

Generative AI with DoD Data

Nehemiah Kuhns

Technology Specialist, USSF/DAF

@microsoft.com



*Ensure that artificial
general intelligence (AGI)
benefits humanity.*



*Empower every person and
organization on the planet
to achieve more*

GPT-3.5 or 4

Generate and Understand Text

Codex

Generate and Understand Code

DALL·E

Generate images from text prompts

Generative AI

GPT

Prompt:

Write a tagline for an ice cream shop.

Response:

We serve up smiles with every scoop!

Codex

Prompt:

Table customers, columns = [CustomerId, FirstName, LastName, Company, Address, City, State, Country, PostalCode]

Create a SQL query for all customers in Texas named Jane
query =

Response:

```
SELECT *  
FROM customers  
WHERE State = 'TX' AND  
FirstName = 'Jane'
```

DALL·E

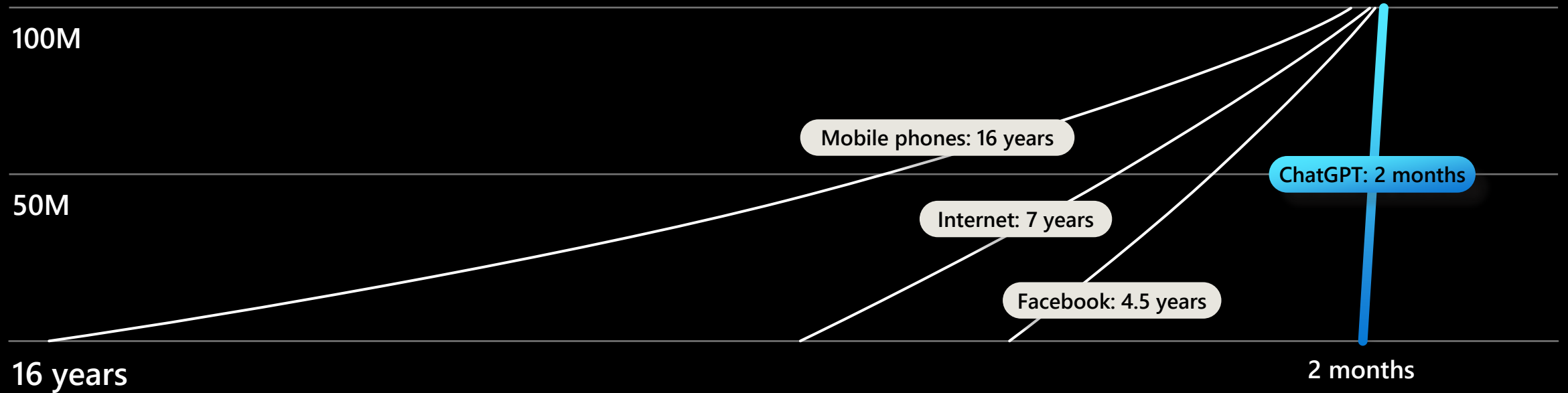
Prompt: A white Siamese cat

Response:

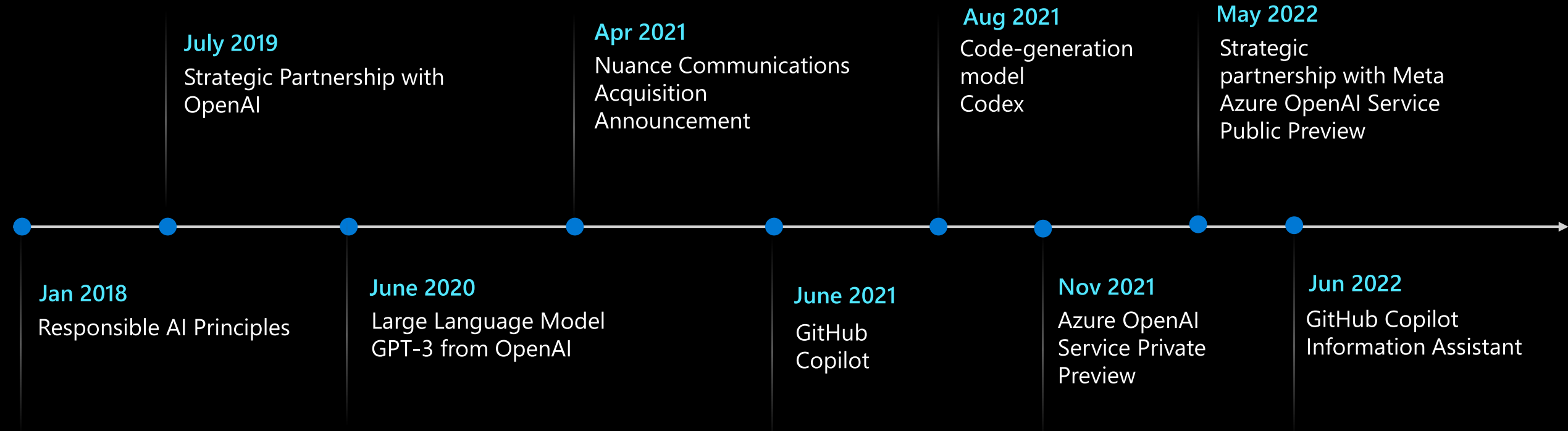


Unprecedented vertical growth

Time to reach 100M users



Microsoft AI Partnership



July 2019

Strategic Partnership with OpenAI

Apr 2021

Nuance Communications Acquisition Announcement

Aug 2021

Code-generation model Codex

May 2022

Strategic partnership with Meta Azure OpenAI Service Public Preview

Jan 2018

Responsible AI Principles

June 2020

Large Language Model GPT-3 from OpenAI

June 2021

GitHub Copilot

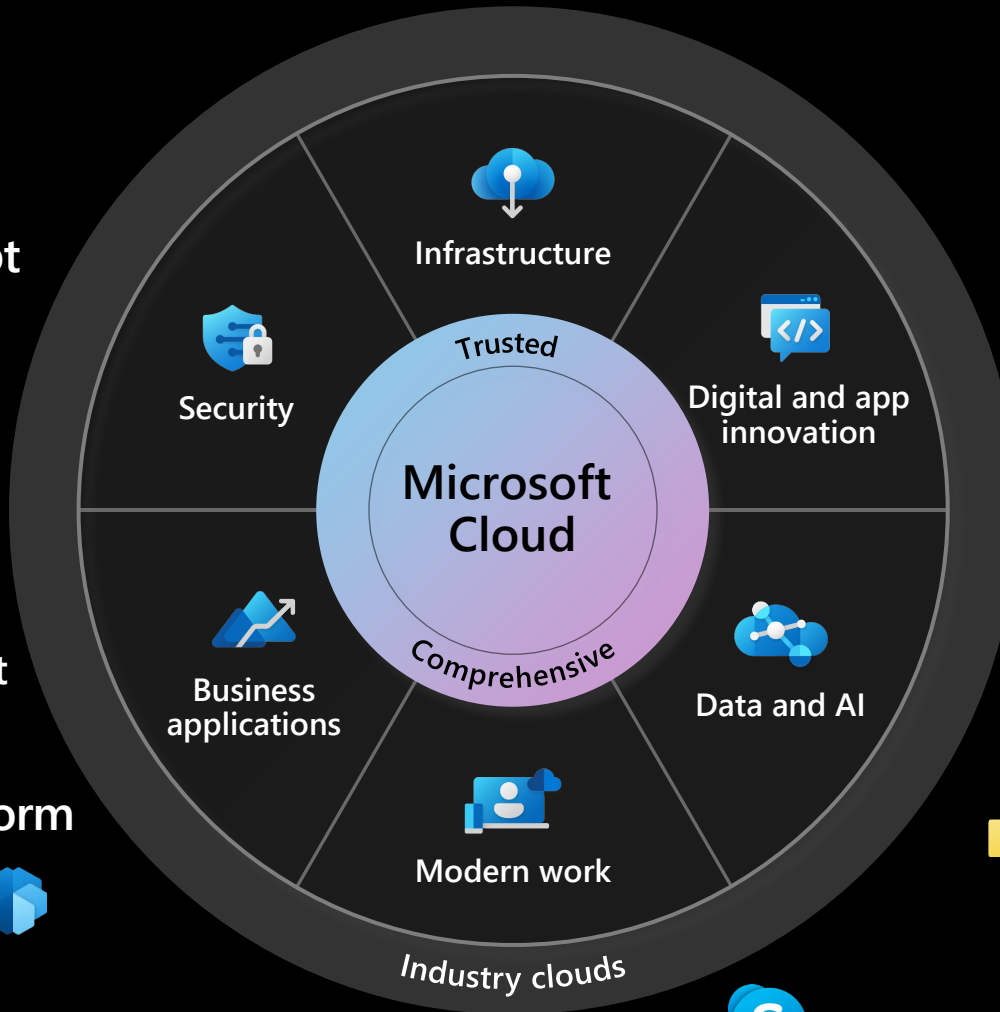
Nov 2021

Azure OpenAI Service Private Preview

Jun 2022

GitHub Copilot Information Assistant

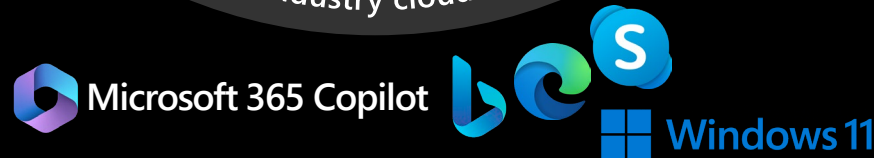
Innovation powered by OpenAI models



Microsoft Security Copilot



Azure OpenAI Service



Azure AI

Applications



Partner Solutions



Business Users

Application Platform

AI Builder



Power BI



Power Apps



Power Automate



Power Virtual Agents

Scenario-Based Services

Applied AI Services



Bot Service



Cognitive Search



Azure AI Document Intelligence



Video Indexer



Metrics Advisor



Immersive Reader

Customizable AI Models

Cognitive Services



Vision



Speech



Language



Decision



OpenAI Service













Developers & Data Scientists

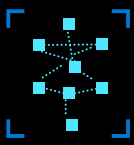
ML Platform



Azure Machine Learning

| Azure OpenAI | Considerations

		I need a general-purpose model that can handle multiple tasks. e.g. translation+entity recognition+sentiment analysis
		I need to have human-like conversations with my data, while preserving data privacy and security e.g., abstractive summarization, content writing, paraphrasing, code
		I need rapid search and contextual understanding of lengthy documents and data sets.
		I need summarization of subject matter expert documentation
		I want to explore content generation solutions



Vision



Speech



OpenAI Service



Language



Decision

Azure AI Cognitive Services

Federal Use Cases

Common uses across Defense, Health, Finance, Research and Enforcement

• Content Analysis & Generation

- **Image and video analysis:** AOAI can be used to analyze images and video for surveillance and security purposes, as well as for scientific research and other applications.
- **Data analysis and prediction:** AOAI can be used to analyze large volumes of data to identify patterns, predict outcomes, and make decisions based on data-driven insights.
- **Predictive maintenance:** Generative AI can be used to analyze sensor data from equipment and machinery to predict when maintenance is needed, reducing downtime and maintenance costs.
- **Natural language generation:** Generative AI can be used to automatically generate written or spoken language, such as news articles, speeches, or summaries of data analysis.

• Citizen and Employee Service

- **Automated document generation:** AOAI can be used to automatically generate reports, forms, and other types of documents, reducing the time and resources required for manual document creation.
- **Natural language processing for customer service:** AOAI can be used to improve citizen service by processing natural language queries and providing relevant information or assistance to customers.
- **Virtual assistants and chatbots:** virtual assistants and chatbots that can provide information and assistance to government employees and the public.
- **Training and education:** Generative AI can be used to develop training programs and educational materials, including simulations and virtual reality experiences.

Analyzing Legacy Software

- **Documenting Source Code:** Using Codex models and Github co-pilot to document and review third party software that has little or no documentation and no support .
- **Refactoring Code** Using Codex models and Github co-pilot to refactor legacy code and migrate applications to the cloud.

Advanced Computer Vision Training

- **Battle Management Systems:** Using the DALL-E models to create images to train battle management systems.
- **Inspection Applications:** Using the DALL-E models to create images of moorings and piers which require repair to train an inspection application.

Microsoft Azure Cloud

Runs on trust

Your data is your data

Data is stored encrypted in *your Azure* subscription

Your data from any fine-tuning is not used to train the foundation AI models

Azure OpenAI Service provisioned in *your Azure* subscription

Model fine tuning stays in *your Azure* subscription and never moves into the foundation AI models

Your data is protected by the most comprehensive enterprise compliance and security controls

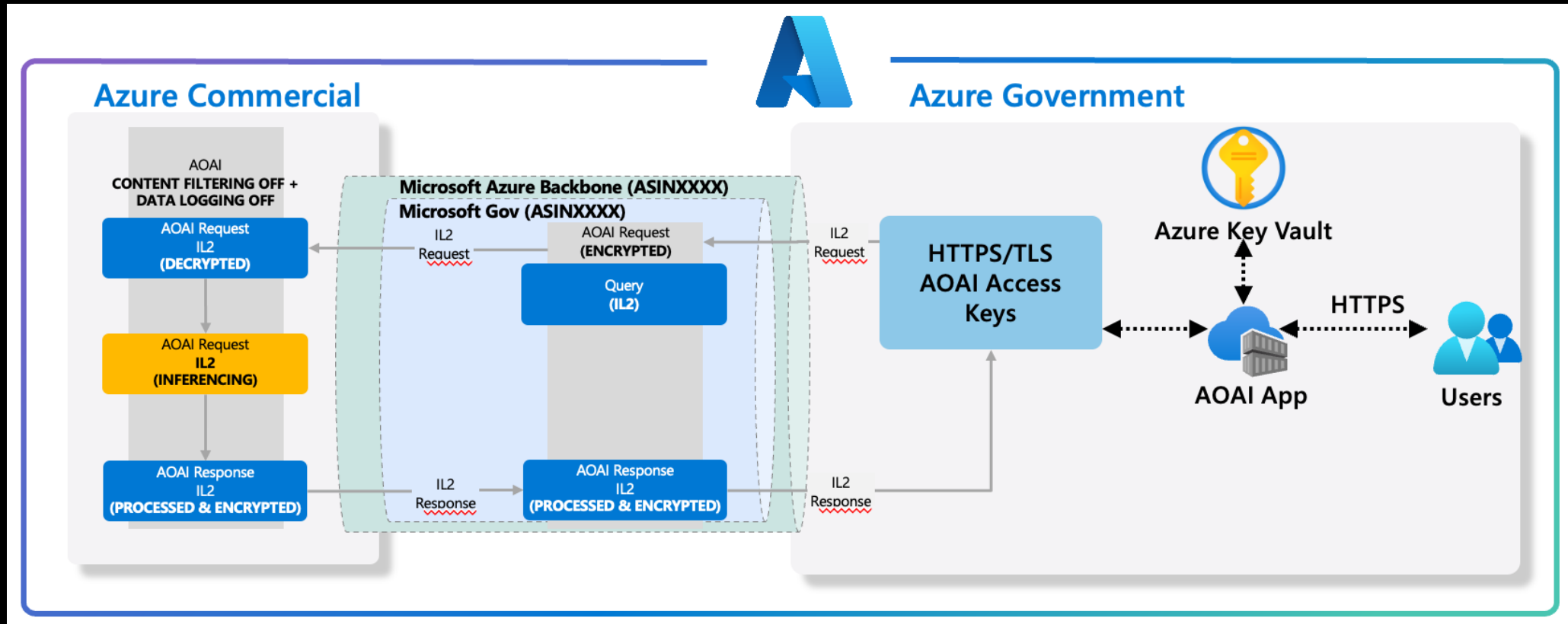
Encrypted with Customer Managed Keys

Private Virtual Networks, Role Based Access Control

Soc2, ISO, HIPPA, CSA STAR Compliant

Azure Open AI for Government

- AOAI is currently hosted in Azure Commercial, which provides DoD Impact Level 2 (IL2) protections as seen below along with FedRAMP High Provisional Authorization to Operate from the FedRAMP Joint Authorization Board (JAB)
- Tentatively planned for US Gov Regions by EOY23.
- For IL6 or Higher, please reach out to your Microsoft Representative



Information Assistant powered by Azure OpenAI

- The objective of the Information Assistant powered by Azure OpenAI is to leverage a combination of AI components that will enable users to have a "conversation" with *their own data*, as if they were speaking to an expert

Information Assistant powered by Azure OpenAI

AI-generated content may be incorrect

can I hire a moving company for PCS

Yes, you can hire a moving company for PCS, but it is important to note that there are different methods for transporting household goods (HHG) authorized for civilian employees when moving due to a Permanent Change of Station (PCS) order. ¹ Some authorized methods include government-arranged transportation, personally-procured transportation, and commuted rate, among others. However, the civilian employee is entirely responsible for all issues related to the Status of Forces Agreement, use of U.S. carriers, import and export processes, and any tariffs, customs, or other related issues when they choose to personally arrange for HHG transportation. ²

Citations: [1. JTR.PDF/JTR-403.json](#) [2. JTR.PDF/JTR-403.json](#)

Adjust

will I have to pay myself

The payment for the civilian employee's HHG transportation depends on the authorized method of transportation and the expenses incurred. If the Government procures the HHG's transportation, it contracts, negotiates, audits, and pays the Transportation Service Provider (TSP), carrier, or vendor directly for transportation. The civilian employee may be reimbursed for actual expenses incurred if they personally procure the HHG transportation, limited to the "Best Value" cost of a Government-arranged move for the same HHG weight. ¹ However, if a civilian employee moves part of HHG personally while actual expense HHG transportation is authorized, the combined HHG shipments cannot exceed the authorized HHG weight allowance, and the cost must be lower than that of Government-procured HHG transportation of the maximum HHG weight allowance in one lot between authorized places. ² Please refer to the relevant source document(s) for more information.

Citations: [1. JTR.PDF/JTR-403.json](#) [2. JTR.PDF/JTR-403.json](#)

Adjust

Type a new question (e.g. Who are Microsoft's top executives, provided as a table?)

Adjust

Live Demo

TF Lima

[DOD Announces Establishment of Generative AI Task Force > U.S. Department of Defense > Release](#)

What is it? Generative Artificial Intelligence (AI) Task Force to demonstrate the DoD's commitment to responsible and strategic utilization of AI technologies.

Role: Assess, synchronize, and employ generative AI capabilities across the DoD, ensuring the DoD stays at the forefront of cutting-edge technologies while safeguarding national security.

Goal: The task force will leverage partnerships across the Department, Intelligence Community, and other government agencies to minimize risk and redundancy while pursuing generative AI initiatives.

Potential Areas of Interest: Aims to harness generative AI models to enhance operations in various areas, including warfighting, business affairs, health, readiness, and policy.

Candence: Monthly (invite only). If interested, reach out to

 [mail.mil](#)

Thank You!

Any Questions?