

BE YOUR OWN COPILOT: HOW TO CREATE YOUR OWN GENERATIVE AI ASSISTANT

Mark Rackley, Director Microsoft Practice

Mark.Rackley@protiviti.com



Please thank our sponsors





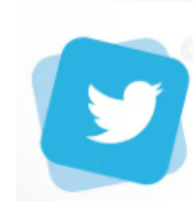


Mark Rackley

Director Microsoft Practice @ Protiviti
Microsoft Apps & Services MVP
The North American Collaboration
Summit Organizer
(www.collabsummit.org)
www.markrackley.net



[/in/markrackley/](https://in.linkedin.com/in/markrackley/)



[@mrackley](https://twitter.com/mrackley)

Agenda

What exactly is a Copilot?

Intro to Azure OpenAI

Create a Copilot without additional licensing costs

Demos

Demos

Demos

Let's all get on the same page

Generative AI - a subset of artificial intelligence that involves the use of algorithms to generate new data from existing data. It can be used to create new content, such as text, images, and music, that is similar to human-created content.

Large Language Model (LLM) – A type of Generative AI that specializes in the generation of text

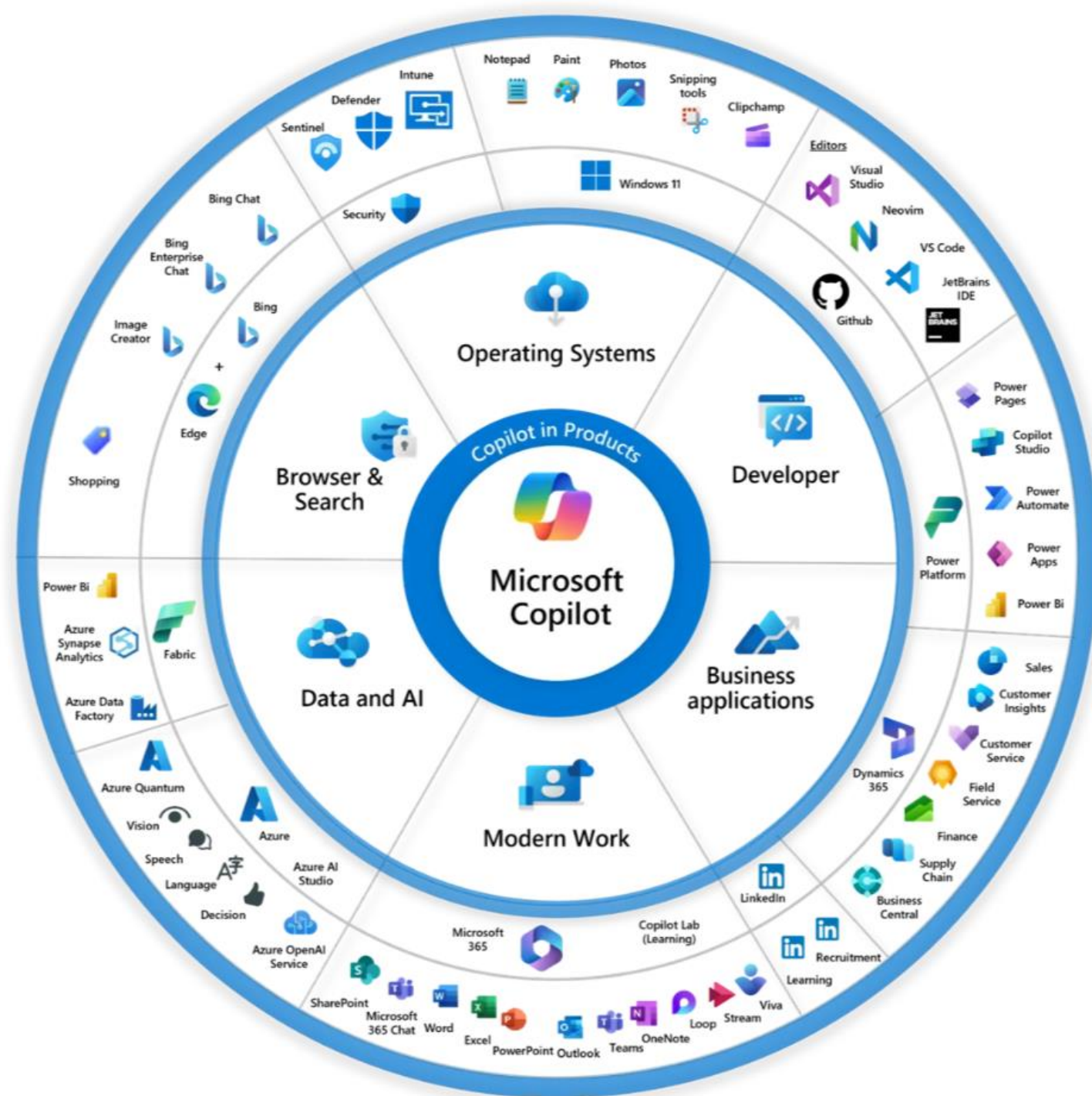
ChatGPT – A large language model created by OpenAI trained on massive amounts of data. ChatGPT 3.5 is based on data from the internet from Sept 2021. ChatGPT 4.0 is based on live data from the internet.

Azure OpenAI – Microsoft's instance of ChatGPT as well as other Generative AI models used for image creation, text generation, and code generation.

Copilot for Microsoft 365 – A set of functionality where Microsoft Applications (Word, Excel, PowerPoint, Outlook, Teams, and a few others) use natural language along with Azure OpenAI ChatGPT 3.5 to either create content (Word documents, PowerPoint slides) or provide assistance with information from within Microsoft 365 (summarize email, summarize meeting, find content)

So... what is a Copilot?

Any solution that leverages natural language and an LLM to perform a task. Microsoft has many Copilots.



Azure OpenAI Platform



Large, pretrained AI models to unlock new scenarios



Custom AI models fine-tuned with your data and hyperparameters



Built-in features to help ensure you're using AI responsibly



Enterprise-grade security with role-based access control (RBAC) and private networks

Get
started

Learn more about Azure OpenAI Service:

<https://aka.ms/azure-openai>

Apply for access to Azure OpenAI Service:

<https://aka.ms/oai/access>

Choose the Azure account that's right for you

Pay as you go or try Azure free for up to 30 days. There's no upfront commitment—cancel anytime.

<https://aka.ms/azure-openai>

Azure free account

Best for proof of concept and exploring capabilities

- ✓ Available only to new Azure customers
- ✓ Free monthly amounts of 25+ popular services for 12 months (new Azure customers only)
- ✓ Free monthly amounts of 55+ always-free services
- ✓ Access to full catalog of services up to free amounts and \$200 credit
- ✓ Spending protection—credit card won't be charged*
- ✓ No upfront commitment—cancel anytime
- ✓ Move to pay-as-you-go pricing to continue beyond 30 days or after credit is used up

\$200 credit

to use on Azure services within 30 days

Sign up

Pay as you go

Best for customers ready to start building workloads.

- ✓ Free monthly amounts of 25+ popular services for 12 months (new Azure customers only)
- ✓ Free monthly amounts of 55+ always-free services
- ✓ Access to full catalog of services with no cap on service usage
- ✓ Technical support options available
- ✓ No upfront commitment—cancel anytime
- ✓ No action required to continue beyond 30 days

Pay only for what you use

beyond free monthly amounts

Sign up

OpenAI Platform



Text generation

Learn how to generate text and call functions



Embeddings

Learn how to search, classify, and compare text



Image generation

Learn how to generate or edit images



Text to speech

Learn how to text into spoken audio



Prompt engineering

Learn best practices for prompt engineering



Speech to text

Learn how to turn audio into text



Fine-tuning

Learn how to train a model for your use case



Vision

Learn how to process image inputs with GPT-4

<https://platform.openai.com/overview>

OpenAI Platform Pricing

Multiple models, each with different capabilities and price points. Prices are per 1,000 tokens. You can think of tokens as pieces of words, where 1,000 tokens is about 750 words. This paragraph is 35 tokens.

Model	Input	Output
gpt-4	\$0.03 / 1K tokens	\$0.06 / 1K tokens
gpt-4-32k	\$0.06 / 1K tokens	\$0.12 / 1K tokens

Model	Input	Output
gpt-3.5-turbo-0125	\$0.0005 / 1K tokens	\$0.0015 / 1K tokens
gpt-3.5-turbo-instruct	\$0.0015 / 1K tokens	\$0.0020 / 1K tokens

<https://openai.com/pricing>

A walkthrough of Azure OpenAI and building your first Copilot



HTTP



* Method

POST



* URI

https://[REDACTED]/openai/deployments/BaconModel2/c
hat/completions?api-version=2024-02-15-preview

Headers

Content-Type

application/json



api-key

[REDACTED]



Enter key

Enter value

Queries

Enter key

Enter value



Body

```
{
  "messages": [
    {
      "role": "system",
      "content": "You are an elementary teacher, respond to me like I am in the
2nd grader and make your sentences rhyme"
    },
    {
      "role": "user",
      "content": "


Prompt



×



File Content



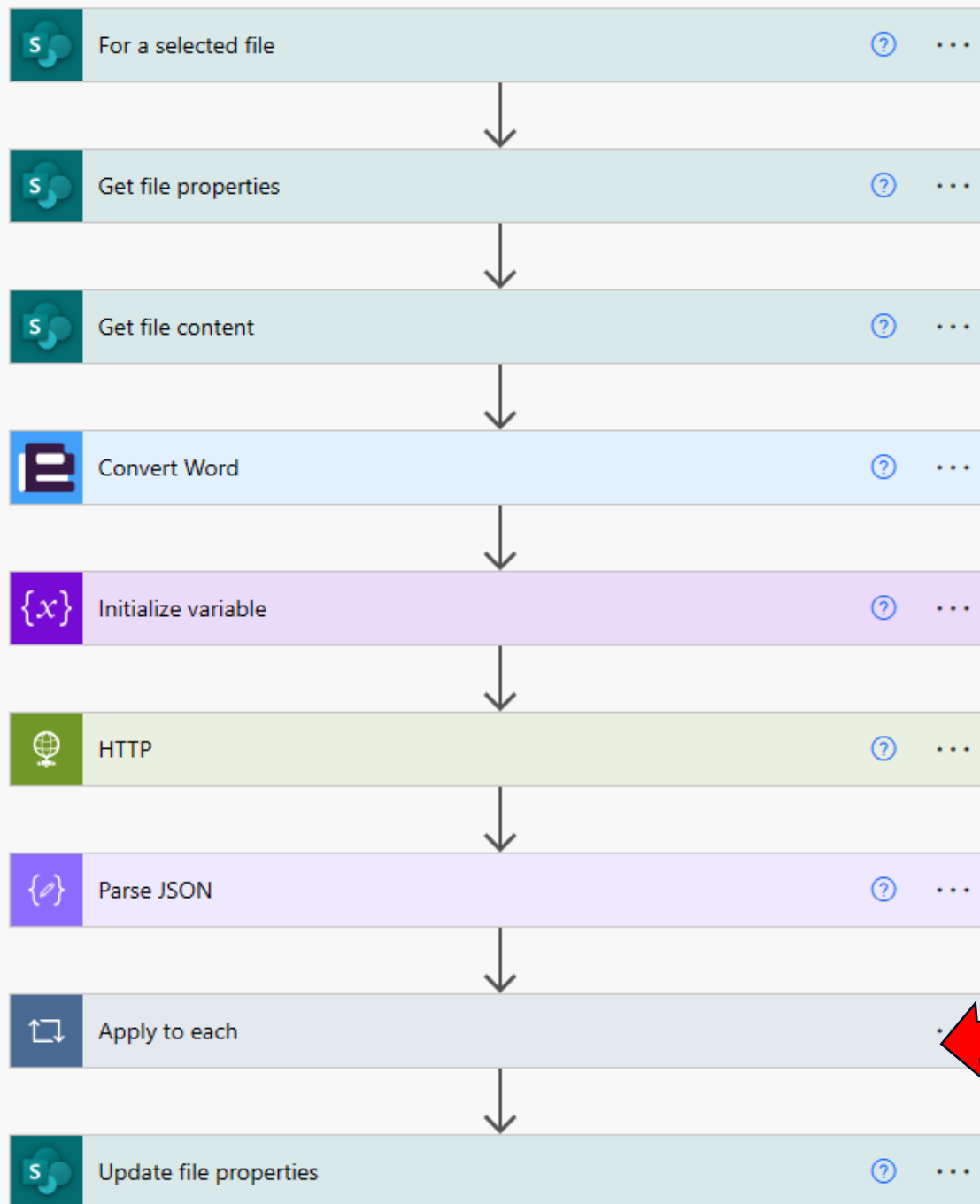
×


"
    }
  ],
  "temperature": 0.7,
  "top_p": 0.95,
  "frequency_penalty": 0,
  "presence_penalty": 0,
  "max_tokens": 800,
  "stop": null
}
```

Cookie

Enter HTTP cookie

[Show advanced options](#)



Set "response" variable to the value of "content" from the Parse JSON

What if all that is WAY too technical for me?



AI Builder

With AI Builder, a Microsoft Power Platform feature, you can create and use AI models that optimize your business processes. You can either use a *prebuilt* model that is ready for many common business scenarios, or create a *custom* model that meets your needs. AI Builder helps your business to automate processes and gain insights from your data in [Power Apps](#) and [Power Automate](#).

<https://learn.microsoft.com/en-us/ai-builder/overview>

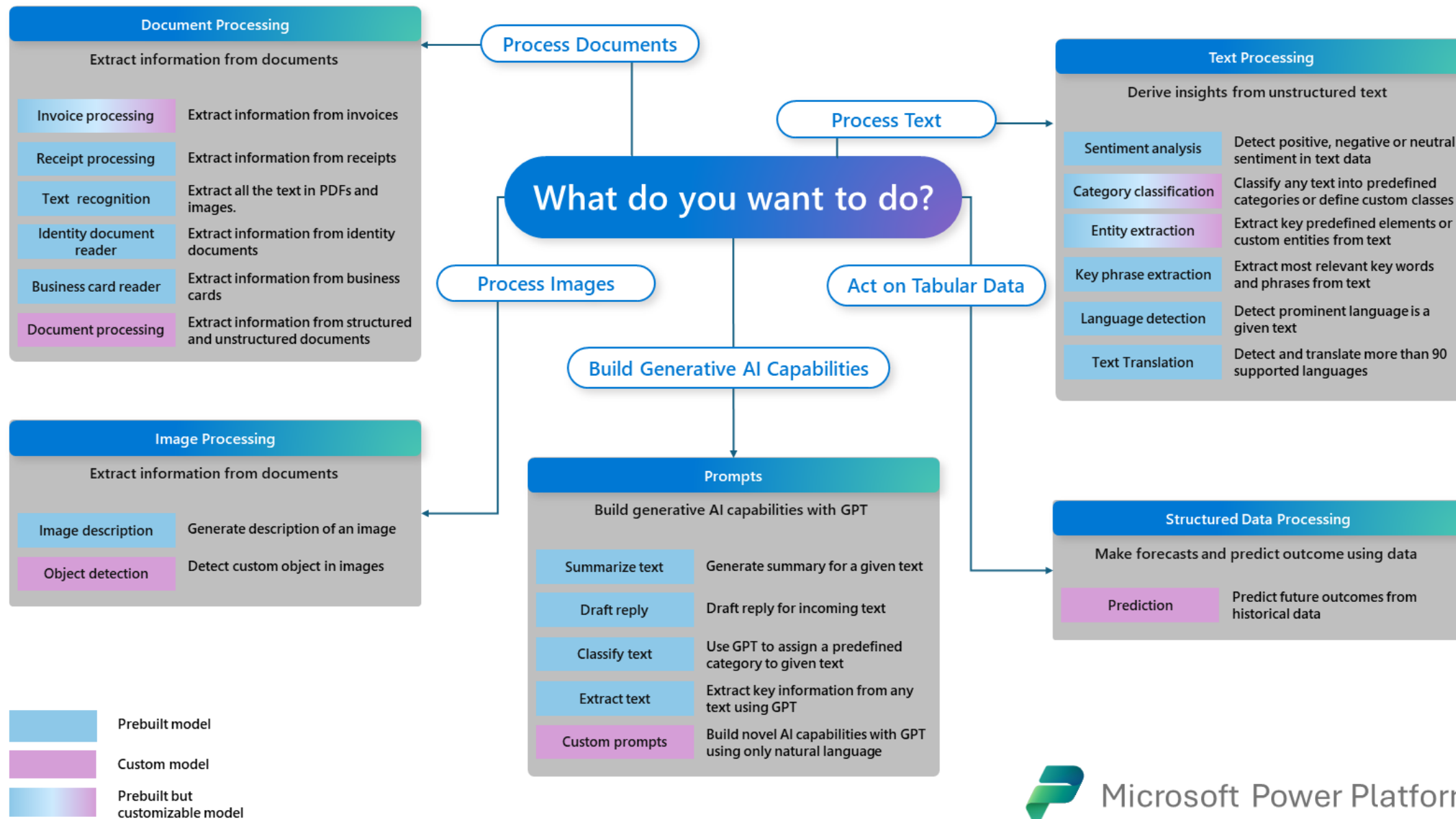
Pricing: Based on AI Builder Credits

<https://learn.microsoft.com/en-us/ai-builder/credit-management>



No code AI Cheat Sheet by AI Builder

The no-code AI cheat sheet serves as a streamlined guide for citizen developers to effortlessly select and implement the most suitable AI Builder models for their unique Business needs in Power Platform.



Copilot Studio (formerly Power Virtual Agents)

Microsoft Copilot Studio is a graphical low-code tool for creating and maintaining copilots.

A copilot is an AI-powered conversational interface based on large language models (LLMs) and additional sources of knowledge. It's a powerful AI companion that can handle a range of requests, from providing simple responses to common questions to resolving issues requiring complex conversations.

Copilots can engage with customers and employees in multiple languages across websites, mobile apps, Facebook, Microsoft Teams, or any channel supported by the Azure Bot Service.

You can easily create copilots in Copilot Studio without the need for data scientists or developers.

Copilot Studio is available as both a standalone web app, and as a discrete app within Teams. Most of the functionality between the two is the same. However, there might be different reasons to choose one version or the other based on the ways you want to use Copilot Studio.



COPILOT STUDIO

CLIENTS

**POWER VIRTUAL
AGENTS**

Copilot Studio Licensing

User License (Per User License):

- Each user who needs access to create and manage copilots must have a user license. This license is also known as the Copilot Studio User License.
- Users of your copilots don't need a special license. Once you publish your copilot, anyone who can access the published copilot can interact with it.
- Included with your Copilot for M365 license.

Tenant License (Organization License):

- The tenant license, priced at \$200 per month per tenant, allows for 25,000 messages. It covers the overall capacity for your organization and cannot be assigned to individual users.
- As a tenant administrator, you should acquire this license for your organization.

Trial License

- Users can sign up for a 30 day trial license of Copilot Studio

**Create a Copilot without
additional licensing costs**

Microsoft Copilot Studio for Microsoft Teams

Previously called “Power Virtual Agents for Microsoft Teams”

Copilot Studio for Teams enables customers to build conversational interfaces within Teams. The copilots can use data stored in Microsoft Dataverse for Teams or many other sources, using the supplied standard connectors.

Capabilities available in the Copilot Studio app in Teams are available as part of select Microsoft 365 subscriptions with Microsoft Power Platform and Teams capabilities, excluding plans for US government environments (GCC, GCC High, and DoD), EDU A1, and SUB SKUs.

Copilot Studio Comparison

Capability	Select Microsoft 365 subscriptions	Copilot Studio subscription
Deploy copilot to channels	Teams	Any channel supported by Copilot Studio
Power Automate connectors	Standard connectors for flows triggered from Copilot Studio	Premium connectors for flows triggered from Copilot Studio
Web security	Secure access enabled by default, can't generate secrets to enable secure access	Can generate secrets and turn on or off secure access by the copilot author
Create (edit) with Copilot	Not available	Can create and iterate on topics by describing what you want, then AI builds it
Use Microsoft Bot Framework skills	Not available	Can extend Copilot Studio copilots with Microsoft Bot Framework skills
Use a Copilot Studio copilot as a Bot Framework skill	Not available	Use a Copilot Studio copilot as a skill
Integrate Microsoft Bot Framework dialogs	Not available	Develop custom dialogs with Bot Framework Composer
Hand off copilot conversation to a live agent	Not available	Trigger handoff to a live agent

Demo: Creating a custom Copilot using Copilot Studio for Microsoft Teams

Azure OpenAI HTTP Post bringing your own data

 HTTP  

* Method

POST 

* URI

https://[redacted]/openai/deployments/[redacted]/extensions/chat/completions?api-version=2023-06-01-preview

Headers

Content-Type	application/json	 
api-key	[redacted]	
Enter key	Enter value	

Queries

Enter key	Enter value	
-----------	-------------	---

Body

```
{
  "temperature": 0,
  "max_tokens": 800,
  "top_p": 1,
  "dataSources": [
    {
      "type": "AzureCognitiveSearch",
      "parameters": {
        "endpoint": "https://[redacted].search.windows.net",
        "key": "[redacted]",
        "indexName": "masonjarindex"
      }
    }
  ],
  "messages": [
    {
      "role": "user",
      "content": "Input x"
    }
  ]
}
```

Questions??

Mark.Rackley@protiviti.com

Face the Future with Confidence[®]