

Using AI Across Higher Education

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University of
Salford
MANCHESTER

Tom Cadman, Crimson CTO

John McCarthy, University of Salford, Associate Chief Operating Officer

PRESENTERS



Tom Cadman, Crimson
Chief Technology Officer

Tom has worked with several universities, leading their implementation of Microsoft Dynamics CRM / Power Platform across the Applicant to Student lifecycle and Research Business to Business Engagements.

Tom plays a leading role in staying current with the latest technology initiatives and how they apply to real-world business use cases.



John McCarthy, University of Salford
Associate Chief Operating Officer

John has been instrumental in driving the vision for personalised experiences to both attract and retain students. John and his team drives the innovation and change in their service delivery and customer experience.

John sees AI as being key to this with the opportunity expand these experiences with further efficiencies, freeing up staff to focus on value-add activities.



WHAT DO MEAN BY ARTIFICIAL INTELLIGENCE?

AI is implemented in machines to perform tasks that require human intelligence.

Primary functions include:

Reasoning	Learning
Quick Decisions	Problem Solving

At its core, AI is nothing but algorithms with certain sets of rules.

AI systems can learn from the iteration of tasks where the computer data (aka machine learning algorithms) are fed to the system.

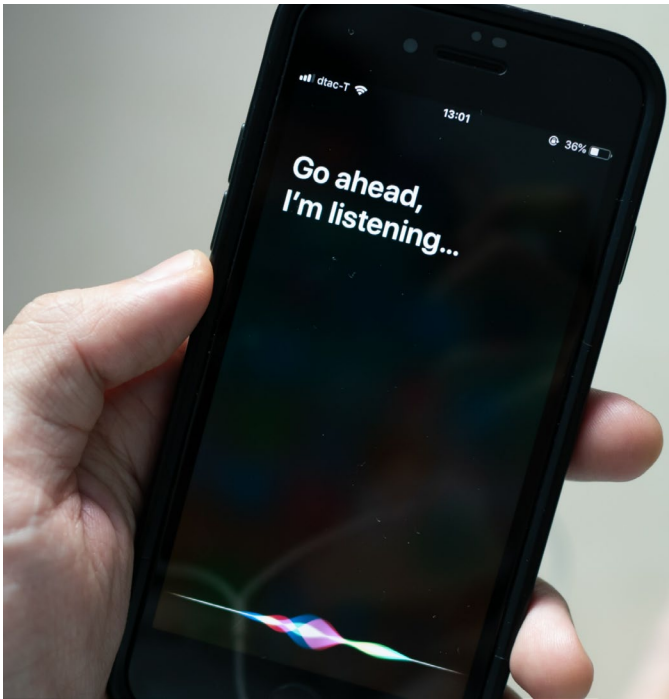


HIGH-PROFILE APPLICATIONS

- Advanced web search engines (e.g., Google Search, Bing etc)
- Recommendation systems (used by YouTube, Amazon, and Netflix)
- Understanding human speech (such as Siri and Alexa)
- Self-driving cars (e.g., Waymo, Tesla)
- Generative or creative tools (ChatGPT and AI art)
- Competing at the highest level in strategic games (such as chess and Go)

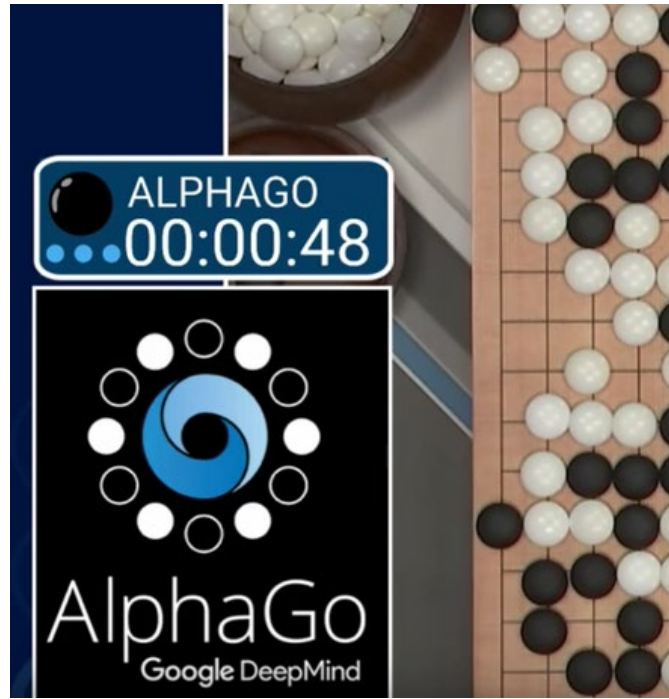


LEVELS OF AI



Narrow or Weak AI

Goal oriented & can perform only designated tasks e.g. face recognition, voice assistant, document scanning.



Deep/Strong AI

Mimics human intelligence, learns from iterative tasks & assists in problem solving e.g. self-service case deflection from knowledge bases or building applications from reference templates.



Super Intelligence

Machines become self-aware surpassing human intelligence as per Terminator film series. This is a hypothetical situation.

GENERATIVE LARGE LANGUAGE MODELS – CHATGPT / BARD

Generative AI: *machine learning systems capable of generating text, images, code or other types of content, often in response to a prompt entered by a user.*

Often the user prompt guides it towards producing a desired output.

Trained on large data sets to understand relationships between sequential information, such as words and sentences.

Underpinned by deep learning, adept at understanding structure and context of language. Well suit for text generation tasks.



AI USE CASES IN HIGHER EDUCATION

Teaching & Learning

Find My University Course
iSchoolConnect

Nurture/Real-Time Marketing
Personalised/targeted marcomms

Upsell / Cross-Sell
Course Suggestions

Personal Statements
Plagiarism checks e.g. Turnitin

Decision Automation
Pre-offer assessment. Post results
vs offer

**Document / Evidence Scanning
& Checking**
Passports /IELTS/Certs/Transcripts

Fraud Checks
Certificates/transcripts versus
'Markers'

Course / Module
Prospectus extended to include
application of AI

Learning
Building lecture material

Online Classroom
Highlight learning
points/summaries

Research

Funds and Grants
Automated Grant proposal Generation

Assisting Research
Collation/Reports

**Building, Complementing &
Validating Research**

**Using AI to support Large Data Set
Analysis/Results**

Enabling Capabilities

Marketing
Dynamic content generation, articles, social media

Intelligent Task Automation
Applicants/Students & Academics

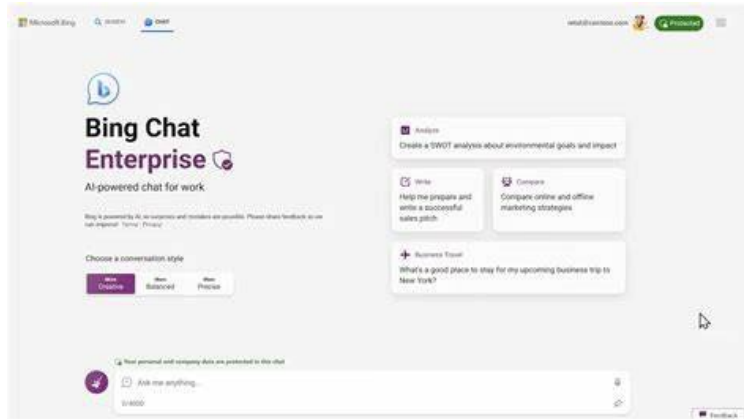
'Virtual' Counsellor Support

Enquiry Management / Deflection
Web chat bots

Case Management
Next best action

Building Applications

WHAT DOES MICROSOFT PROVIDE IN THEIR PLATFORMS?



Microsoft Bing Chat Enterprise now called Co-Pilot

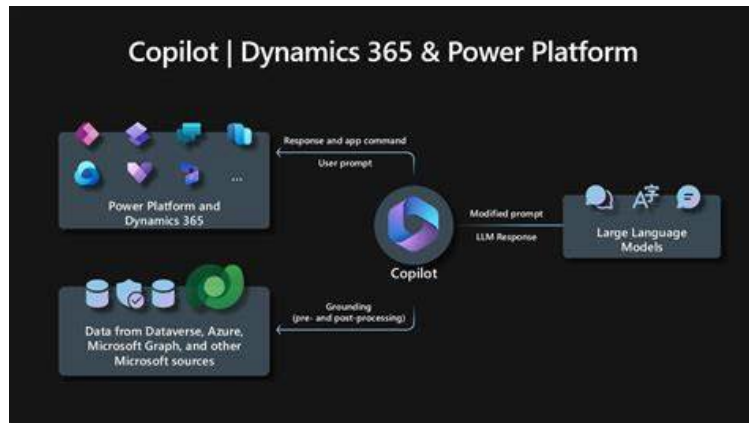
- Available to Microsoft 365 customers at no additional cost to users with Microsoft 365 E3, E5, Business Standard, Business Premium, and A3 or A5 for faculty licenses.
- Provides access to AI-powered web chat with commercial data protection. User and organizational data is protected, chat data isn't saved, Microsoft has no eyes-on access, and your data isn't used to train the underlying large language models.



Microsoft Co-Pilot 365

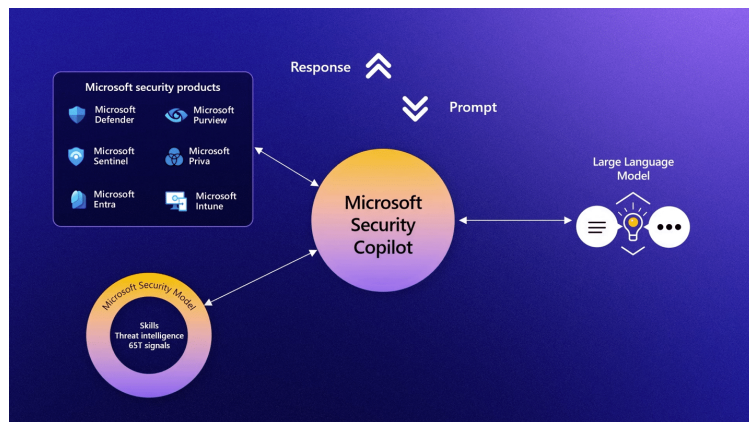
- Addon to standard Office 365 subscription that provides AI Integration into MS Word/PowerPoint/ Excel / MS Teams etc
- Utilises datasets /documents across with your Office 365 subscription that the Author has access to supplemented with external “Search” sources hosted by Azure Open AI Large Language models **NOT** ChatGPT / Open AI.

WHAT DOES MICROSOFT PROVIDE IN THEIR PLATFORMS?



Power Platform / Dynamics 365 CRM

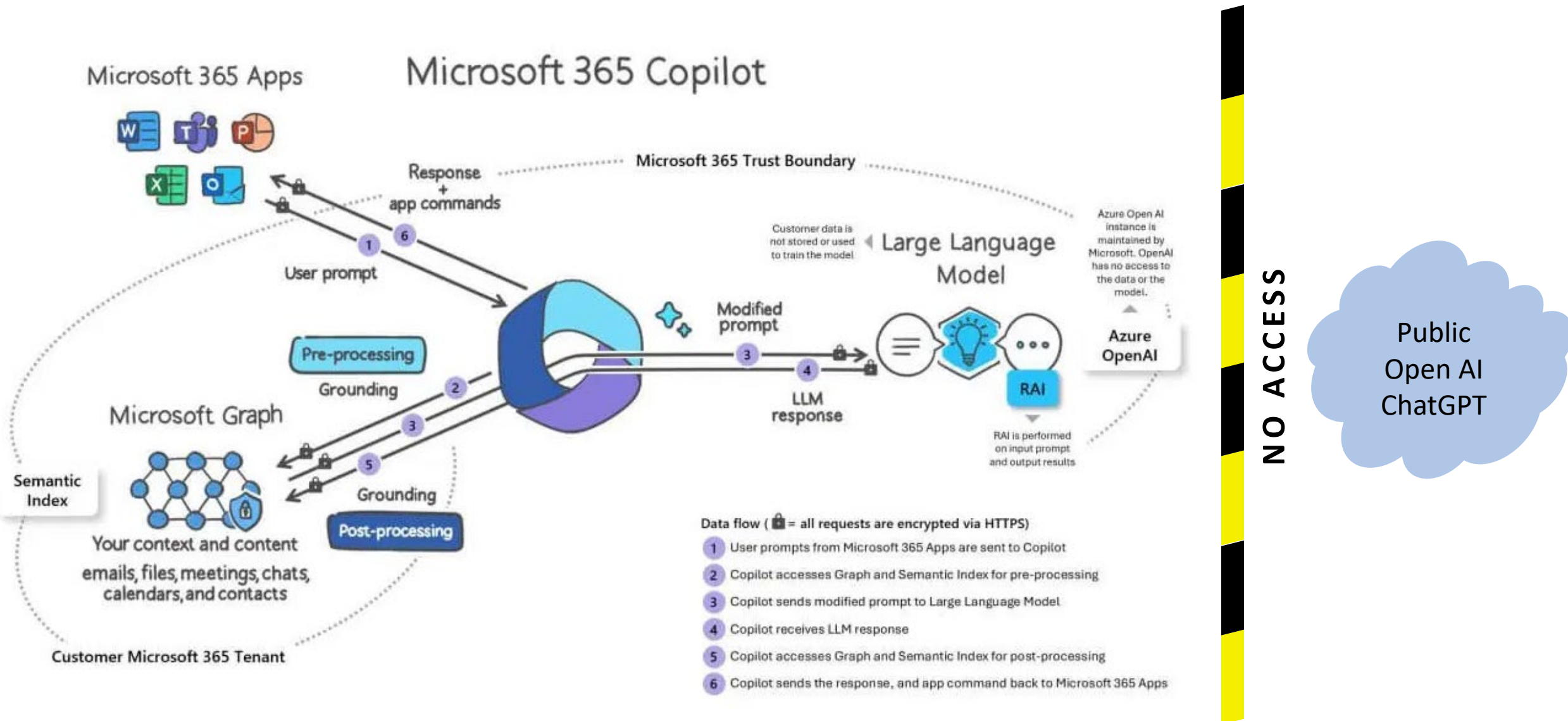
- Sales Addon to assist with Proposals & next best actions etc
- Customer Service / Virtual Agent Bots to assist with Case Deflection & Case Resolution using Knowledge base sources & decision trees
- Microsoft Marketing – provides assistance with Content Authoring / Design & Styles
- Cognitive Services – models for integrating Facial recognition/ document scanning & data extracts based on “Trained” Models
- Data Insights & Data exploration – understand knowledge & Insights from your data assets
- “App & Process Builders” creating Portals, Apps & associated workflows from reference templates with assisted guidance from Co-Pilot



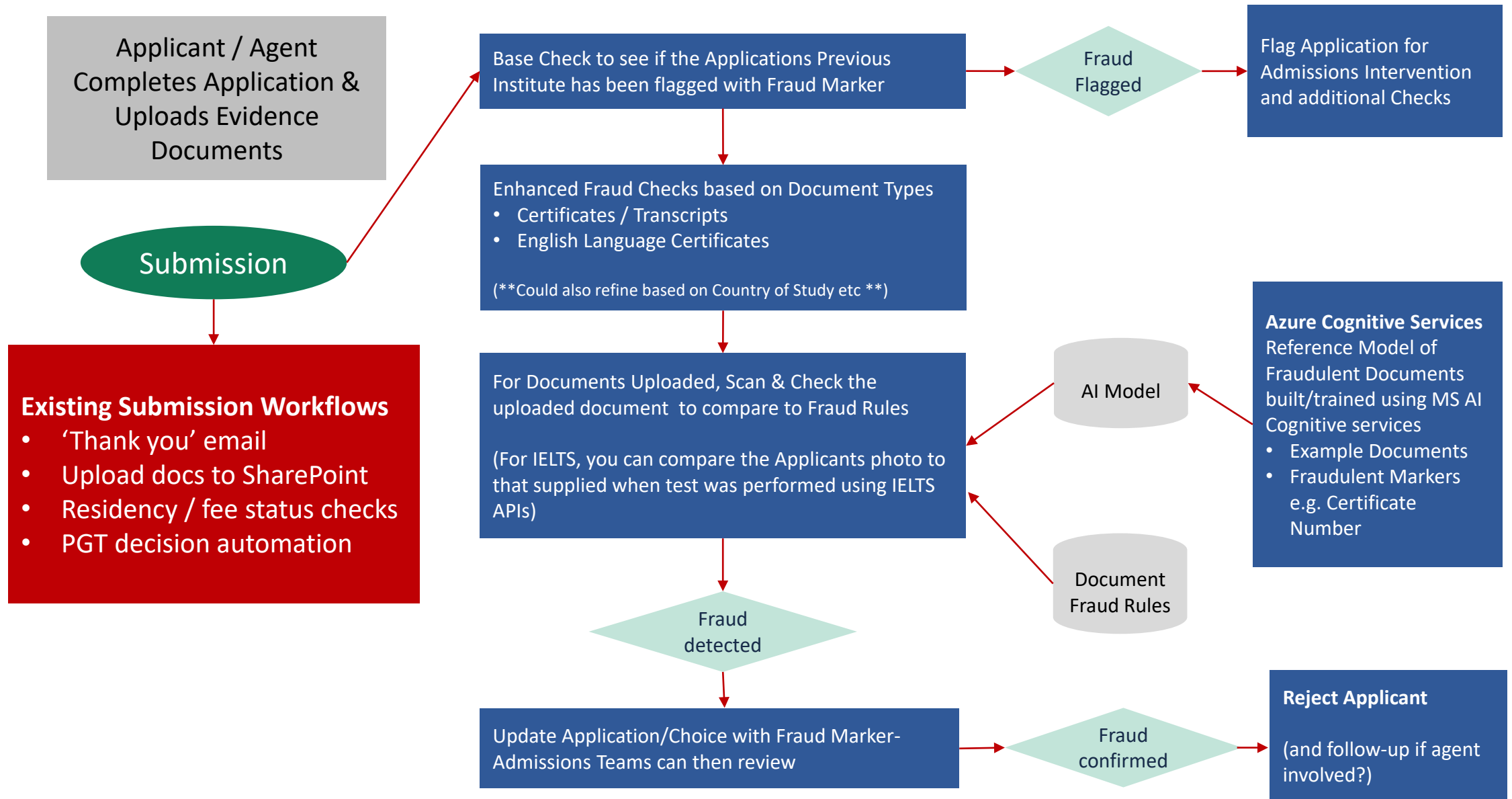
Security Management & Alerts

- Threat Management detection & alerts built to complement existing MS Security technologies Defender / Sentinel

MICROSOFT CO-PILOT: PROTECT YOUR INTELLECTUAL PROPERTY



FRAUD CHECKING USING AI



NEXT STEPS



Identify those use cases that deliver benefits:

- **'Customer'**: improved service, deflection and growth options
- **'Employee' or 'Admin'**: outsource to computer allowing focus on value added activities, i.e. 'more for less'



Questions

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CAR PARK

POWER VIRTUAL AGENTS – DATA CONSIDERATIONS

PVA / Azure OpenAI Service on Your Data / Azure OpenAI Service Comparison

	Data Store	Data Access	Data Security	Prompt Control	Responsible AI	Client Access	Analytics and Monitoring
Power Virtual Agents (Generative Answers)	- Public Websites - SharePoint - Imported Files - Dataverse 3P APIs	Automatic with nothing to host or manage	- On-behalf-of users - API Key	- No need to write your own prompts - Response tone - Output formatting	- Cognitive Services Moderation - Provenance Validation - Azure OpenAI Service Content Moderation	- Web - Teams - Facebook - Slack - Bot Framework Channels - APIs	- Built-in analytics - Self-hosted Azure Application Insights
Azure OpenAI Service - On Your Data	- Configured pipelines to import files - Custom Azure Cognitive Search Index	Automatic through self-hosted data stores and indexes	Any through custom data security	- No need to write your own prompts - Response tone - Output formatting	- Grounded to your data - Azure OpenAI Service Moderation	- APIs - Self-managed Web App - Power Virtual Agents	Any through custom developed analytics
Azure OpenAI Service	Any	Manual through custom data access	Any through custom data security	Requires custom prompt authoring	Azure OpenAI Service Moderation	APIs	Any through custom developed analytics

AI BUILDER IN POWER PLATFORM

Home

Approvals

My flows

Create

Templates

Connectors

Data

Monitor

AI Builder

Explore

Models

Document automation

Process mining

Solutions

Learn

Ask a chatbot

Unlock the power of generative AI with GPT

Use a GPT model running on Azure OpenAI Service to supercharge your flows and apps. Automate answering questions, summarizing documents, and more.

Try the preview

AI Models > Explore

All Documents Text Structured data Images

Invoice processing

Extract information from invoices

Text recognition

Extract all the text in photos and PDF documents (OCR)

Receipt processing

Extract information from receipts

Identity document reader

Extract information from identity documents

Business card reader

Extract information from business cards

Document processing

Extract custom information from documents

Text generation

Create text, summarize documents, and more with GPT

Sentiment analysis

Detect positive, negative, or neutral sentiment in text data

POWER VIRTUAL AGENT CHAT BOT

The screenshot displays the Power Virtual Agents (PVA) interface. On the left is a navigation pane with options: Home, Topics, Entities, Publish, Analytics, and Manage. The main area is split into two panels. The left panel, titled 'Bot', shows a chat session with a user 'luca@email.com'. The bot's responses are: 'I see that your smart printer you purchased is the SmartPrinterX on 2018-12-20' and 'I can contact your SmartPrinterX(serial number 418c4e1e-994b-49b5-aca8-04e3f08c00d3 directly to get more information on your issue. Would you like me to do so?'. The user has responded 'Yes'. The right panel, titled 'SmartPrinter X troubleshooter', shows a flowchart. It starts with a 'Condition' block (ConfirmPrinter(text) Equals Yes) leading to a 'Question' block (Ask a question). The question block has a 'Multiple choice' section with options 'Yes, please look up the issue for me' and 'No, I'll describe the issue myself'. The 'Yes' option leads to another 'Condition' block (PrinterLocation(text) Equals Yes, please look up the issue for me), which then leads to a 'Message' block (Okay, I am contacting the printer now). The 'No' option leads to a 'Condition' block (PrinterLocation(text) Equals No, I'll describe the issue myself), which then leads to a 'Redirect' block (Printer - Printer is not working). The flowchart also includes a 'Transfer to agent' block and a 'Message' block (Sorry, our records show something else. Let me connect you to one of our human agents that can assist you further. One moment please.).

Configure PVA Bots to point at your data sources

Supplement with Decision rules to supplement with conversations & prompt for Q&A

<https://web.test.powerva.microsoft.com/tryit?azure-portal=true>