Walk | Data Warehouses and Your Data Estate

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Today's Presenters

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We'll get you there.

CPAs | CONSULTANTS | WEALTH ADVISORS

About CLA

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

OUR PROMISE
We promise to know you and help you.

CLA Promise

OUR FAMILY CULTURE
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

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Review | What is Digital?

CLA Digital uses data, automation, and software to meet our clients where they are and help them make data driven decisions.

Data Analytics: Crawl, Walk, Run Series

- **Crawl – June 15, 2023**

  Creating Your First Dashboard

- **Walk – Today**

  Data Warehouses, Data Lakehouses, and Your Data Estate

- **Run – October 10, 2023**

  The Power of Predictive Analytics and Artificial Intelligence

Review: Crawl Webinar

Client Lifecycle: CLA Digital

Phase 1	No dashboards or manually compiled dashboards
	Disconnected data
	Abundance of manual processes

Crawl

| **Phase 2** | Automated dashboard for one or more departments |
| | Analytics supported by data integration and automated workflows |

Walk

Phase 3	Most departments supported by automated dashboards and self-service BI
	Defined sources of truth across enterprise
	Exploring machine learning and artificial intelligence for analytics

Run

| **Phase 4** | Integrated systems and solutions supporting advanced analytics |
| | Machine learning and artificial intelligence integral to business decisions |

Polling Question

- In Review: Where does your organization fall on the Digital Lifecycle?
  - Phase 1: Multiple disconnected systems, lots of manual
  - Phase 2: Some automated dashboards, exploring integrating systems
  - Phase 3: Integrated systems, most/all departments using automated dashboards, exploring AI/Machine Learning
  - Phase 4: Advanced Analytics and AI/ML integral to business decisions.

Review: Building Your First Dashboard

Whiteboard

A

Wireframe

B

Prototype

C

Automate

D

Production

E
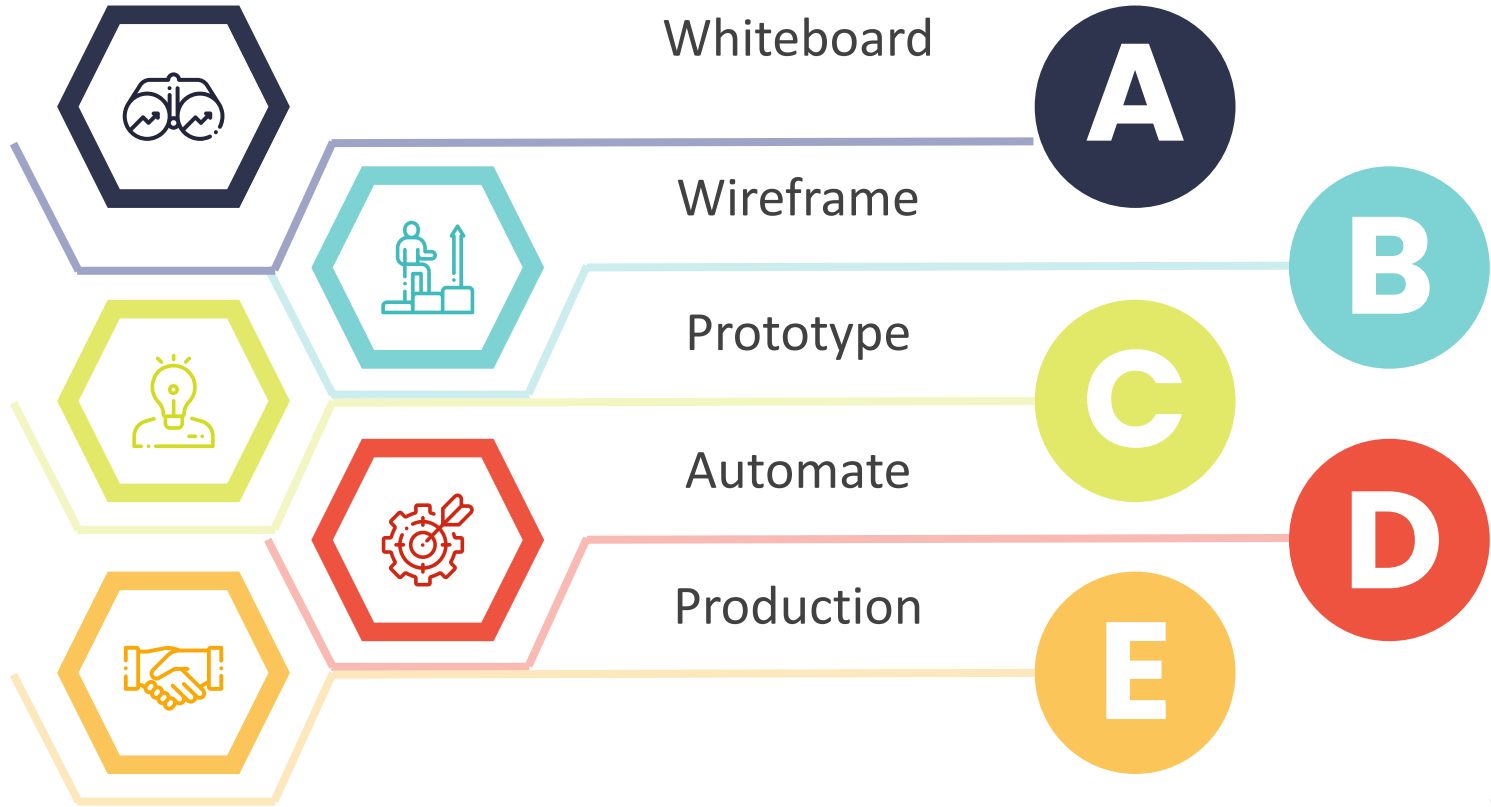
Moving From Crawl To Walk

The Challenge We Heard:

- Crawl content was informative – but what if my environment is more complicated?
  - Multiple disparate data sources
  - Tying out operational and financial data
  - Thinking about "integrating" but don't know where to start
- "Even if I wanted to just 'load' my data into a dashboard, it's more complicated than that!"

Example Challenge Diagram
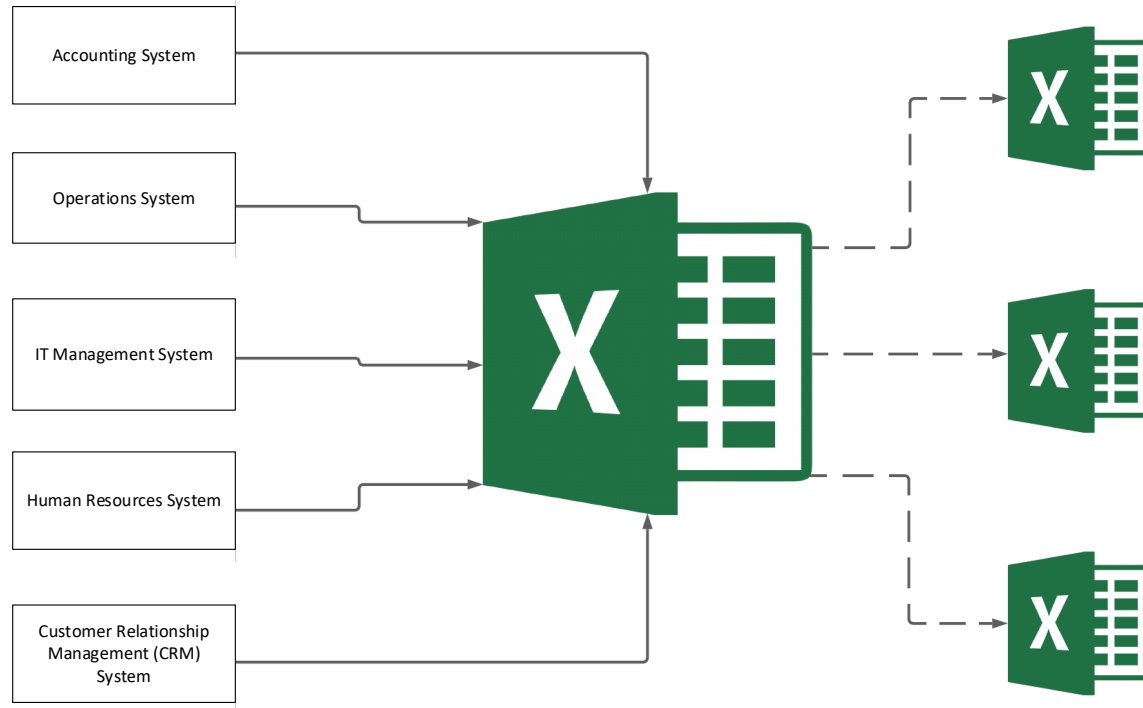
How We Tackle This

- General Concept: We need to bring data into a central place with effective policies so we can organize and manage it.

- Building Your Data Estate
  - Data storage structures

- Governing Your Data Estate
  - Data Quality
  - Visibility
  - Security

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 Marts
- Designed for specific business use cases, such as a department's view of the organization.
- Host structured data.

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

Example Data Estate Topography
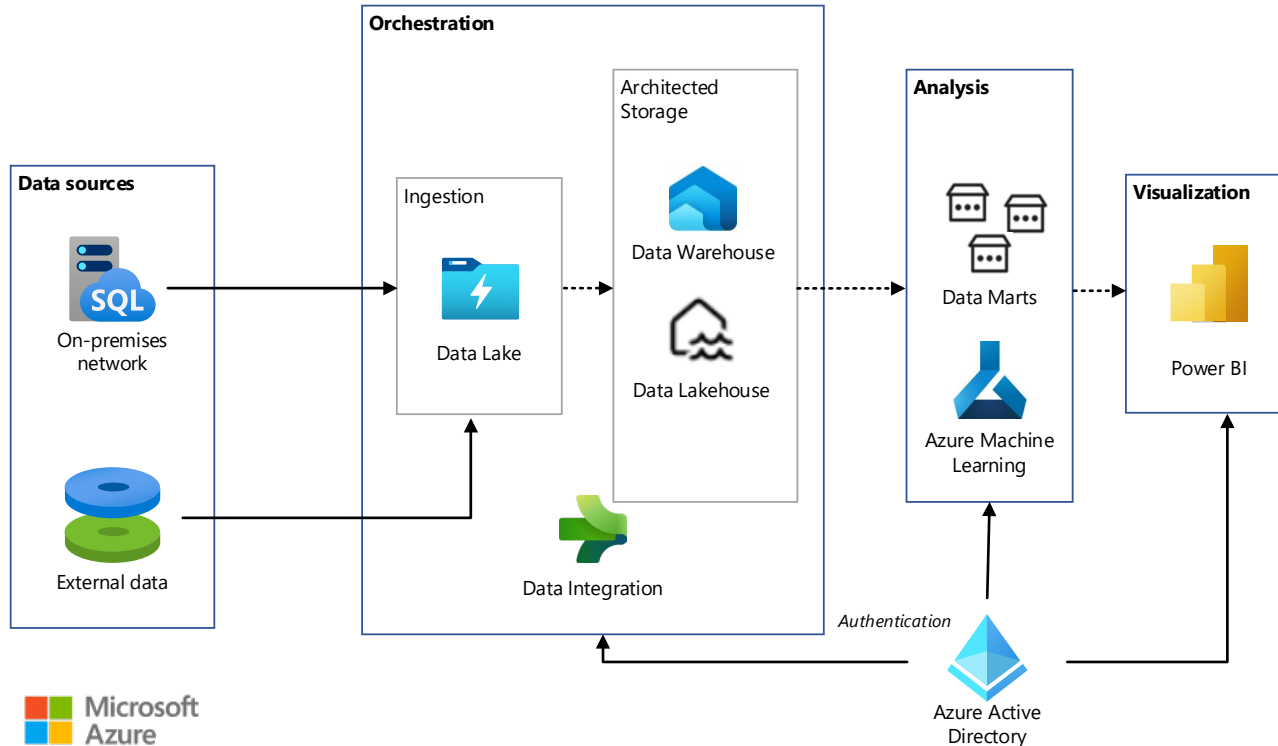
Polling Question

Do you have any of the following repositories that support analytics in your data estate?

- We have a data warehouse or data marts.

- We have a data lake.

- We have a data lake and data warehouse/data marts.

- We have a built a data lakehouse on our data lake.

- We have a data swamp.

- I'm not sure.

We all know this...

Data volumes ⬆

System Complexity ⬆

Digital TX Initiatives ⬆
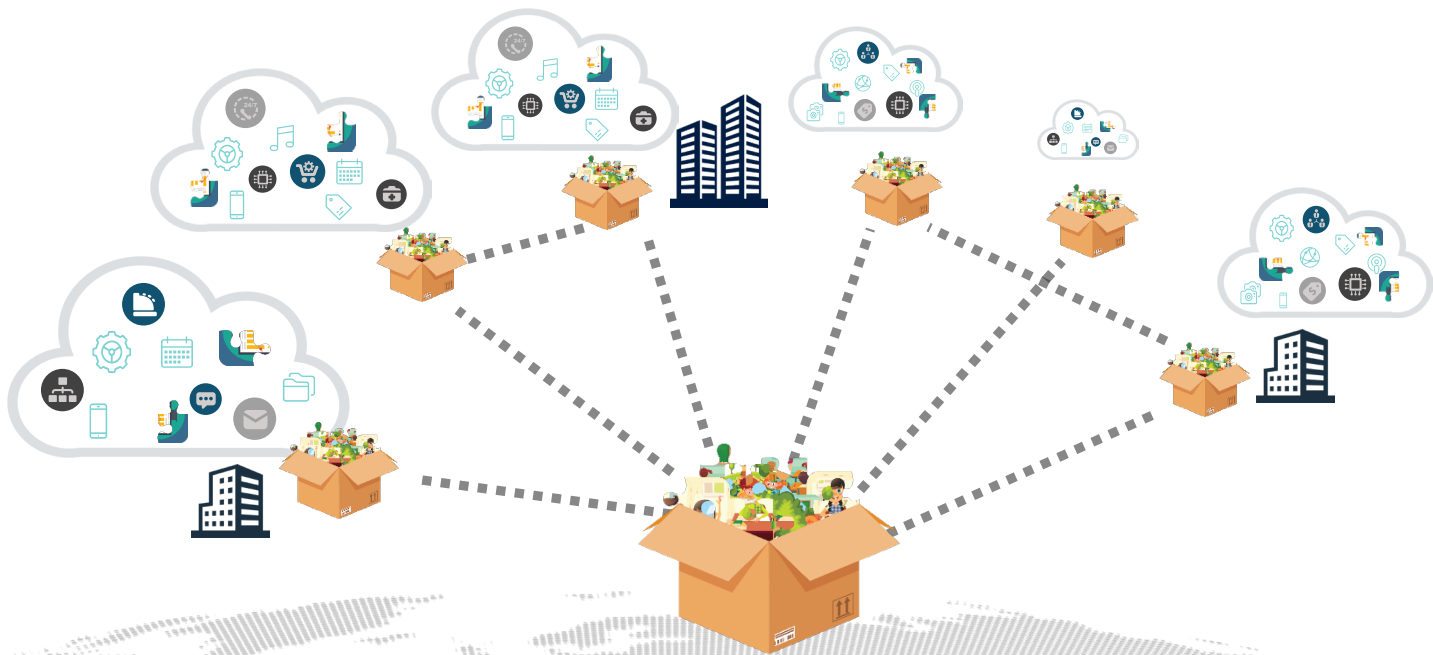
| Revenues ⬆ | Costs ⬇ | Risk ⬇ | Agility ⬆ |

Digital Transformation

Governing Your Data Estate

Data Governance

Data Visibility & Protection

Data Quality

Data Visibility & Protection
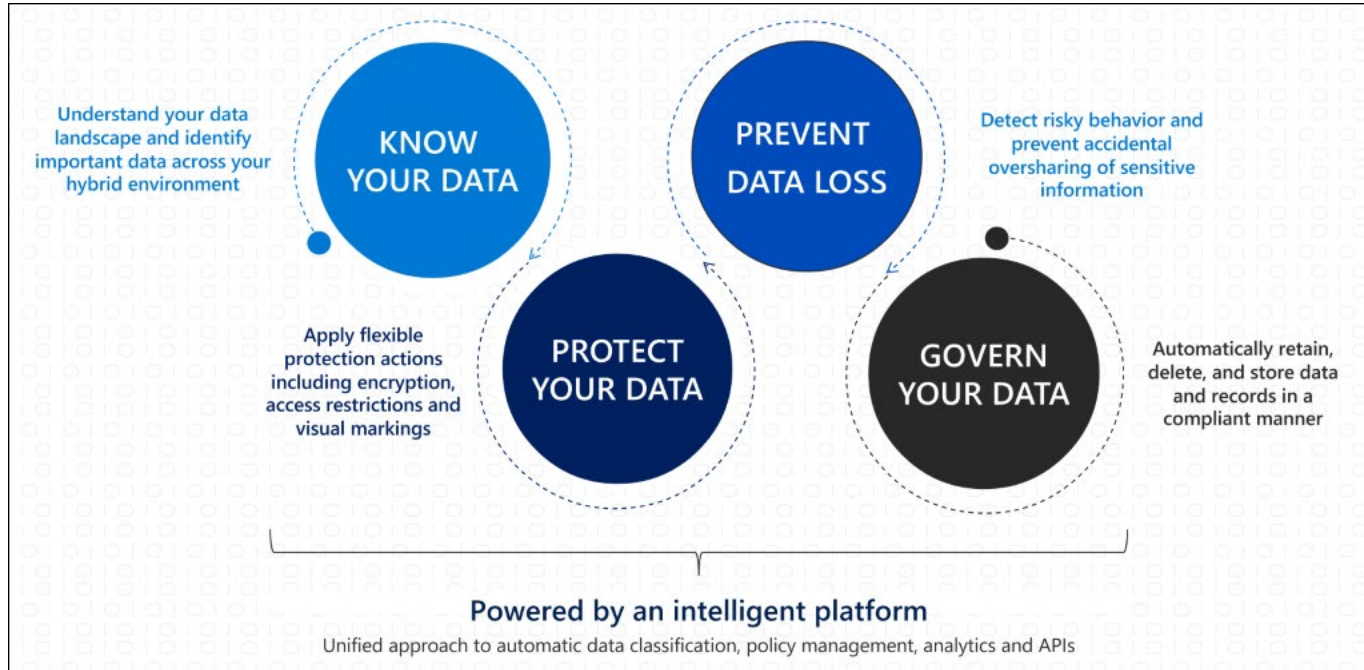
Understanding Data Quality

Reference Data

Standards based, Mostly Static

Critical, Easy to Manage

Master Data

Customers, Locations, Products

More Dynamic, Existing in Multiple Systems

Transactions

Orders, Invoices, Documents

Business System Managed Facts

Big Data

Volume, Variety, Velocity

Often Questionable Veracity

Real World Example

A sales receipt labeled with data categories:

Location Master Data — points to the store address block (doodlebugz, 15 west park square, marietta, ga 30060, 770-792-6734, www.shopdoodlebugz.com)

Customer Master Data — points to Bill To (Jane Doe, 123 Frazier St, Marietta, GA 30060)

Employee Master Data — points to Cashier: John

Product Master Data — points to Item Name list (sid dickens memory, Dog Collar, 3/4 in SM, geography glasses)

Tax Rate Reference Data — points to MARIETTA6, 6% Tax

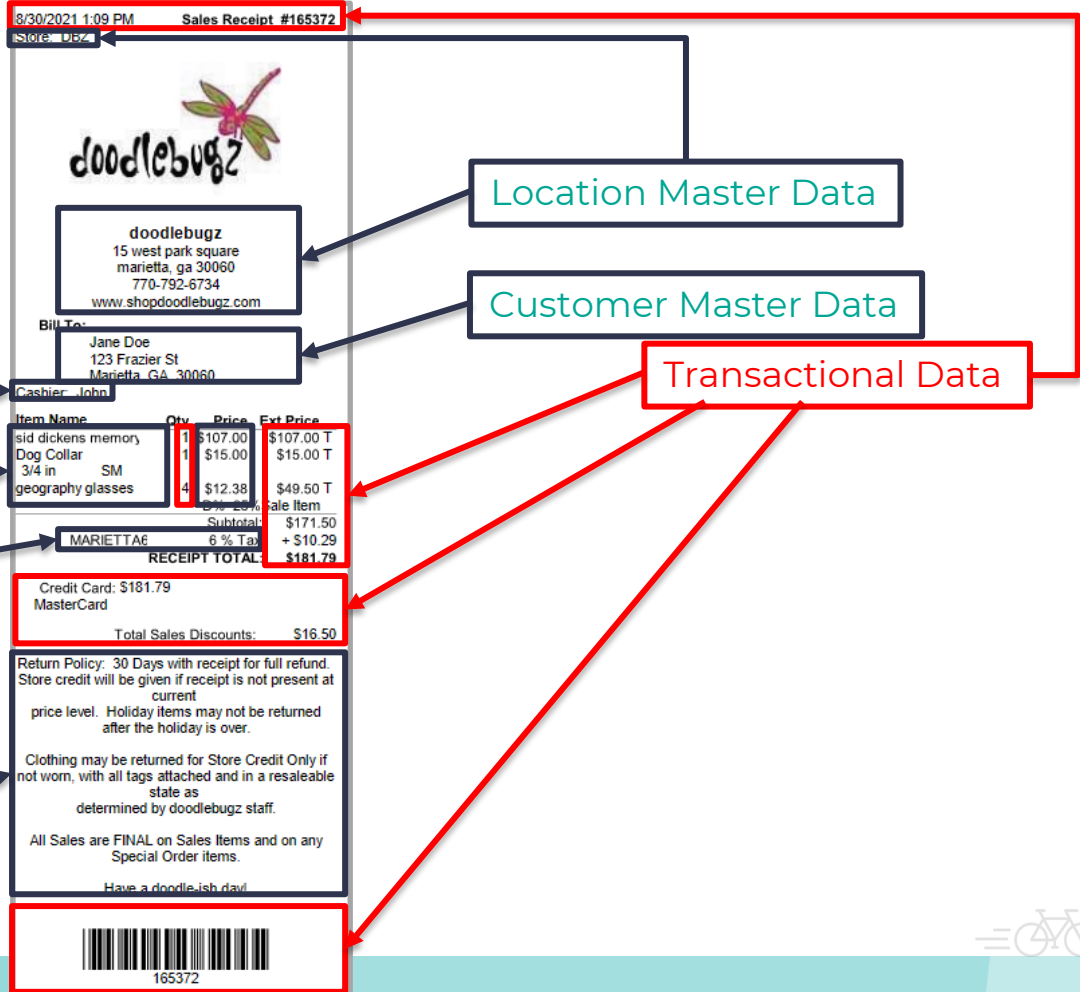**Policy Reference Data** — points to Return Policy text

Transactional Data — points to Sales Receipt #165372, price columns, Credit Card payment, and barcode

Receipt details:
- 8/30/2021 1:09 PM Sales Receipt #165372
- Store: DB2

Item Name	Qty	Price	Ext Price
sid dickens memory	1	$107.00	$107.00 T
Dog Collar	1	$15.00	$15.00 T
3/4 in SM			
geography glasses	4	$12.38	$49.50 T

- D% 25% Sale Item
- Subtotal: $171.50
- MARIETTA6 6 % Tax + $10.29
- **RECEIPT TOTAL: $181.79**

- Credit Card: $181.79
- MasterCard
- Total Sales Discounts: $16.50

Return Policy: 30 Days with receipt for full refund. Store credit will be given if receipt is not present at current price level. Holiday items may not be returned after the holiday is over.

Clothing may be returned for Store Credit Only if not worn, with all tags attached and in a resaleable state as determined by doodlebugz staff.

All Sales are FINAL on Sales Items and on any Special Order items.

Have a doodle-ish day!

Barcode: 165372

Polling Question

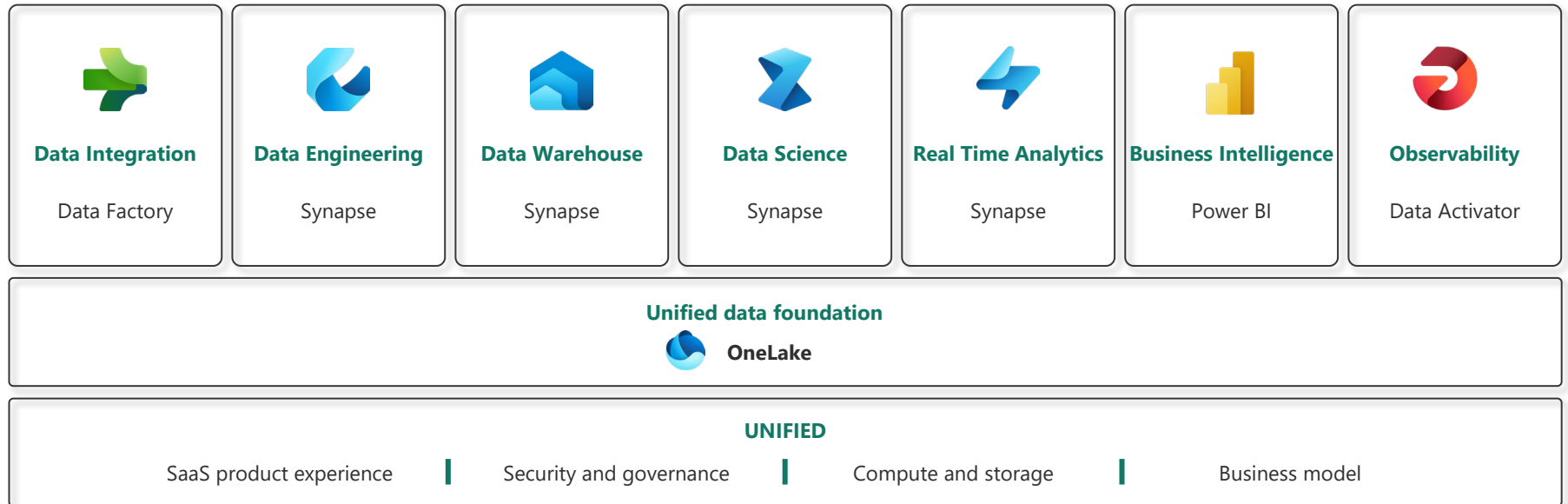What does data governance look like at your organization?

- Someone in Finance/Accounting spends a significant portion of their time focused on solving issues that arise.

- Finance, Operations, and IT work together on data governance and it's clear who owns our data and how to resolve issues.

- Oftentimes it feels like data anarchy, but this is helpful.

- I'm not sure.

Microsoft Fabric

An end-to-end analytics platform that brings together all the data and analytics tools that organizations need to go from the data lake to the business user

Data Integration	**Data Engineering**	**Data Warehouse**	**Data Science**	**Real Time Analytics**	**Business Intelligence**	**Observability**
Data Factory	Synapse	Synapse	Synapse	Synapse	Power BI	Data Activator

Unified data foundation

OneLake

UNIFIED

SaaS product experience | Security and governance | Compute and storage | Business model

Where to Go From Here?

- 3 Part Series
  - Crawl – June 15th
  - Walk – Today
  - Run – Oct 10th
- 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 specialists!
- Troy Hollings
  - Phone: 317-569-6123 | Email: Troy.Hollings@claconnect.com
- Gregory Chambers
  - Phone: 860-570-6352 | Email: Gregory.Chambers@claconnect.com
- We invite you to read about how we helped Gleaners Food Bank of Indiana in the WSJ: https://partners.wsj.com/cliftonlarsonallen/the-key-to-workforce-transformation/a-tech-toolkit-for-the-modern-workforce/

It takes balance.™

It's our job to engage in conversations, listen to what you really want, and apply our talents and experience to make extraordinary impact on your organization and life.

Thank you!