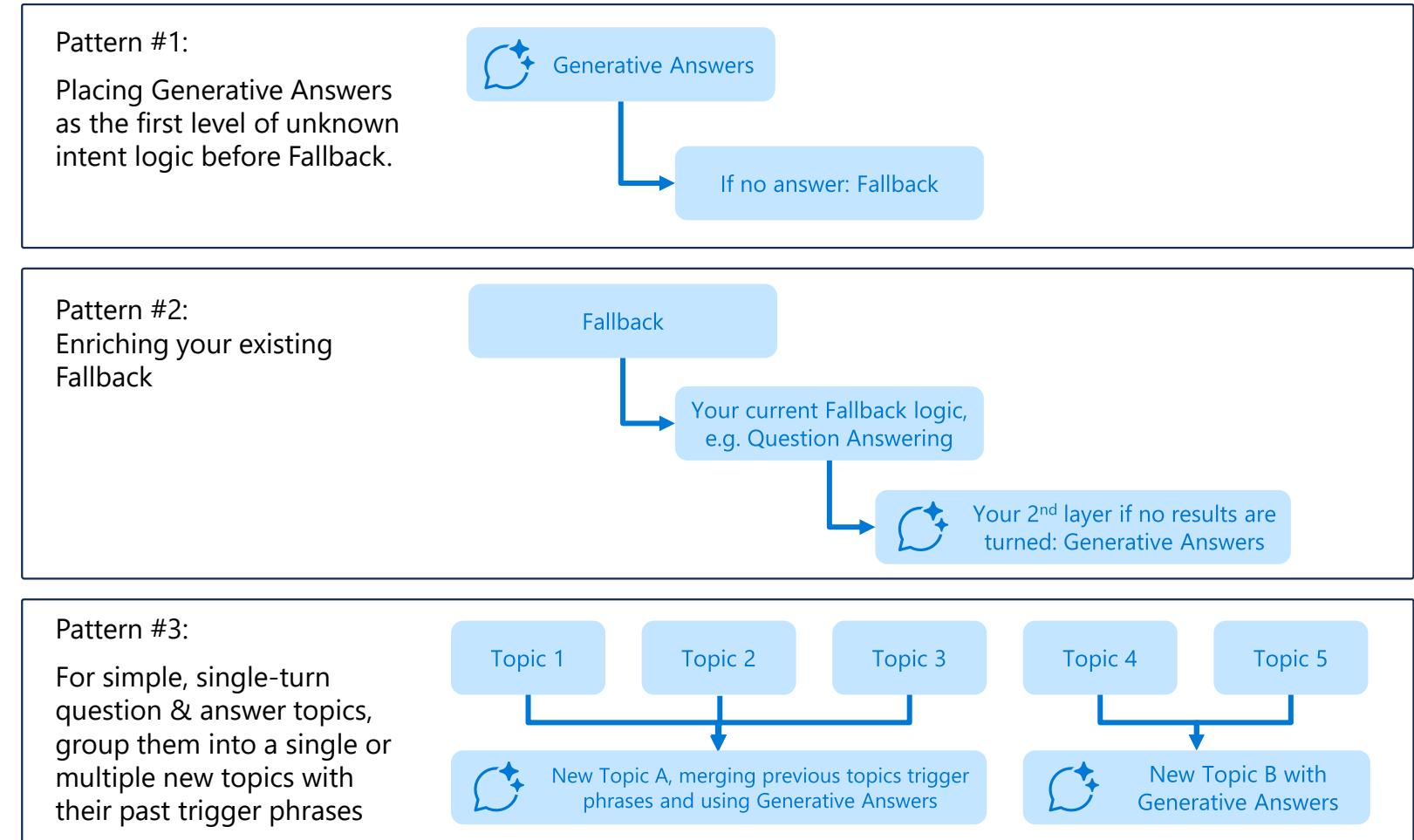
	Custom agents	Declarative agents	Embedded agents (Biz Chat)
Authentication	Yes, for agent and actions	Yes, for actions	No
Channels	<ul style="list-style-type: none"> • Website • Teams • Facebook • Slack • Mobile App • SMS - Twilio • Telephony • Telegram • Line • Email <p>With Dynamics Customer Service:</p> <ul style="list-style-type: none"> • Apple Business Chat • WhatsApp • Google Business Messaging 	<ul style="list-style-type: none"> • M365 Copilot • Teams 	<ul style="list-style-type: none"> • M365 Copilot • Teams
Handoff	Yes	No	No
Analytics	Yes	No	No
Azure AI integration	Yes	No	No
Custom prompts through AI Builder	Yes	Yes	No
Collaboration	Commenting and sharing	Everyone in environment can collaborate. No commenting.	No
Environment and solution aware	Yes	Yes	Environment agnostic
Agentic / autonomous capabilities	Coming at Ignite	No	No
Licensing	Copilot Studio PP License	M365 Copilot license (does not hit message meter)	M365 Copilot license (does not hit message meter)
Admin controls	Yes	Yes	No

Generative AI usage patterns

Infusing generative AI into topics example

Finding the right place for generative AI in your new or existing copilots

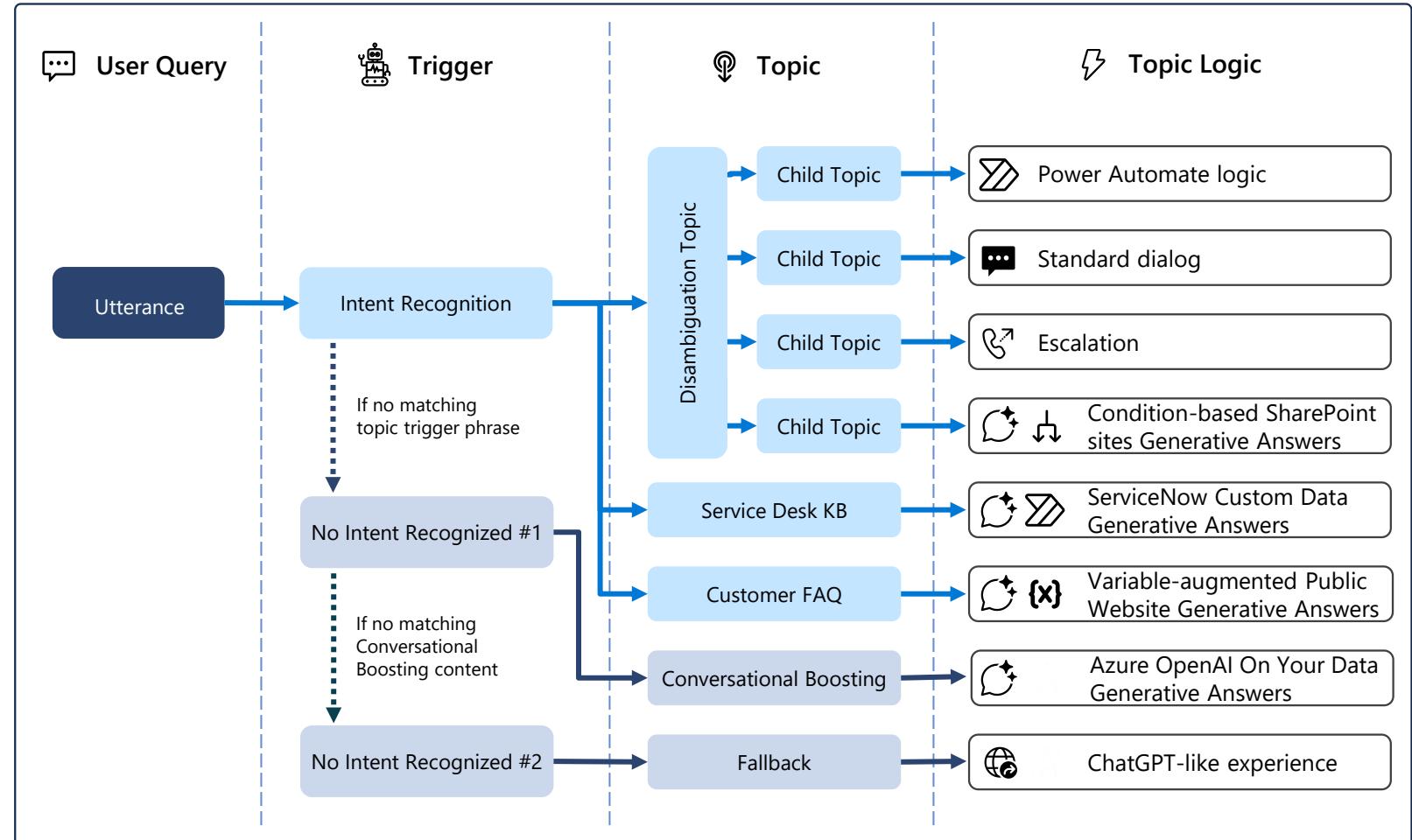
- Generative answers unlock new use cases for copilots where dialog paths no longer need to be fully anticipated.
- By plugging generative answers into your internal and external data sources, the copilot can search and summarize answers for user queries.
- It's not an 'either' choice: you can configure generative answers wherever you choose in your topics, and the data sources can both be dynamic, hard coded, or enriched with context variables.
- It's still a good idea to have generative answers also configured in the Conversational boosting topic that triggers before Fallback, to try to catch and answer user queries with broader data sources before they get to Fallback.
- While planning for generative answers, it's important to plan for follow-up questions (should they remain in context of the previous answer or trigger a new topic?) and how you will measure, track, and validate that the generated answers are accurate and answer the user questions.



Infusing generative AI into topics example 2

Mixing scripted dialog paths and generative answers from different data sources

- Generative answers unlock new use cases for copilots where dialog paths no longer need to be fully anticipated.
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- It's not an 'either' choice:** you can configure generative answers wherever you choose in your topics, and the data sources can both be dynamic, hard coded, or enriched with context variables.
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- While planning for generative answers, it's important to plan for follow-up questions (should they remain in context of the previous answer or trigger a new topic?) and how you will measure, track, and validate that the generated answers are accurate and answer the user questions.



Copilot studio popular authoring features

Popular authoring features



Rich responses



Adaptive Cards



Images



Videos



Quick Replies



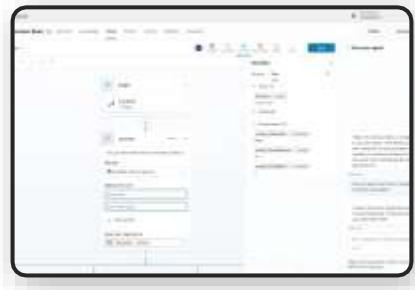
Power Fx-based variables system

- Power Fx integrated formula editor for variable management
- List/record type support
- Condition nodes with Power Fx formula support
- Iterate over a list with new Loop nodes



Code side-by-side

- Move between a visual editor and code
- Share and re-use topic logic between developers and agents



Event-driven & contextual triggering

- Trigger an event if it detects a certain value has been received
- Add more nuanced responses to a message when the agent runs into an issue
- Agents can stay within context when a user asks for help or more details



Productivity

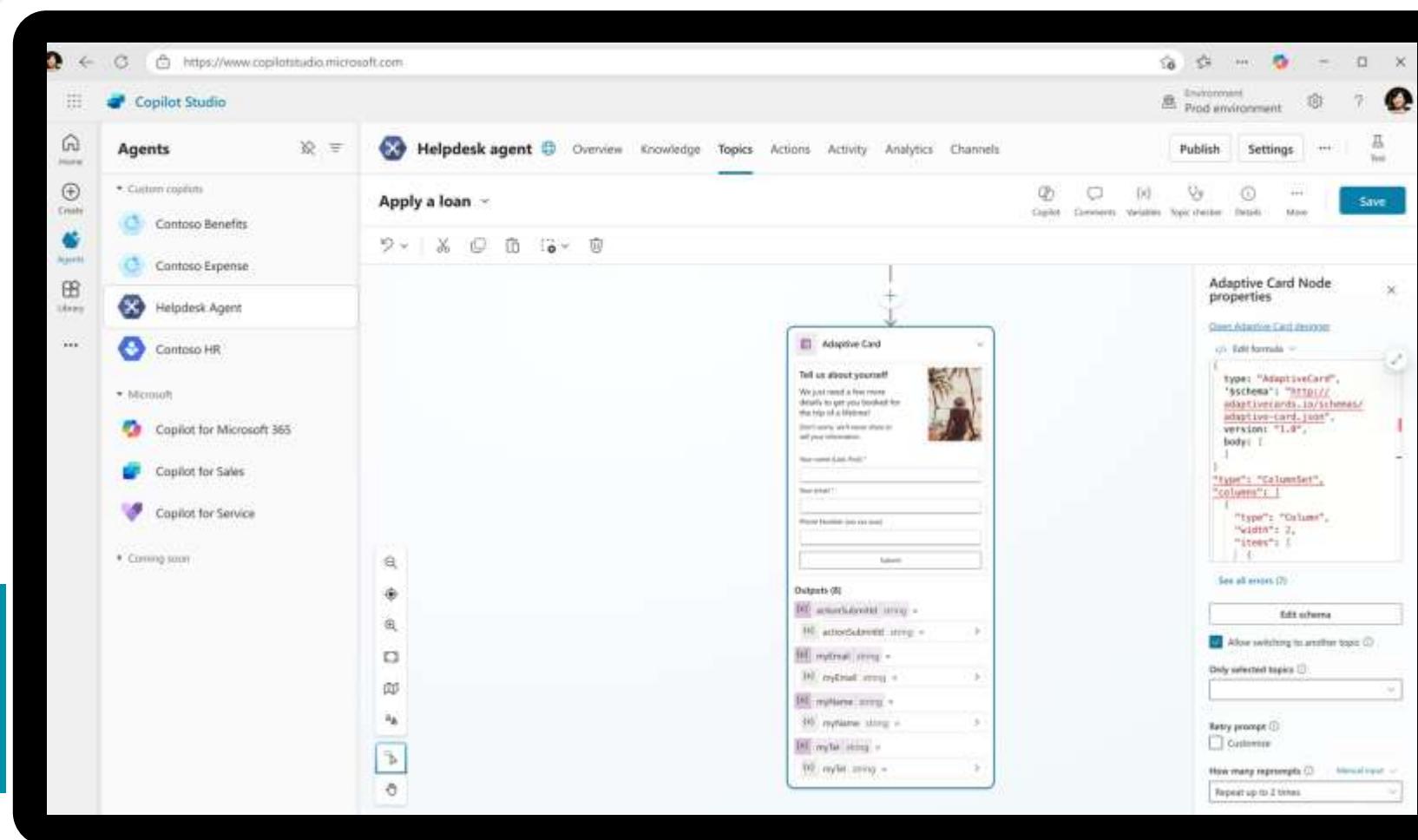
- Cut, Copy, Paste
- Multi-node selection
- Enhanced topic navigation

Design engaging responses

Type the response you would like to provide to the user

- Add images and videos using URLs
- Create Basic and Adaptive Cards using JSON and Power Fx
- Use Quick Replies to provide suggestions
- Mix up the way the agent says the response with language generation

An adaptive card is an open card exchange format enabling developers to exchange UI content in a common and consistent way.



Ask with an Adaptive Card

Collect information from users with an interactive Adaptive Card

Add a node that allows you to prompt a user with an Adaptive Card and wait for a response

Output variables are automatically generated, based on the JSON for the card

Same flexibility and configurable options for retry and interruption as the Question Node

The screenshot shows the 'Adaptive Card Node properties' panel from a workflow editor. At the top, there's a preview window showing an adaptive card with fields for name, email, and phone number, along with a submit button and a tropical photo. Below the preview, the JSON configuration for the adaptive card is displayed:

```
type: "AdaptiveCard",
'$schema': "http://adaptivecards.io/schemas/adaptive-card.json",
version: "1.0",
body: [
]
}
"type": "ColumnSet",
"columns": [
{
  "type": "Column",
  "width": 2,
  "items": [
    {
      "type": "Text"
    }
  ]
}
]
See all errors (7)
```

On the right side of the panel, there are several configuration options:

- Edit schema** button
- Allow switching to another topic** checkbox (checked)
- Only selected topics** checkbox

Design with code side-by-side

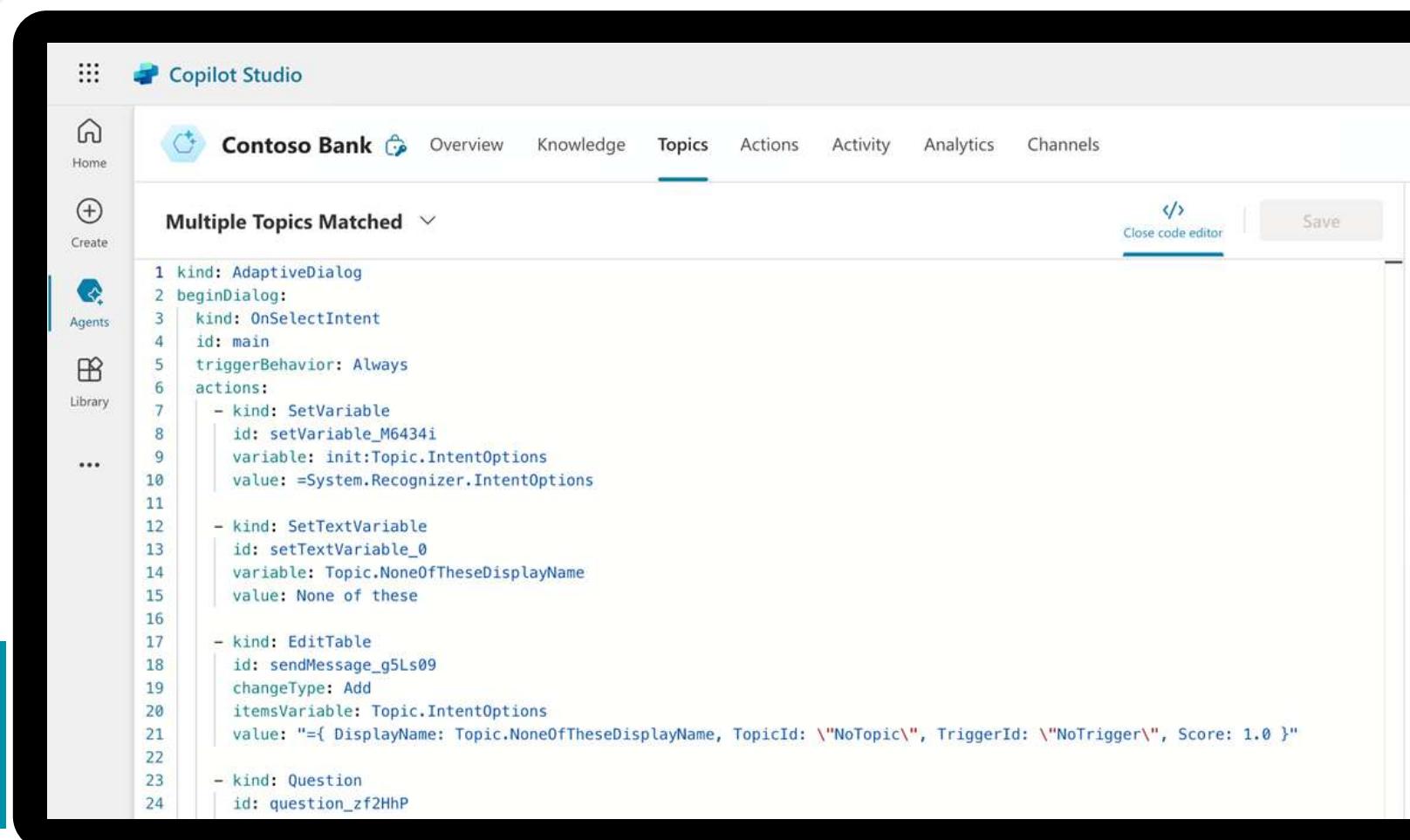
Switch in between the graphical user interface and the code editor

The code editor provides a YAML-like experience to make inline edits to the agent

Pick the view that makes your agent building the most efficient

Developers can share and re-use topic logic between developers and agents

YAML is a human-readable data-serialization language. It is commonly used for configuration in applications where data is being stored or transmitted.



The screenshot shows the Copilot Studio interface for the Contoso Bank agent. The top navigation bar includes Home, Create, Agents, Library, and a three-dot menu. The main header shows 'Contoso Bank' and the 'Topics' tab is selected. Below the header, a title 'Multiple Topics Matched' is displayed. The central area contains a code editor with the following YAML content:

```
1 kind: AdaptiveDialog
2 beginDialog:
3   kind: OnSelectIntent
4   id: main
5   triggerBehavior: Always
6   actions:
7     - kind: SetVariable
8       id: setVariable_M6434i
9       variable: init:Topic.IntentOptions
10      value: =System.Recognizer.IntentOptions
11
12     - kind: SetTextVariable
13       id: setTextVariable_0
14       variable: Topic.NoneOfTheseDisplayName
15       value: None of these
16
17     - kind: EditTable
18       id: sendMessage_g5Ls09
19       changeType: Add
20       itemsVariable: Topic.IntentOptions
21       value: "{ DisplayName: Topic.NoneOfTheseDisplayName, TopicId: \"NoTopic\", TriggerId: \"NoTrigger\", Score: 1.0 }"
22
23     - kind: Question
24       id: question_zf2HhP
```

On the right side of the code editor, there are buttons for 'Close code editor' and 'Save'.

Establish variables for data manipulation

A variable type is associated with the entity and identified information when it's saved

Set variables before the question or save from responses

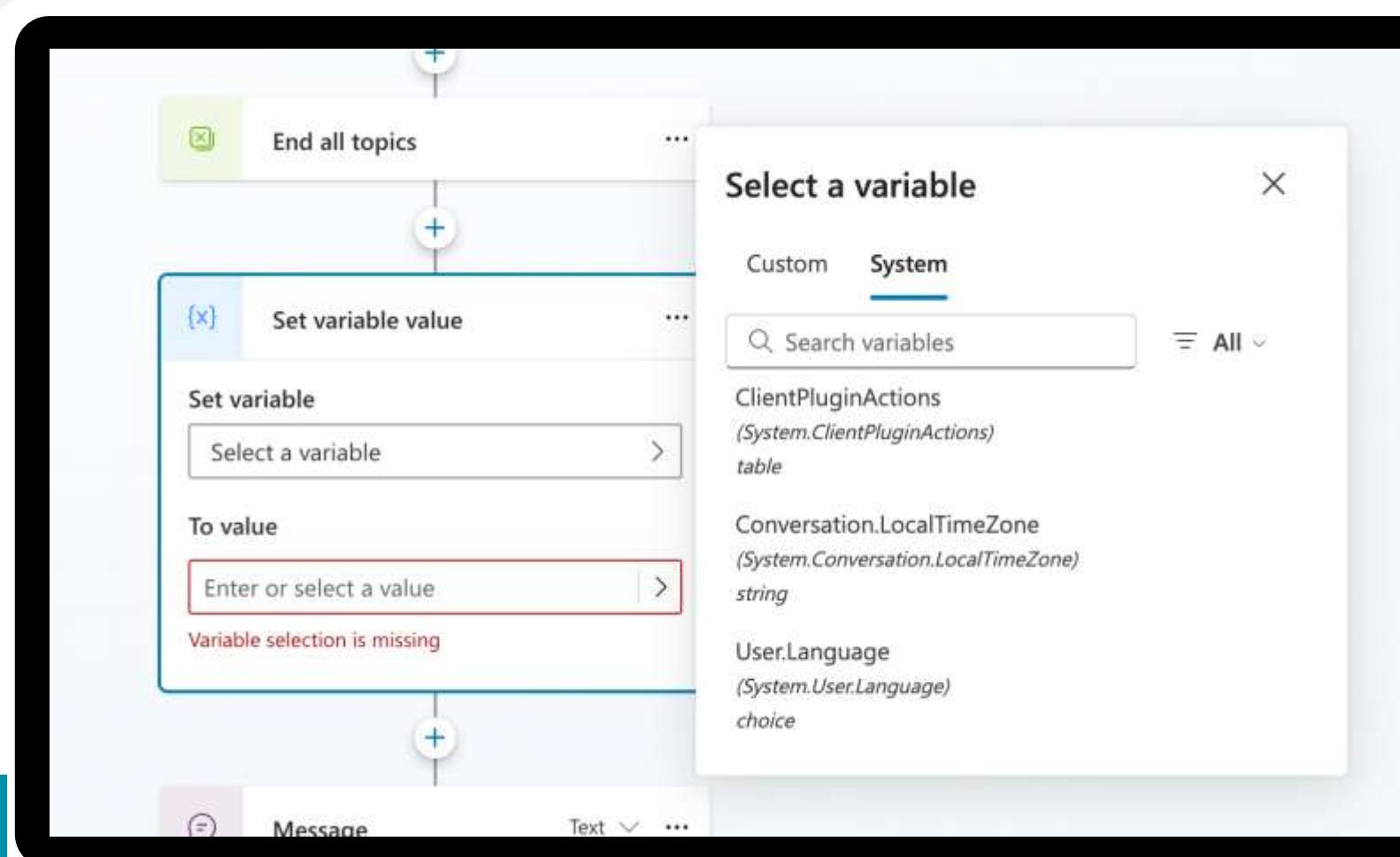
Examples:

- The country and region entity would store a variable as a "String"
- The money entity stores the variable as a "Number"

Variable types

String	List
Number	Record
Boolean	Table
DateTime	Choice

A variable is used to store, transform and use data.
Variables can be used to dynamically route the user through a conversation.



Design for complex logic using Power Fx

Use the integrated Power Fx formula editor for simple but powerful variable manipulation across multiple nodes

These formulas can be used to work with variables and conditions

Popular Power Fx uses

- Date manipulation (date dif, date add, date format)
- Math calculations (sum, average, etc.)
- Text formatting (concat, numeric, etc.)

Power Fx uses Excel-like formulas to create complex logic for data and advanced variable manipulation

The screenshot shows the Power Automate interface. On the left, a message card displays the text "Got it. I'll process your return now." Below it is a "Message" action with a "Text" input field containing the same text. Above the message card, a "To value" step shows the formula `fx returnItem`, which is highlighted and has a red error message: "Identifier not recognized in expression". To the right, a separate "Enter formula" dialog is open, showing an empty input field and some usage instructions.

To value

fx returnItem

Identifier not recognized in expression "

+

Message

Text

Add **B** I \equiv {x} fx

Got it. I'll process your return now.

+

Enter formula

fx

Press CTRL + SHIFT + M to disable / enable Tab character

Examples

Conditions

- If(Topic.isVIP, "Hello VIP", "Hello")
Runs the formula and returns 'Hello VIP'
- If(Topic.age > 18, "Enter")
Runs the formula and returns 'Enter'

Date & Time

Establish event-driven and contextual triggering

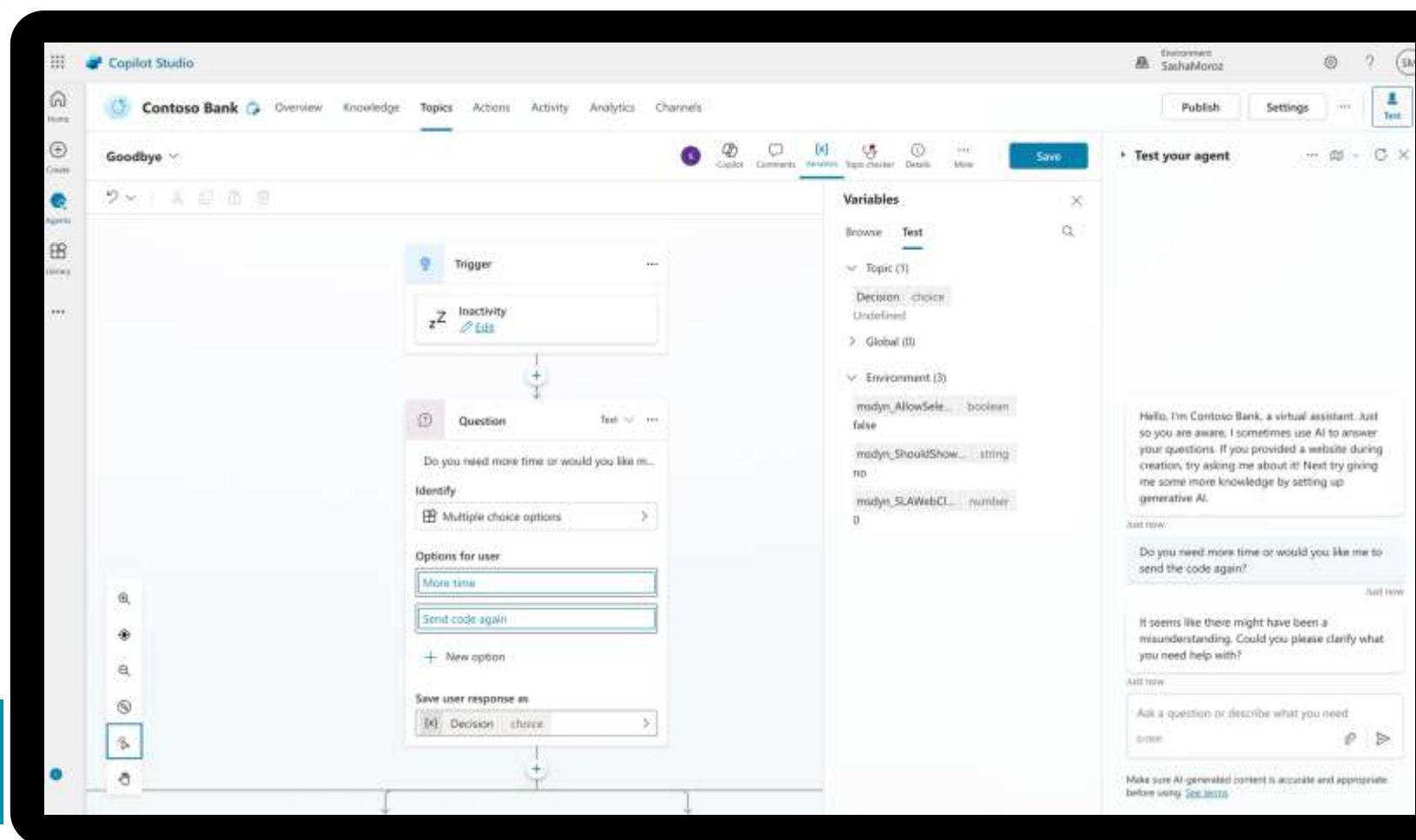
Topics can 'react' if the agent detects a certain value has been passed over or it wants to add more personality to a message when the agent runs into an issue

Contextual triggering enables smarter agents that can stay within context when asking for help or more details on a certain topic

Examples of events:

- Sending a message when a package arrives
- Task completion
- Slot openings

An event is an action or occurrence recognized by software.



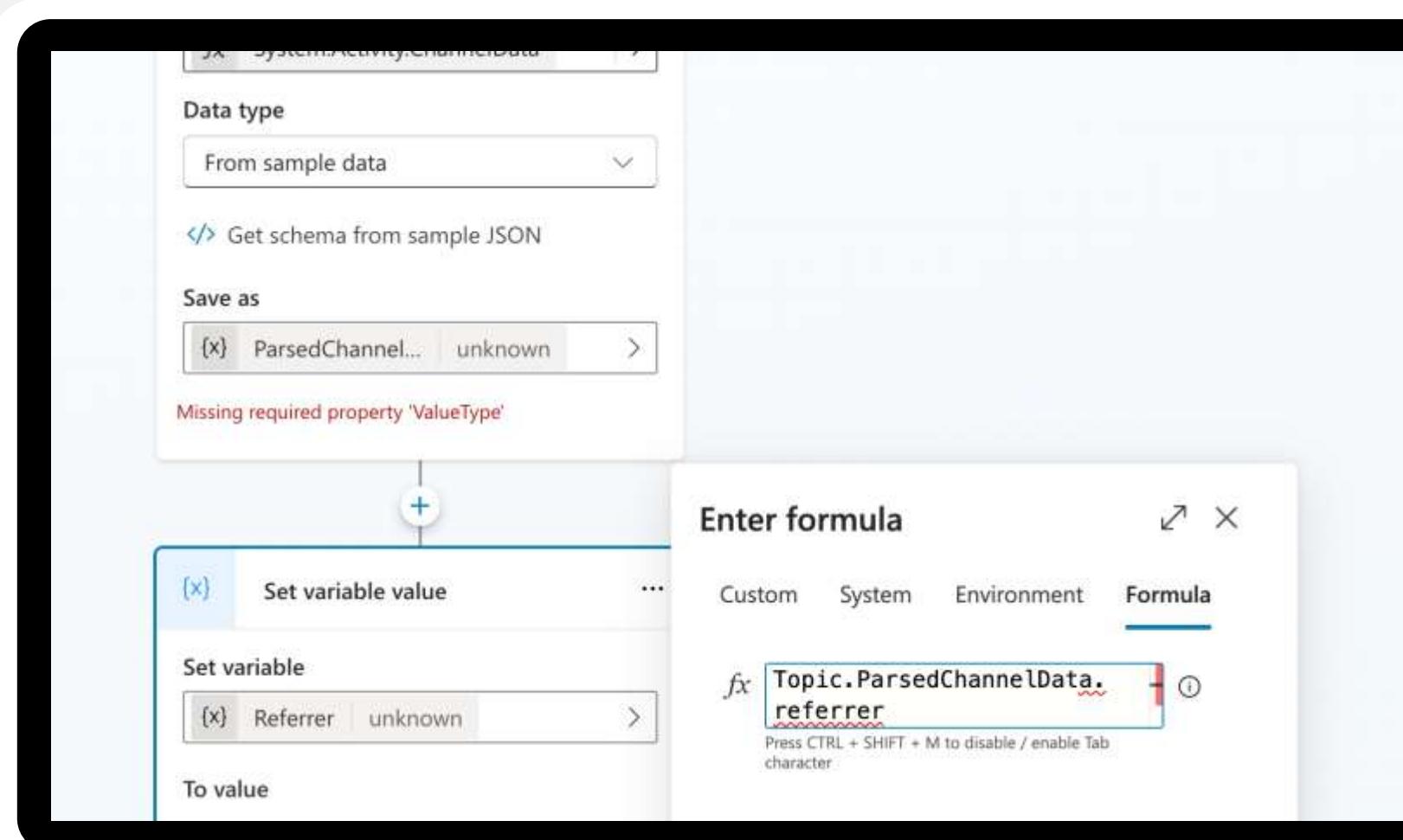
Parse data and values

Easily parse JSON or other values into variables

Parse a JSON value or untyped value into a strongly-typed Copilot Studio variable, including support for complex Record types

Automatically generates the schema for the output variable from a JSON example

Use Power Automate to call an API and return the result to Copilot Studio and easily turn it into a usable variable, with full intellisense support in Power Fx



Security best practices

Security, copilot, & user management

Best practices to secure your Copilot Studio project

Assign licenses to users through Entra ID groups

Grant the 'Microsoft Copilot Studio User' license to users through a group instead of individual assignment.

Manage user access to environments through Entra ID groups

Only bot authors and a just-in-time admins should have access to your environments and data stores.

Manage security role assignment through Entra ID group teams

Within each Dataverse environment, leverage group teams to assign security roles to users.

Apply restrictive Data Loss Prevention policies to your environment

DLP policies can be applied to your environments to block all connectors that are not required by the project as well as any bot channel or setting that isn't useful for the project (e.g., unauthenticated use, use skills, etc.).

Review and only enable tenant, environment and copilot settings that are relevant

Tenant admins can disable publishing of GenAI-powered bots. Environment admins can disable GenAI features that require data movement outside of their region. Bot authors can require secured access for Direct Line. Internal chatbots can be limited for use by specific groups instead of being available to all.

Review and tighten security of all integrations

Connections should require strong authentication. Secrets should be stored in a secure location (e.g., Azure Key Vault). Leverage delegation, impersonation or filtering for data access in the context of an end-user.

Have a gated release process to production

Deploying changes from dev to test and to prod should require reviews and be part of a gated process.

Explore additional Power Platform, Dataverse and Entra ID security features

E.g., audit logs, customer-managed keys, customer lockbox, IP firewall, network isolation, multi-factor authentication, continuous access evaluation, etc.

- Entra ID groups should be leveraged to fully drive user license assignment, environment access, and security roles assignment.
- You should apply a most-restrictive approach by default and relax requirements on an exception basis.

Useful resources:

- [Assign licenses to a group](#)
- [Control user access to environments](#)
- [Use group teams to assign security roles](#)
- [Manage data loss prevention policies](#)
- [Disable the ability to publish copilots with generative answers and actions](#)
- [Configure data movement across geographic locations for generative AI](#)
- [Configure web channel security](#)
- [Share and collaborate on chatbots](#)
- [Connecting and authenticating to sources](#)
- [Use environment variables for secrets](#)
- [Authentication variables](#)
- [Pipelines in Power Platform](#)
- [Activity logging](#)
- [Customer-managed encryption](#)
- [Customer lockbox](#)
- [IP firewall](#)
- [Virtual networks](#)
- [Microsoft Entra ID security best practices](#)

Copilot Studio security roles



Overview of standard Dataverse security roles and impact on Copilot Studio

Security Role / Table	Chatbot bot	Chatbot Subcomponent botcomponent	Conversation Transcript conversationtranscript
System administrator	Org (CRUD)	Org (CRUD)	Org (CRUD)
System customizer	Org (CRUD)	Org (CRUD)	Org (CRUD) Soon none
Environment maker	User (CRUD)	User (CRUD)	None
Bot Transcript Viewer	None	None	User (Read)
Bot Author (deprecated)	User (CRUD)	User (CRUD)	User (CRU)
Bot Contributor (deprecated)	User (Read)	User (CRUD)	None
Omnichannel administrator	Org (Read)	None	None

How are Copilot Studio records secured in Dataverse?

- When a chatbot is created, a team gets also created and the chatbot is shared with that team.
- Chatbot subcomponents (e.g., topics, entities, files, etc.) are shared with the same team.
- Conversation Transcripts are implicitly shared with their parent Chatbot's team, but only users that have a read access on the Conversation Transcript table can access them.

- These security roles grant permissions to Copilot Studio configuration and data tables in Dataverse.
- To start creating and working on copilots, users can be assigned the standard **Environment Maker** security role. With this role, users only see their own copilots or the copilots that have been shared with them. If too permissive, custom roles may also be used.
 - The Environment Maker role also lets users create other related Power Platform components (e.g., solutions, cloud flows, connection references, environment variables, etc.)
- To see transcripts, users must be granted at least one role giving read access to the Conversation Transcript table.

Useful resources:

- [Use group teams to assign security roles](#)
- [Security concepts in Dataverse](#)
- [Chatbot \(bot\) table/entity reference](#)
- [Chatbot subcomponent \(botcomponent\) table/entity reference](#)
- [conversationtranscript table/entity reference](#)

Scenarios for conversational agents

HR scenarios for employees

Potential benefits

Streamline HR processes

Improve employee satisfaction & retention

Save time on administrative activities

Find policy information and docs

Quickly locate essential policy and procedure documents and/or search your org-wide knowledge sources for answers to your HR-related questions.

"Hey ContosoHR, can you help me locate the company's policy on parental leave?"

Onboard new team members

Initiate the onboarding process for new team members, guiding them through essential paperwork and orientation procedures to ensure a smooth transition into the company.

Manage budget and expenses

Access real-time insights into your team's finances, make new budget requests and/or report and track expenses.

"Hey ContosoHR, show me the remaining training budget for this quarter"

Submit PTO requests

Ensure seamless coordination and visibility of employee absences and PTO requests through automated submission and approval processes.

"Hey ContosoHR, I want to make a request for time off for June 3-10."

Manage benefits

Make informed decisions regarding your employee benefits with a simplified process for exploring, selecting and managing your options.

"Hey ContosoHR, I want to sign up for a new healthcare plan. What are my options?"

Make a report

Securely report workplace incidents, access step-by-step guidance and/or initiate automated procedural tasks to ensure quick resolution and attention to the issue at hand.

"Hey ContosoHR, I need to report an incident regarding workplace safety. Can you guide me through the process?"

IT scenarios for employees

Potential benefits

Streamline routine processes

Troubleshoot issues more quickly

Reduce IT costs

Troubleshoot technical issues

Receive personalized, step-by-step assistance for technical issues and/or search your org-wide knowledge sources for answers to your IT-related questions.

"Hey ContosoIT, my computer is running really slow lately. Can you help me figure out what's wrong?"

Request a device upgrade

Easily request an upgrade for your devices or hardware and track the status of pending requests.

"Hey ContosoIT, I need a new laptop with better performance. Can you help me request an upgrade?"

Submit a support ticket

Generate and submit support tickets for IT services and get status updates as needed.

"Hey ContosoIT, my email isn't working. Can you create a support ticket for me to get it fixed?"

Configure settings

Learn more about how to set up your devices and applications and customize your device or software preferences with tailored virtual assistance.

"Hey ContosoIT, I'm having trouble connecting to the company Wi-Fi. Can you assist me in configuring the network settings?"

Reset your password

Quickly regain access to your accounts by requesting a password reset and securely verifying your identity.

"Hey ContosoIT, I forgot my password. Can you help me reset it?"

Procure new IT solutions

Discover, request and get assistance implementing the latest software solutions tailored to your business needs.

"Hey ContosoIT, I need a project management software for our team. Can you help me find and acquire a suitable solution?"

Customer-facing scenarios

Potential benefits

24/7 customer support

Improved customer experiences

Reduce customer service costs

Schedule appointments

Easily look up availability for service providers and then schedule and manage appointments in one place.

"Hi there, can you help me schedule an appointment for a haircut?"

Request refunds or make returns

Quickly request and process a refund, return, or exchange without speaking to a human agent or navigating complicated portals.

"I need to return a product I purchased. How do I go about it?"

Submit customer support tickets

Generate and submit customer support tickets and get status updates as needed.

"My order hasn't arrived yet. Can you assist me in resolving this issue?"

Update your account information

Make changes to your customer account or profile with step-by-step guidance.

"I recently moved and need to update my address in your system. How can I do that?"

Get a quote

Seamlessly request and receive auto-generated quotes for professional services.

"I'm interested in landscaping services for a large property. Can you provide me with a quote?"

Get instant answers to FAQs

Receive personalized, step-by-step assistance for frequently asked questions.

"I have a question about your return policy. How long do I have to return after purchase for electronic devices?"

Partner/Supplier-facing scenarios

Potential benefits

Easily scale vendor management resources

Improve visibility & communication with vendors

Reduce manual effort & save time

Coordinate your supply chain

Streamline supply chain coordination, including delivery schedules, inventory management, and logistics.

"Can you help me adjust the delivery schedule for my next shipment?"

Submit invoices or make payments

Easily submit vendor invoices and make payments, or handle inquiries about payment statuses, due dates, and discrepancies.

"I'd like to submit an invoice for the last order. Can you guide me through the process?"

Find product recommendations

Generate tailored lists of recommended products based on past orders and preferences or indicated specifications, and then check the products' availability, shipment times and more.

"I'm looking to restock. What new products would you recommend for my store?"

Report issues

Quickly report issues or concerns such as product defects, delays, or equipment malfunction, initiate an automated resolution or quality control process and find support with step-by-step guidance.

"I've encountered a problem with a recent order. Can you help me report the issue and get it resolved?"

Manage tasks

Organize, delegate and get support for personal or project tasks with virtual project management assistance.

"Can you help me keep track of my upcoming orders and tasks for the week?"

Onboard new partners/suppliers

Initiate the onboarding process for new partners or suppliers, guiding them through essential paperwork and orientation procedures like contracts and compliance.

"I'm a new supplier. Can you walk me through the onboarding process?"