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Data for Government: Automation and AI – Run

September 12, 2024



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Today's Presenters



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CLA Promise

OUR PURPOSE

CLA exists to create opportunities for our clients, our people, and our communities.

OUR PROMISE

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We're one family, working together to create opportunities.

OUR STRATEGIC ADVANTAGES

Deep industry specialization
Seamless, integrated capabilities
Premier resource for private businesses and owners
Inspired careers



Curious, Collaborative, Transparent, Inclusive, Reliable



Data Analytics: Crawl, Walk, Run Series

April 25, 2024

Crawl

Creating Your First
Dashboard



July 25, 2024

Walk

Data Warehouses,
Data Lakehouses, and
Your Data Estate



September 12, 2024

Run

Data for Government:
Automation and AI





Review: Crawl

Your First Dashboard



Client Lifecycle: CLA Digital

Phase 1

- No dashboards or manually compiled dashboards
- Disconnected data
- Abundance of manual processes

Phase 2

- Automated dashboard for one or more departments
- Analytics supported by data integration and automated workflows
- Exploring artificial intelligence for productivity

Phase 3

- Most departments supported by automated dashboards and self-service BI
- Defined sources of truth across enterprise
- Exploring machine learning for analytics

Phase 4

- Integrated systems and solutions supporting advanced analytics
- Machine learning and artificial intelligence integral to business decisions

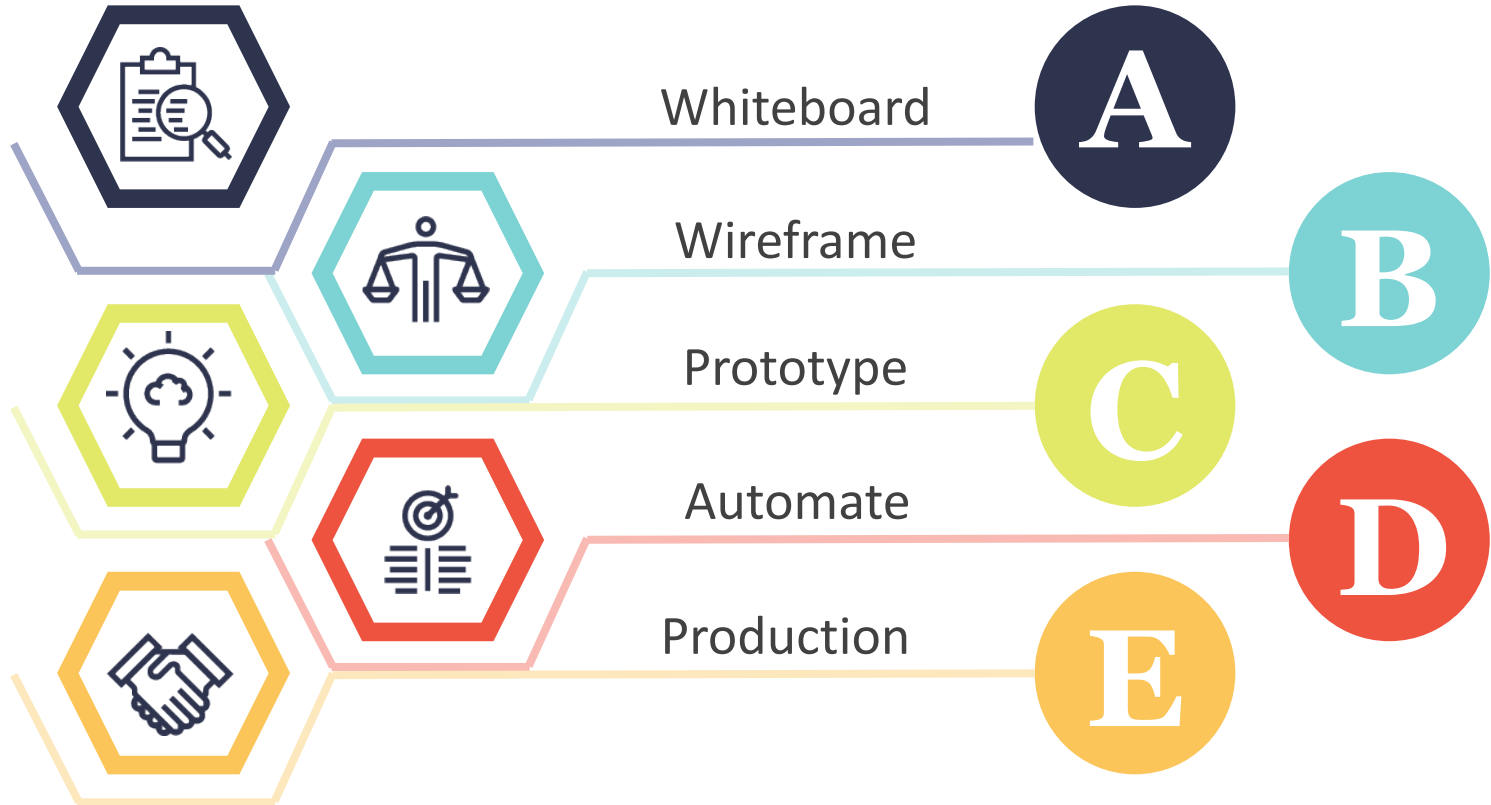
Crawl

Walk

Run



Review: Building Your First Dashboard





Review: Walk

Your Data Estate and Data Governance



Key Structures for Your Data Estate

Data Lake

- Centralized storage of data from multiple sources.
- Reflects how data exists in the source and is often transformed for use in solutions.
- Can host structured, semi-structured, and unstructured data.

Data Warehouse

- Centralized database showing accurate picture of key strategic metrics.
- Organized around facts described by dimensions.
- Hosts structured data.

Data Lakehouse

- Takes the best from data lakes and data warehouses.
- Better governance and support for machine learning and artificial intelligence.
- Can host structured, semi-structured, and unstructured data.



Data Governance

Your organization should manage its data throughout the entire lifecycle.



Data
quality



Security



Integration



Lineage



Moving from Crawl, to Walk, to Run

Automation and Artificial Intelligence



Polling Question

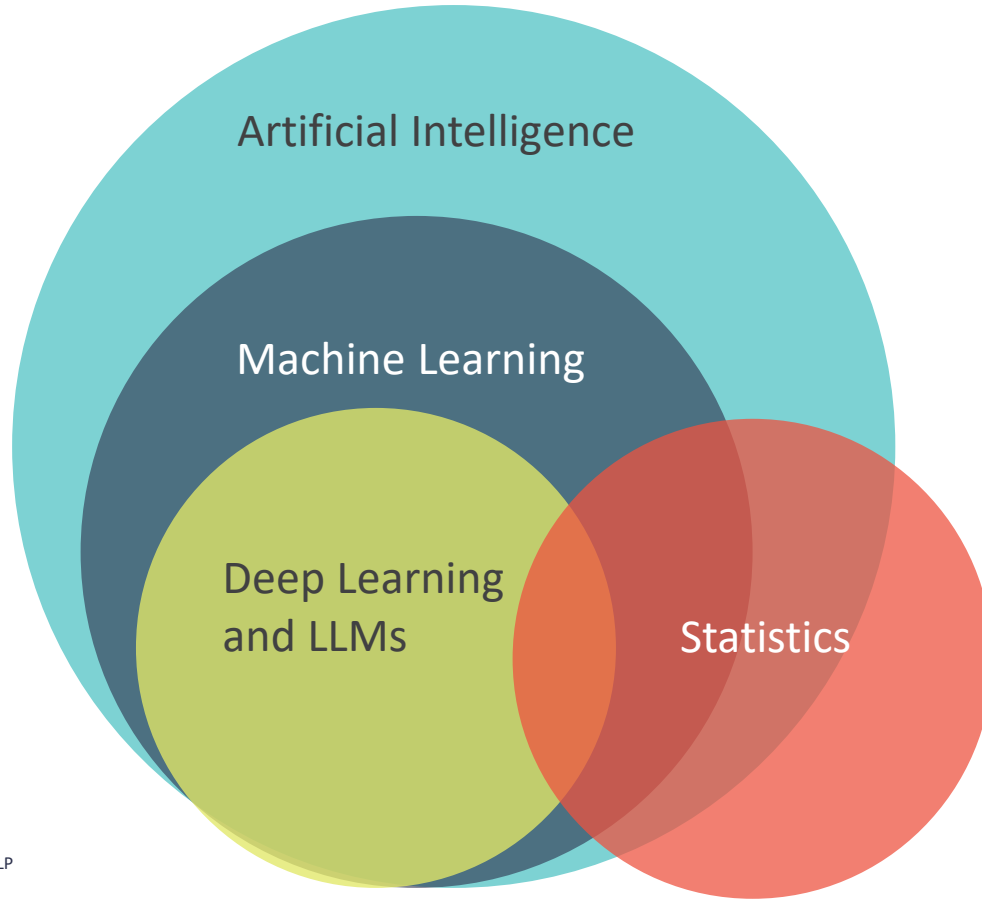


Where are you in your
AI journey?

- Considering and curious
- Embracing and embarking
- Launching and learning
- Innovating and accelerating



What Is Artificial Intelligence?



What Is AI?



Natural Language Processing (NLP): Sentiment analysis and conversational AI.



Computer Vision: Image and facial recognition.



Machine Learning: Predictive and prescriptive analytics, classification and anomaly detection.



Reinforcement Learning: Models that learn from stimuli.

Themes

What we see in the next two to five years:

- The democratization of AI models and incorporation into existing tools
- Computer vision AI models reaching scale and usability
- Proliferation of large language models and “AI as a Co-Pilot”





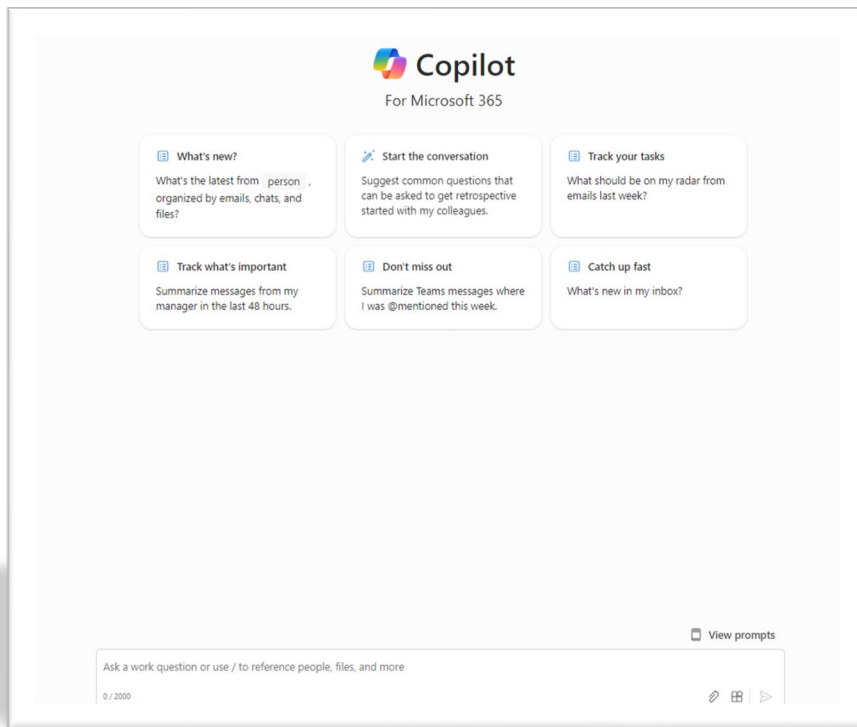
The Democratization of AI Models and Incorporation into Existing Tools



Theme One: Democratization of AI Models



Microsoft 365 Copilot



- AI-powered assistant integrated into Microsoft 365 applications
- Helps automate tasks, provide insights, and enhance productivity
- Available in applications like Word, Excel, Outlook, Teams and more

Customizable through Copilot Studio within Microsoft's ecosystem





Computer Vision AI Models Reaching Scale and Usability



Computer Vision

- Autonomous driving
- Healthcare
- Agriculture
- Retail
- Manufacturing
- Document automation

CONTOSO LTD. **INVOICE**

Contoso Headquarters
123 456th St
New York, NY, 10001

INVOICE: INV-100
INVOICE DATE: 11/15/2019
DUE DATE: 12/15/2019
CUSTOMER NAME: MICROSOFT CORPORATION
SERVICE PERIOD: 10/14/2019 – 11/14/2019
CUSTOMER ID: CID-12345

Microsoft Corp
123 Other St,
Redmond WA, 98052

BILL TO:
Microsoft Finance
123 Bill St,
Redmond WA, 98052

SHIP TO:
Microsoft Delivery
123 Ship St,
Redmond WA, 98052

SERVICE ADDRESS:
Microsoft Services
123 Service St,
Redmond WA, 98052

SALESPERSON	P.O. NUMBER	REQUISITIONER	SHIPPED VIA	F.O.B. POINT	TERMS
	PO-3333				

DATE	ITEM CODE	DESCRIPTION	QTY	UM	PRICE	TAX	AMOUNT
3/4/2021	A123	Consulting Services	2	hours	\$30.00	\$6.00	\$60.00
3/5/2021	B456	Document Fee	3		\$10.00	\$3.00	\$30.00
3/6/2021	C789	Printing Fee	10	pages	\$1.00	\$1.00	\$10.00

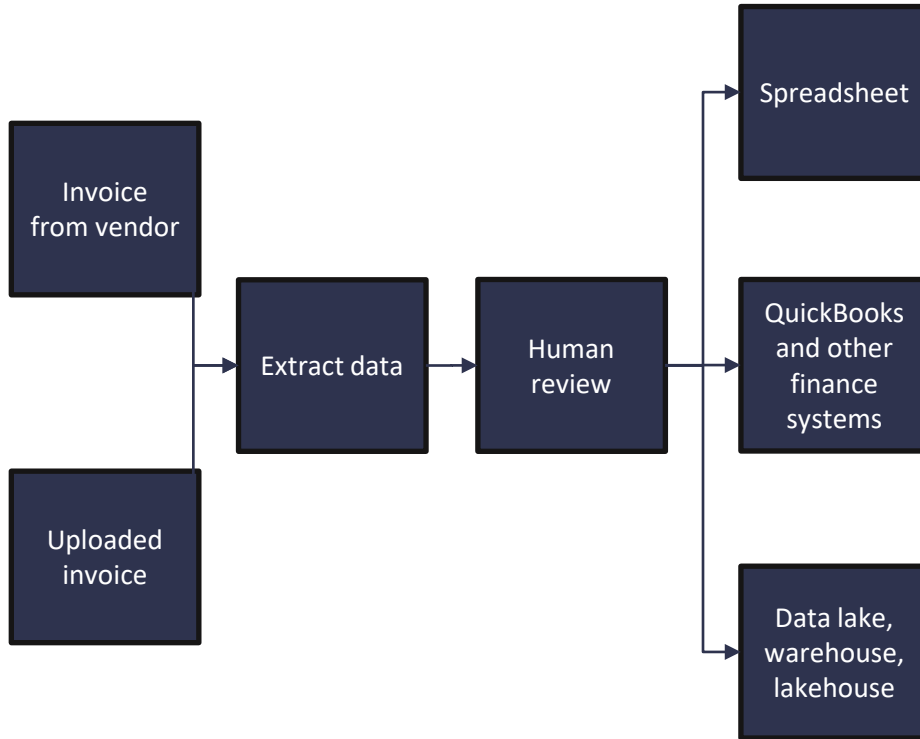
SUBTOTAL	\$100.00
SALES TAX	\$10.00
TOTAL	\$110.00
PREVIOUS UNPAID BALANCE	\$500.00
AMOUNT DUE	\$610.00

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Contoso Billing
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Invoice Automation



Reduce manual data entry from documents such as invoices

Minimize error associated with manual processing

Integrate with existing workflow and enterprise systems

Reduction in manual invoice processing time with AutoExtract





Proliferation of Large Language Models and “AI as a Co-Pilot”



Large Language Models

- Content creation
- Customer support
- Natural language processing
- Data extraction/summarization
- Programming

“The hottest new programming language is English.”
– Andrej Karpathy



Polling Question

What is your biggest challenge for adopting AI?

- Don't know enough about how AI can help and/or waiting for legislative policy guidance.
- Our organization is definitely moving toward using automation and AI to our advantage, and we need help.
- We have no idea where to begin and need help developing a strategy.
- We have adopted strategies and have a plan.





Potential Challenges



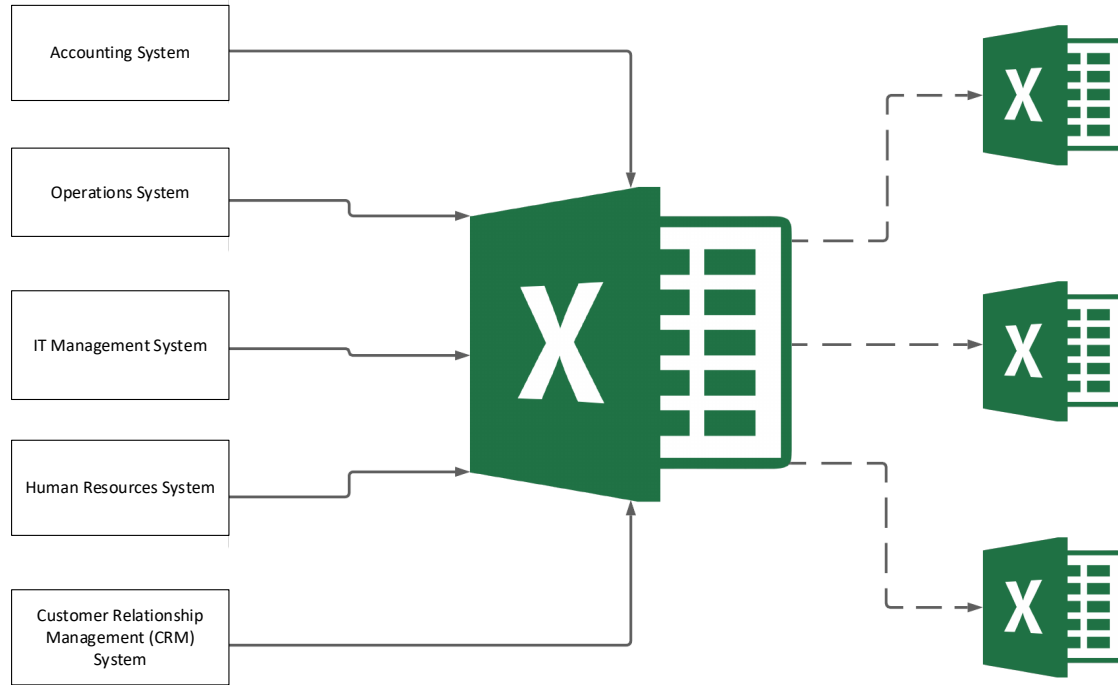
Challenges

Areas of consideration:

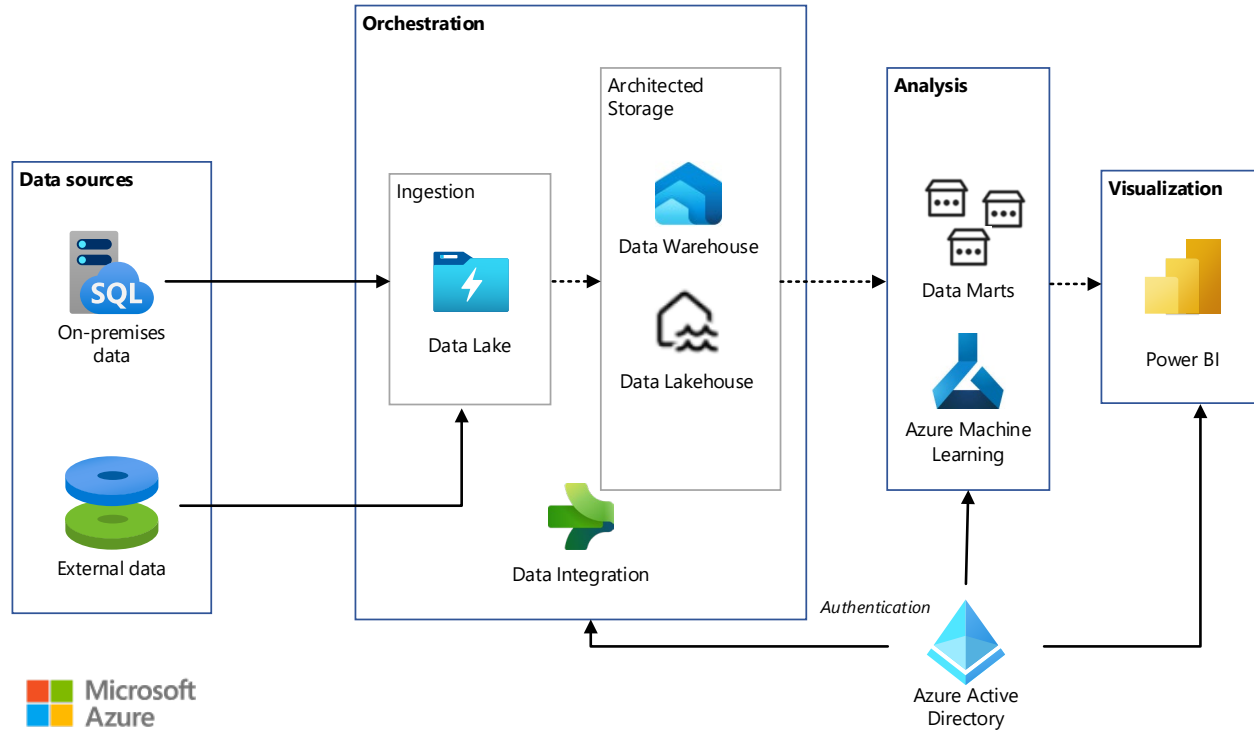
- Lack of data standardization – data engineering work likely
- Embedding AI in an existing process
- Security and data access considerations



Challenge One: Data Engineering



Challenge One: Data Engineering





Microsoft Fabric

Intelligent data foundation



Data Integration
Data Factory



Data Engineering
Synapse



Data Warehouse
Synapse



Data Science
Synapse



Real Time Analytics
Synapse



Business Intelligence
Power BI



Applied Observability
Data Activator



Powered by AI with Copilot in Microsoft Fabric



Unified data foundation
OneLake



Persistent data governance and security
Purview



Challenge Two:
*Embedding AI in an
Existing Process*



Challenge Three: Security, Governance and Compliance

1 Data security

2 Data governance

3 Transparency –
“showing their work”

4 Ethical concerns



Microsoft Purview



Data Security

Data Loss Prevention
Insider Risk Management
Information Protection



Data Governance

Data Map
Data Catalog
Data Estate Insights



Risk and Compliance

Data Lifecycle Management
eDiscovery & Audit
Communication Compliance



Where to Go from Here?

- Three part series
 - [Data for Government: Creating Your Own Dashboard – Crawl](#)
 - [Data for Government: An Introduction to Data Warehouses – Walk](#)
 - [Data for Government: Automation and AI – Run](#)
- Have specific questions or want to discuss 1:1?
 - Click “Let’s talk. Contact me.” and we'll set up a complimentary consultation with one of our digital professionals!
- Mitch Thompson:
 - Phone: 317-569-6154 | Email: mitch.thompson@CLAconnect.com
- Gregory Chambers
 - Phone: 860-570-6352 | Email: gregory.chambers@CLAconnect.com



Thank you!



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