

#FABCONSQLCON2026

FABCON

Microsoft Fabric
COMMUNITY CONFERENCE

SQLCON

Microsoft SQL
COMMUNITY CONFERENCE

ATLANTA MARCH 16 - 20, 2026

SESSION AGENDA

Unity in Action — Building Enterprise AI on a Unified Semantic Foundation



1

The Hook



2

The Market Reality



3

The Unified Foundation



4

Agents in Action



5

Real-World Case Study



6

**Blueprint & Decision
Framework**



7

The Close



8

Q&A

The Fragmentation Tax

Does any of this sound familiar?



Your BI dashboard says revenue is up. Your ML model says churn is accelerating.

Your CFO trusts neither.



You added a data catalog last year. Then a governance layer. Then an AI copilot.

Each one brought its own vocabulary — and its own version of truth.



Your AI agents are producing answers fast. But nobody can explain where those answers came from.

Confident answers (hallucination) at machine speed.



Compliance reviews take weeks because lineage is stitched together manually across six systems.

Every audit is a fire drill.



A new data source lands. Your team spends three weeks mapping it to existing definitions.

By the time it's ready, the business has moved on.

***This isn't a
technology problem.
It's a semantic
problem. And it's
compounding.***

The Point-Solution Trap

ADDING MORE TOOLS

New Catalog

New vocabulary added

New Governance Layer

More process overhead

New AI Copilot

More semantic drift

New Dashboard

Another version of truth



BUILDING A FOUNDATION

One Semantic Layer

Shared language across all tools and agents

Governance by Design

Rules flow through the data itself

Agents Inherit Meaning

AI understands context from day one

Plug-and-Play Sources

New data inherits meaning automatically

The problem isn't that you need more tools. It's that your tools don't share a language.

“ Return ”

Supply Chain

Product sent back

Finance

ROI

Marketing

Returning customer

Tax

Tax filing

AI Agent

Returns are trending at +3.2% QoQ.

✓ Confidence: 94%

AI that responds. Without reasoning.

Confident. Precise. Wrong.

What 'Unified' Actually Means



One Semantic Layer

All tools, agents, and users share the same definitions, relationships, and business rules.



Governance Flows Through

Security, lineage, and compliance are embedded in the data — not applied after the fact.



AI Operates on Meaning

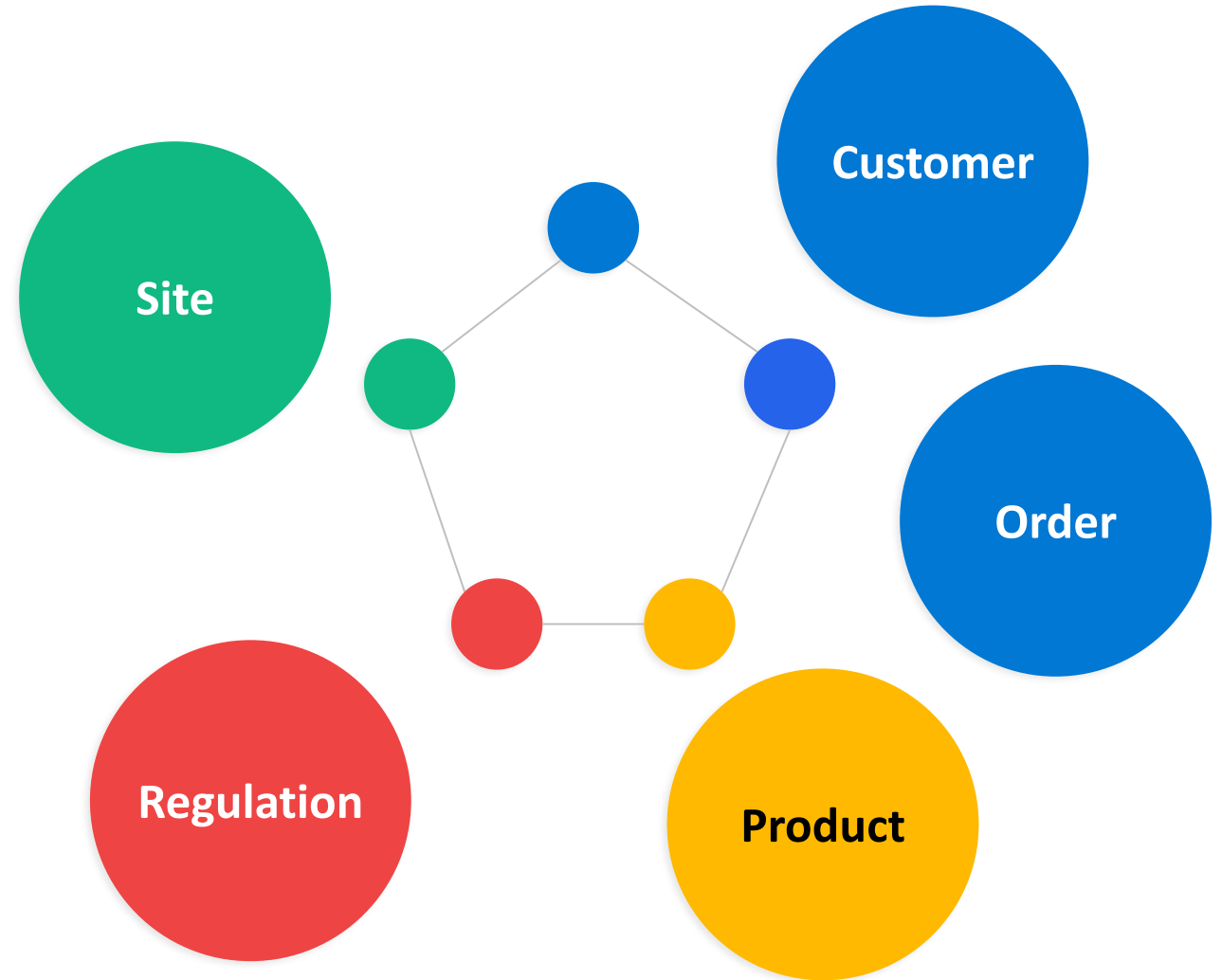
Agents don't just process raw data. They reason about business context, relationships, and rules.

This is what Microsoft Fabric was built to enable.

Ontology: Your Semantic Backbone

Ontology defines the shared meaning of your data across your entire estate. It's not a data catalog — it's a knowledge graph of your business.

- ✓ Entities, relationships, and business rules encoded as machine-readable semantics
- ✓ Every agent, dashboard, and data product inherits this shared understanding
- ✓ New data sources inherit meaning automatically instead of manual mapping
- ✓ Governance becomes inherent, not additional overhead



Why Ontology Changes Everything



One Definition – Shared Vocabulary

Across every report, model, and agent. No more conflicting numbers in the board room.



Automatic Meaning Inheritance

New data sources plug in and inherit meaning instantly. No weeks of custom mapping.



AI Agents That Reason

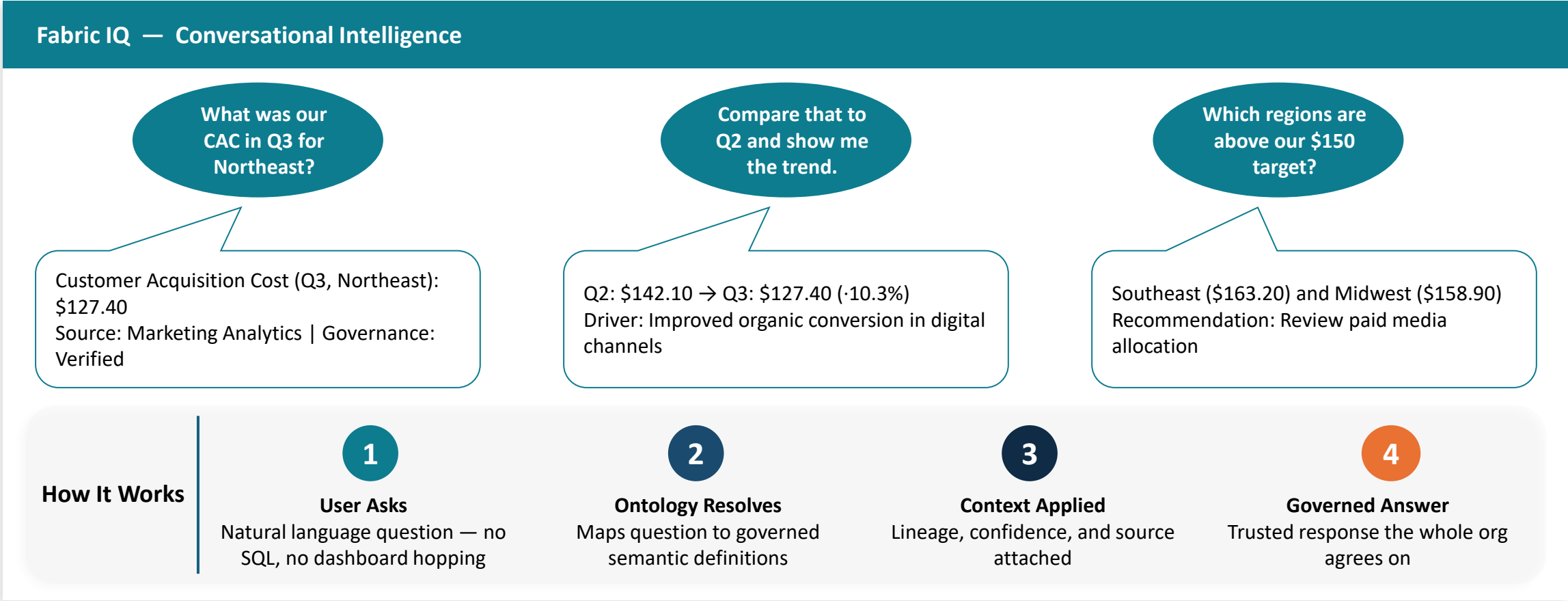
Agents know what a ‘high-priority customer’ means, what ‘revenue at risk’ looks like, and which regulations apply.



Governance by Design

Rules baked into the data itself. Agents can’t ignore them. Compliance is inherent, not overhead.

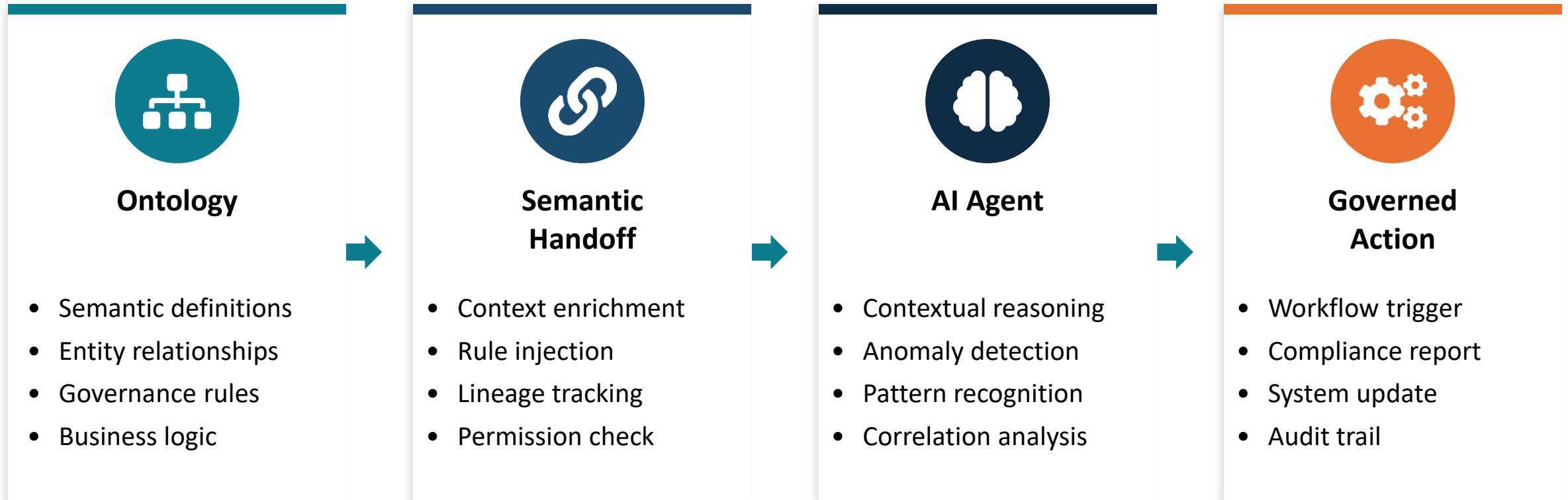
Fabric IQ: Conversational Discovery



What if every question your CEO asked got an answer the whole organization agreed on?

From Ontology to Agents: The Semantic Handoff

Without ontology, agents are powerful but blind. With ontology, they understand context, relationships, and rules.



Now that the foundation is clear...

LET'S TALK ABOUT THE AGENTS



Data Agents

Watch. Learn. Discover.
Autonomous insight generation
on governed semantic models.



Operational Agents

Act. Adapt. Execute.
Automated action on governed
playbooks and workflows.

Data Agents: Autonomous Insights

Data Agents are your tireless analysts — constantly monitoring your governed data estate for patterns, anomalies, and opportunities.



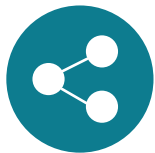
Semantic Querying

Agents ask questions in the language of the ontology — not raw SQL



Contextual Anomaly Detection

Understands what 'normal' means for each entity. A 20% spike at Site A is abnormal; the same spike at Site B during maintenance is expected.



Cross-Domain Correlation

Connects signals across datasets that the ontology links — finding patterns humans would miss



Governed Output

Every insight carries lineage, confidence score, and source. No hallucination. No guesswork.

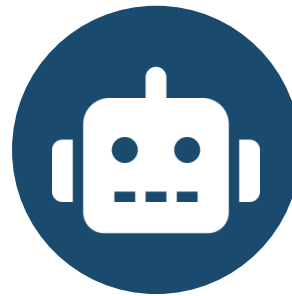
Operational Agents: From Insight to Action

Insights are useless if nobody acts on them. Operational Agents close the loop.



Data Agent

Detects anomaly
Contextualizes signal
Determines severity



Operational Agent

Follows governed playbook
Human-in-the-loop where
required
Autonomous where trusted



Trigger Workflow



Alert Stakeholders

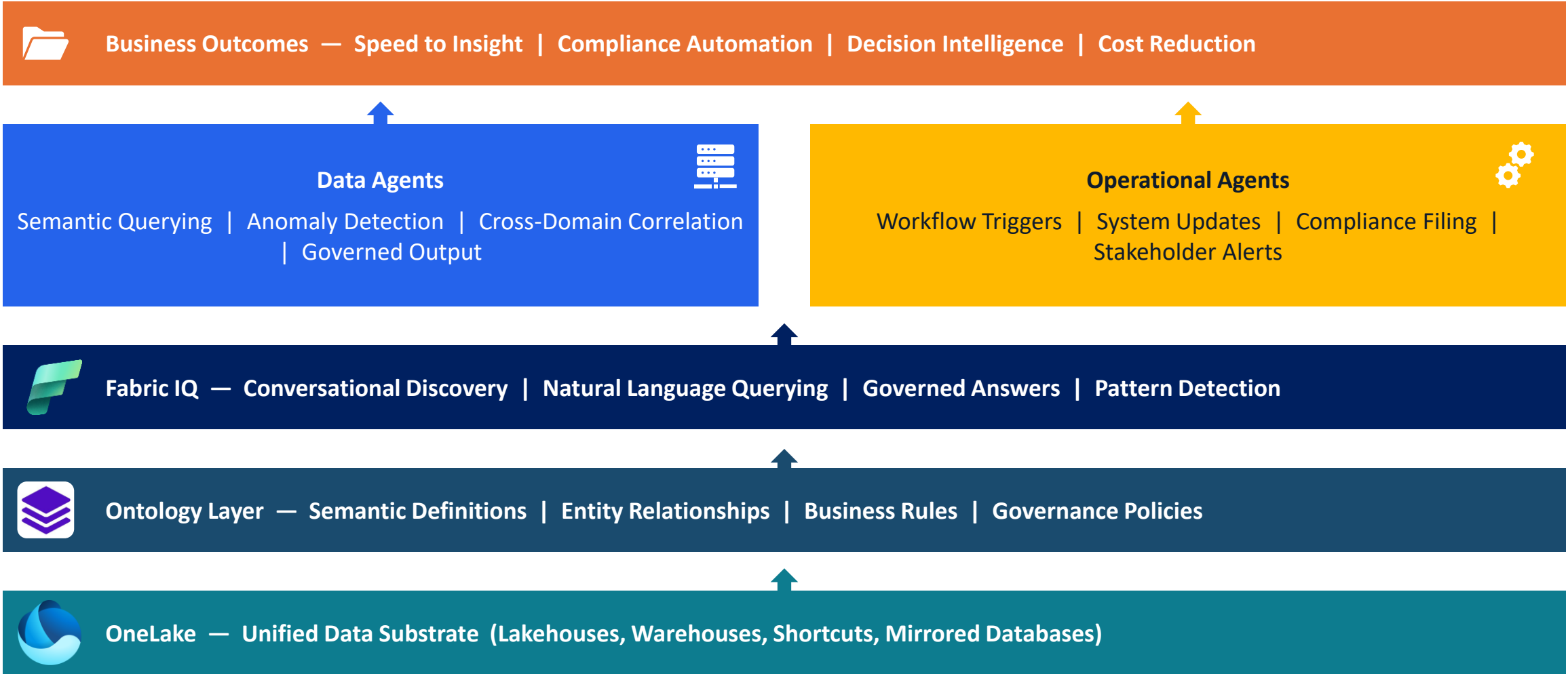


Update Systems



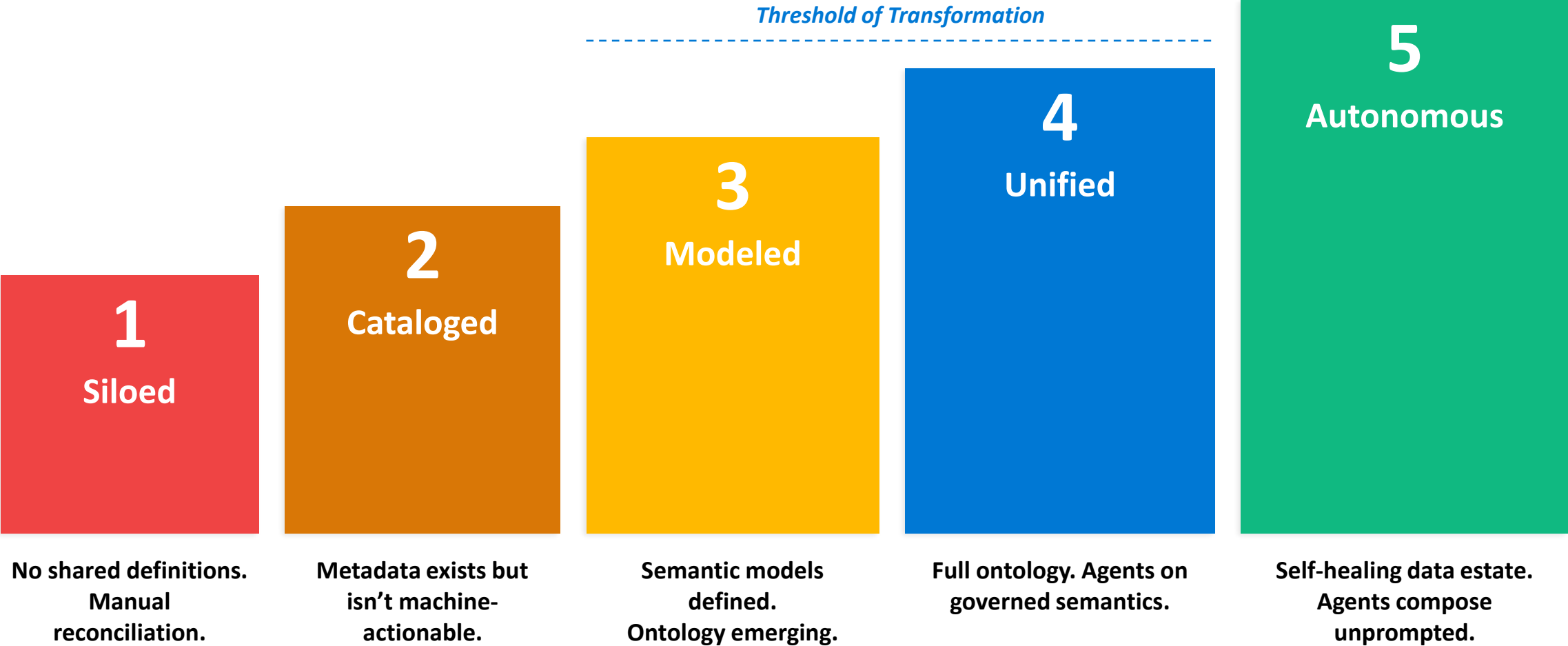
File Compliance

The Agent Architecture: Full Reference



The Semantic Maturity Model

Where are you today?

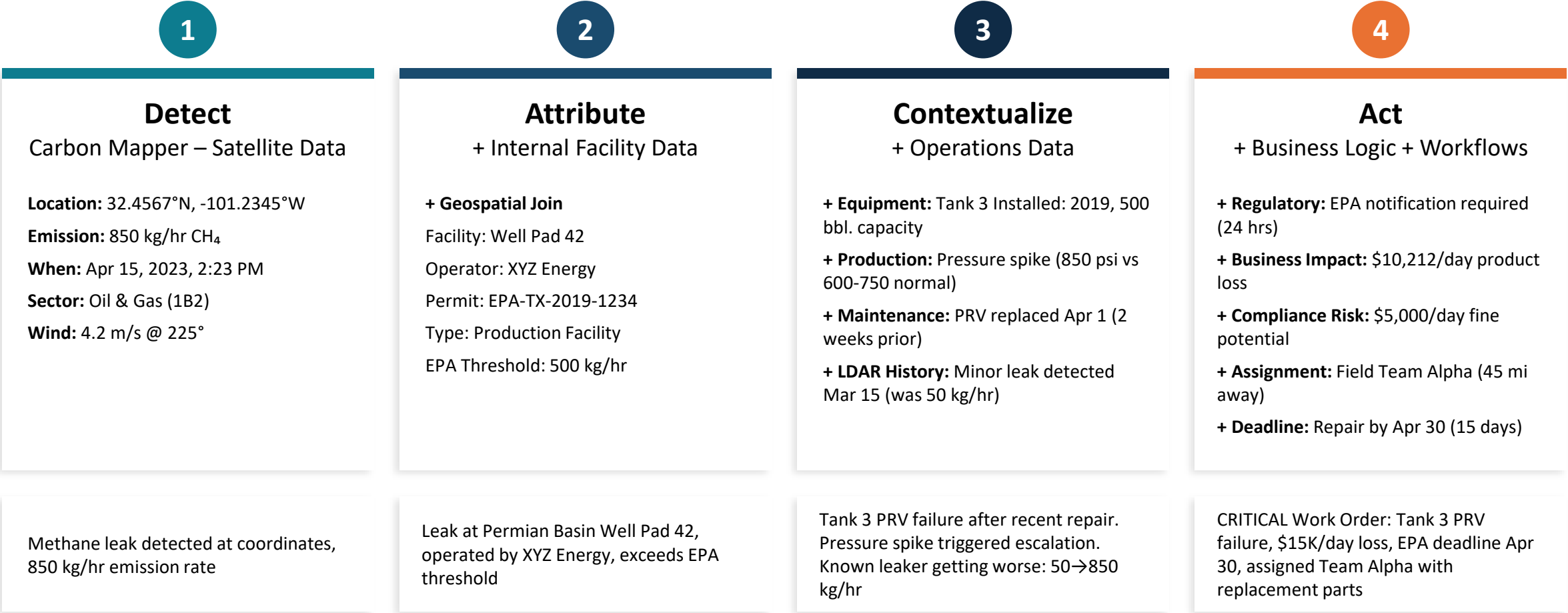


REAL-WORLD CASE STUDY

Satellite-Based Environmental Monitoring
Fireside Chat with Microsoft Leaders

Green Sky: From Detection to Action: The 4-Stage Value Progression

Transforming Satellite Data into Operational Intelligence



External Detection (Public) + Internal Operations (Enterprise data) + Microsoft Fabric = Emissions Intelligence

Build on your Unified Data Platform – Microsoft Fabric

Open Public Data → Operational Insights → Tangible Business Outcomes

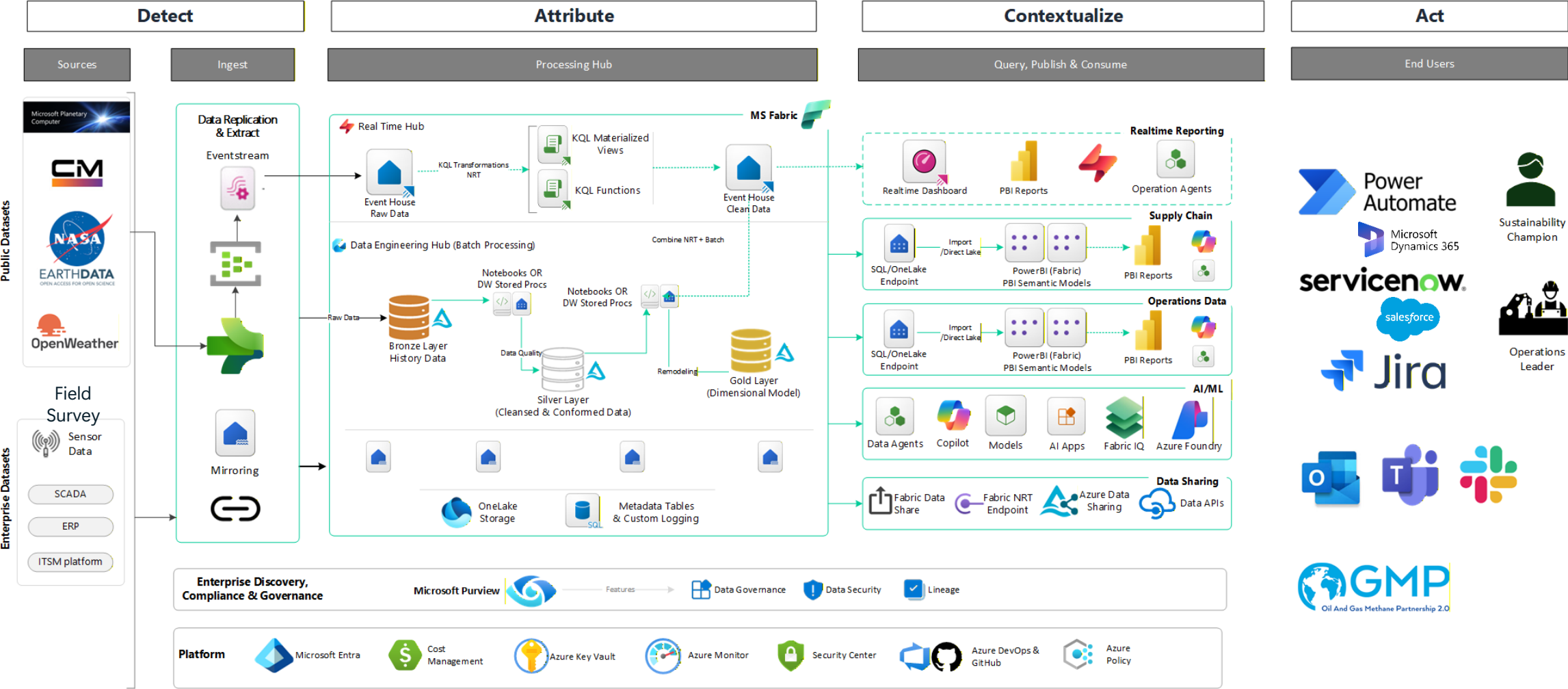
Siloed Methane Intelligence Platforms

- Public feeds with limited Enterprise Context
- **Limited equipment attribution**
- **Manual work orders**
- Limited business impact calc.
- **Limited system integrations**
- **No system of record**
- Reactive detection

Fabric Accelerator

- **Complete Operational Context**
- **Facility + equipment attribution**
 - SCADA, ERP systems integration
- Integrate with LOB Systems
 - Mirroring, Shortcut OT data
- **Automated work orders**
 - Operational Agents (Power Automate)
- Verification system of record
 - Track Lineage and Audit trail with **Purview**
- **Actionable intelligence** - Predictive + proactive

Reference Architecture



Where Green Sky Fits in Fabric IQ

Green Sky maps directly to Fabric IQ capabilities — the semantic intelligence layer that powers enterprise AI

Fabric IQ Component		Green Sky Implementation
Ontology	➡	Emissions entities (facilities, well pads, equipment, plumes) with rules, relationships, and compliance thresholds defined as business concepts
Graph	➡	Multi-hop reasoning across plume → facility → equipment → SCADA anomaly → maintenance record connections for root cause analysis
Operations Agent	➡	Real-time monitoring of emission streams, auto-detecting super-emitters (2,900+ kg/hr), triggering JIRA tickets and field crew dispatch
Data Agent	➡	Natural language queries — "How am I doing on methane emissions?" — answered with contextualized insights from unified emissions data

Green Sky leverages every Fabric IQ capability — from Detect to Act in seconds

Real Time Methane Intelligence

Total Methane Loss

27045.6 MCF

Financial Impact

\$67614

Avg Response Time

24.0 hrs

Critical Facilities

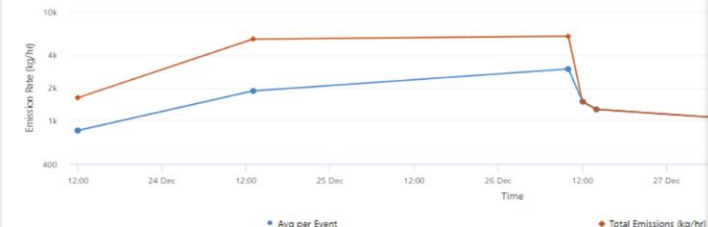
1

Critical Emissions

Emission Rate	Severity	Impact	Risk	Status
0 kg/hr	HIGH	\$5877.0	4	Under Review
0 kg/hr	SUPER_EMITTER	\$7374.0	8	Action Required
0 kg/hr	HIGH	\$5877.0	4	Under Review
0 kg/hr	SUPER_EMITTER	\$7374.0	8	Action Required
0 kg/hr	HIGH	\$5877.0	4	Under Review
0 kg/hr	SUPER_EMITTER	\$7374.0	8	Action Required
1 kg/hr	MEDIUM	\$2456.0	0	Under Review
0 kg/hr	HIGH	\$5914.0	4	Under Review
0 kg/hr	SUPER_EMITTER	\$8411.0	8	Work Order Created
0 kg/hr	SUPER_EMITTER	\$8411.0	8	Work Order Created

Emission Trends

As of about 2 hours ago



Emission Rate (%) by Manufacturers

As of about 2 hours ago



Work Order Generation

As of about 2 hours ago



How many of these were classified as super-emitters?

Of the emissions detected last month, 6 events were classified as super-emitters (over 2,000 kg/hr), requiring rapid EPA response.

Details:

- All 6 super-emitter events occurred at Permian Basin facilities within the past 30 days.

Follow-up questions:

- Which facilities and operators had these super-emitter events?
- What was the estimated methane loss and financial impact for each super-emitter?
- Were there any repeat super-emitters at the same facilities?

1 step completed

Response time: 10 sec

Which facilities and operators had these super-emitter events?

Three facilities in the Permian Basin had super-emitter events last month:

- Well Pad C-01 (Pioneer Natural Resources): 2,978.8 kg/hr on December 26, 2025
- Well Pad G-01 (Diamondback Energy): 2,572.3 kg/hr on December 16, 2025 and 2,336.4 kg/hr on December 28, 2025

Note: Well Pad G-01 (Diamondback Energy) had two separate super-emitter events.

Follow-up questions:

- What was the financial impact of these super-emitter leaks at each facility?
- Did these facilities have additional high or medium severity events?

Total Detections

As of less than a minute ago

0 (Recent)

↑ 37

Methane Emission Rate

As of less than a minute ago

Critical

1,763 kg/hr

Total Revenue Loss

As of less than a minute ago

From 37 leaks

\$20M

Avg Response

As of less than a minute ago

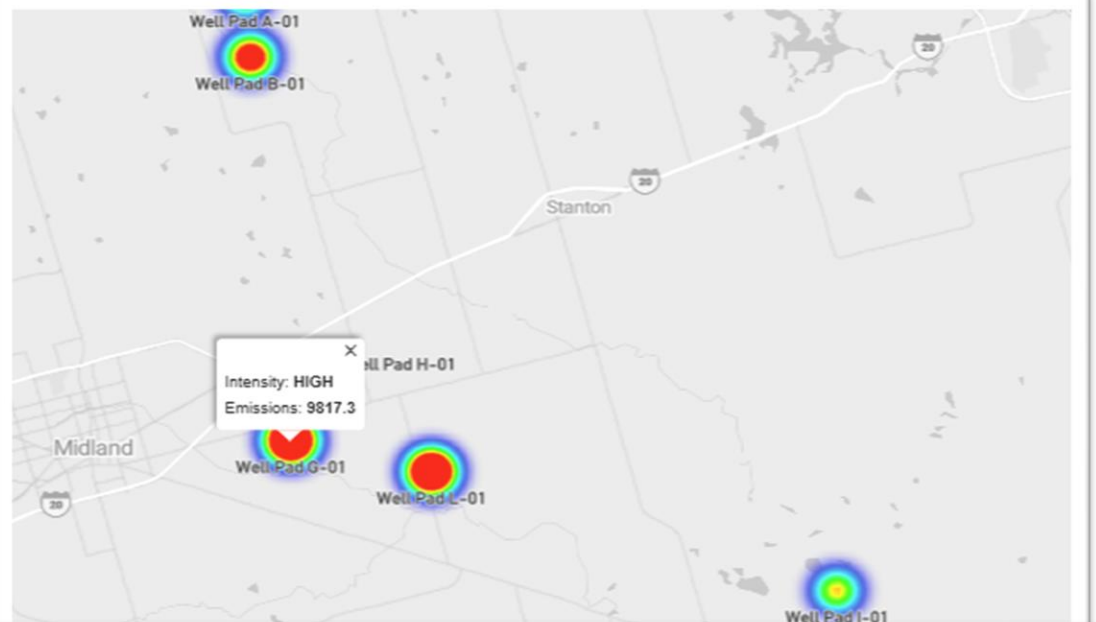
4 WOs: 0 Critical

2.0 hrs

Live Detection Stream

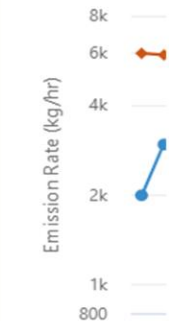
1 Alert 10 rows - As of less than a minute ago

Detection Time	Facility	Emission Rate	Severity	Impact	Risk	Status
> 2026-01-19	Well Pad K-01	1,025 kg/hr	HIGH	\$3,236	2	Under Review
> 2026-01-07	Well Pad L-01	1,993 kg/hr	HIGH	\$6,292	4	Under Review
> 2026-01-07	Well Pad G-01	2,954 kg/hr	SUPER_EMITTER	\$9,324	8	Action Required
> 2025-12-05	Well Pad A-01	1,492 kg/hr	HIGH	\$4,710	2	Under Review
> 2025-11-25	Well Pad E-01	1,329 kg/hr	HIGH	\$4,195	2	Under Review
> 2025-11-23	Well Pad A-01	913 kg/hr	MEDIUM	\$2,884	2	Under Review
> 2025-11-04	Well Pad G-01	2,301 kg/hr	SUPER_EMITTER	\$7,264	8	Action Required
> 2025-09-29	Well Pad L-01	2,026 kg/hr	SUPER_EMITTER	\$6,395	7	Action Required
> 2025-09-10	Well Pad I-01	1,369 kg/hr	HIGH	\$4,320	2	Under Review



Emission Trend

As of less than a minute ago



Look at my fabric environment, and help me understand how are we doing on methane emissions at our facilities?

I'll help you analyze the methane emissions data from your Fabric environment. Let me start by exploring what's available.

Kusto known services >

Let me connect to your custom Kusto cluster and examine the methane emissions data:

Kusto sample entity >

Now let me get a comprehensive overview of your methane emissions situation:

Used fabric-rti-mcp integration >

Based on my analysis of your methane emissions data in the GreenSky_EH database, here's how you're doing:

Overall Status: Significant Concern

You have **37 emission events** detected across your facilities, with a total of **1.57 million kg** of methane emissions. This represents a serious environmental and compliance challenge.

Key Findings

Severity Distribution:

- 43% of events (16 out of 37) are classified as "Super Emitters" - your most critical category
- 35% are High severity events (13)
- 22% are Medium severity (8)
- Average compliance risk score: 4.8 out of 10. It appears to be a 10-point scale

Reply...



Sonnet 4.5



Claude is AI and can make mistakes. Please double-check responses.

That's alarming. Thanks for highlighting it. I would like to create a critical work order for Facility 11 and auto-assign a team member in JIRA.

Once you create JIRA ticket, can you then help with some trend analysis for Facility 2 and 6?

Jan 23

I'll help you create a critical JIRA work order for Facility 11 and then analyze trends for Facilities 2 and 6. Let me start by checking your JIRA setup.

Used Atlassian integration >

Let me gather more details about Facility 11 to include in the JIRA ticket:

Kusto query >

Now let me get the current user info to see who can be assigned:

Get current user info >

Perfect! Now let me create a critical JIRA ticket in the "My Operations Team" project for Facility 11:

Create issue >

Excellent! I've created the critical JIRA ticket **KAN-5** for Facility 11 and assigned it to Green Sky (Operations Team). You can view it here:

<https://m365ds629484.atlassian.net/browse/KAN-5>

Now let me analyze the trends for Facilities 2 and 6:

Used fabric-rti-mcp integration >

Trend Analysis: Facilities 2 & 6

Here's the detailed trend analysis for your two high-concern facilities:

CRITICAL: Facility 11 Methane Emissions - Immediate Action Required

Description
CRITICAL METHANE EMISSION ALERT - FACILITY 11
Priority Level: CRITICAL - Immediate Response Required

Executive Summary
Facility 11 has been identified as the highest emitting facility in the GreenSky network with 459,671 kg of total methane emissions across 9 detected events. This facility requires urgent intervention.

Key Metrics

- Total Emissions: 459,671 kg of methane
- Number of Events: 9 detection events
- Super Emitters: 6 events (67% of total)
- High Severity: 3 events (33% of total)
- Average Emission Rate: 2,128 kg/hour
- Peak Emission Rate: 2,364 kg/hour
- Compliance Risk Score: 6.0 average (Max: 7)
- Latest Event: January 7, 2026
- Affected Equipment: 3 distinct pieces of equipment

Details

Field	Value
Assignee	Green Sky
Priority	Highest
Parent	None
Due date	None
Labels	None
Team	None
Start date	None
Reporter	Green Sky

Development

Automation Rule executions

Created January 23, 2026 at 10:12 PM
Updated January 21, 2026 at 10:12 PM

P R E - R E C O R D E D D E M O

See It In Action

Data flowing into Fabric → Ontology resolution → Agent detection → Action trigger

Insert pre-recorded demo video here | 3–4 minutes | Narrate live

Three Takeaways to Remember

01

The ontology is the foundation.

Without shared meaning, every AI initiative is built on sand. Start with the semantic backbone.

02

Fabric IQ turns meaning into intelligence.

The ontology defines what your data means. Fabric IQ makes that meaning queryable, governed, and agent-ready.

03

Unified is an architecture, not a product.

You can start building it today, in Fabric, with what you have. And you can start with iLink.



The organizations that win
the next decade won't be the
ones with the most data.

**They'll be the ones whose
data understands itself.**

Build the ontology. Deploy the agents.
Let your platform think.

Think Fabric. Think iLink.

VISIT US
Booth
718

State Farm Arena
Sponsor

How was the session?



Unity in Action - Building Enterprise AI on a Unified
Semantic Foundation

Complete Session Surveys in
Whova for your chance to WIN
PRIZES!

