

#FABCONSQLCON2026

Building Autonomous Operations Agents with Fabric IQ

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The Shift: Reactive vs Proactive

REACTIVE ALERT

Observe > Wait > Alert > **Human scrambles** > Act

Wait for it to break, then panic.

PROACTIVE

Observe > Reason > Recommend > **Approve** > Act

Detect, reason, and recommend before anyone notices.

"This is not alerting with extra steps... This is a fundamentally new category."

Proven in Production

Apollo Hospitals

60%

reduction in Code Blue
cardiac interventions

Real-time intelligence across 77 hospitals

Swire Coca-Cola

2,000

trucks tracked
in real time

Across 63 distribution centres

NMAX Power

5,600

miles of distribution
with ontology monitoring

40 substations managed autonomously

Fabric IQ

Intelligence Platform

The 6th workload in Microsoft Fabric

The problem:

Your data infrastructure understands schemas and tables. It does not understand your business.

The solution:

A semantic intelligence layer that bridges your data and your business meaning.

Existing Power BI semantic models can be upgraded to ontologies.

What is an Ontology?

A structured model of your business — bound to real data

-  **Entities** Real-world objects: customers, trucks, sensors, shipments
-  **Properties** State bound to actual data sources, including real-time streams
-  **Relationships** How entities connect to each other
-  **Rules** Conditions and constraints that define normal vs abnormal
-  **Actions** What can be done when conditions are met
-  **Objectives** What the business is optimizing for

Data Agents vs Operations Agents



Data Agent

= *Virtual Analyst*

- You ask it a question
- It queries and gives you an answer
- Ad hoc, one-off investigation

YOU ASK



Operations Agent

= *Virtual Operator*

- Runs 24/7 monitoring in the background
- Detects conditions, reasons, recommends
- Ongoing BAU activity — comes to YOU

IT COMES TO YOU

You ask the analyst. The operator comes to you.

How It Works: Architecture



Key Insight: The LLM generates a deterministic playbook from your natural-language instructions. The playbook runs every 5 minutes. When a condition is detected, the LLM reasons about it and recommends an action. A human approves via Teams, and Power Automate executes.

LIVE DEMO

Building a Supply Chain Operations Agent

From zero to autonomous monitoring in 20 minutes

The Pattern Applies Everywhere



Wind Turbines

Detect output dip, evaluate weather vs calibration vs mechanical, recommend response



IT Operations

Detect service degradation, identify root cause across systems, create contextual ticket



Fleet Management

Track 2,000+ trucks in real time, flag delays, trigger rerouting automatically



Retail Inventory

Monitor stock levels across stores, predict stockouts, trigger replenishment

Best Practices and Limitations

Best Practices

Data Preparation

Use flat tables with descriptive column names. Avoid nested JSON.

Be Specific

Use numeric thresholds: '3 or fewer bikes' not 'low availability'

Human-in-the-Loop

Start with Teams approval for every recommendation

Review the Playbook

LLM-generated rules are your QA checkpoint

Current Limitations

- English only
- 5-minute query frequency
- 3-day approval timeout
- Not for high-stakes irreversible decisions (healthcare, finance, legal)
- LLM is probabilistic — always review generated playbooks

Three Pillars of Fabric IQ

1

Ontology

The semantic foundation. Your structured model of business meaning.

2

Data Agents

Your virtual analysts. Ask any question in natural language.

3

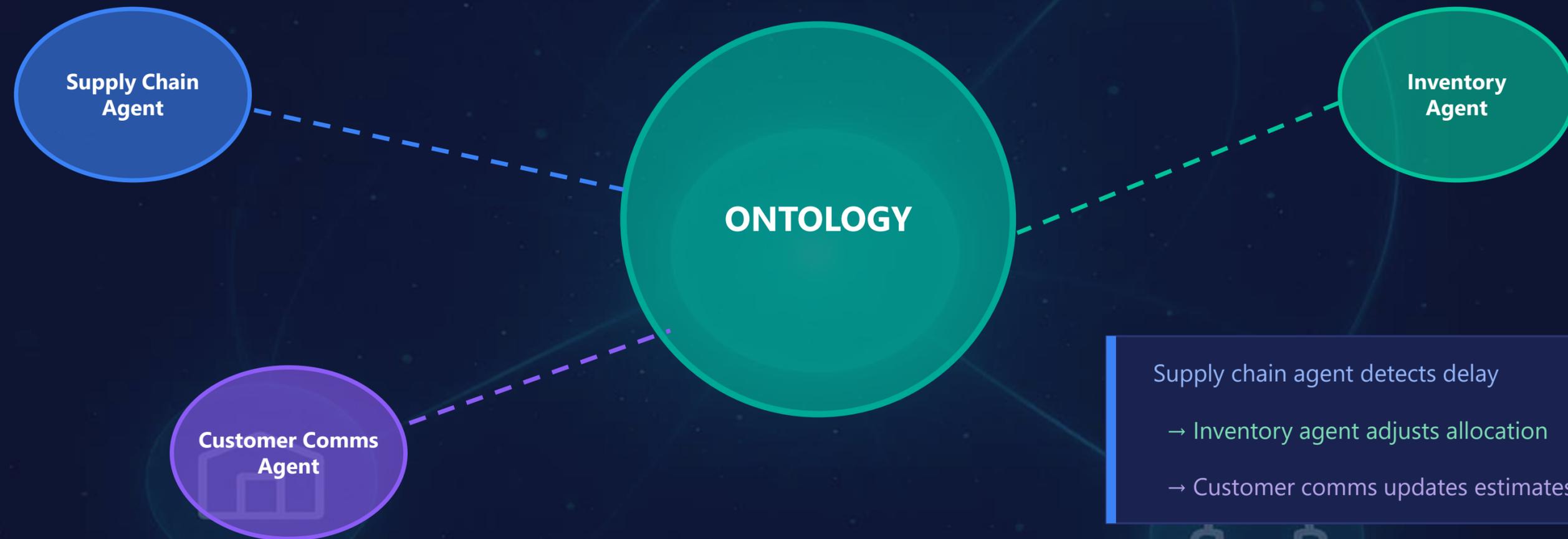
Operations Agents

Your virtual operators. Autonomous 24/7 monitoring and action.

Key insight: They all share the same ontology. Build business context once, use everywhere.

The Vision: Multi-Agent Orchestration

Multiple specialized agents across the organization, all on one ontology.



20M Power BI semantic models already capture your business logic. **Upgrade to ontology with one click.**

Three Things to Remember

01 Not alerting. Not automation.

Agentic AI with business understanding. A fundamentally new category.

02 The ontology is the differentiator.

Without business context, agents just run queries. With ontology, they reason.

03 You can start today.

Operations agents are in public preview. Build your first agent this afternoon.

Resources

Operations Agent Documentation

learn.microsoft.com/en-us/fabric/real-time-intelligence/operations-agent

Best Practices and Limitations

learn.microsoft.com/en-us/fabric/real-time-intelligence/operations-agent-limitations

Fabric IQ Overview

learn.microsoft.com/en-us/fabric/iq/ontology/overview

Transparency Note

learn.microsoft.com/en-us/fabric/real-time-intelligence/operations-agent-transparency-note

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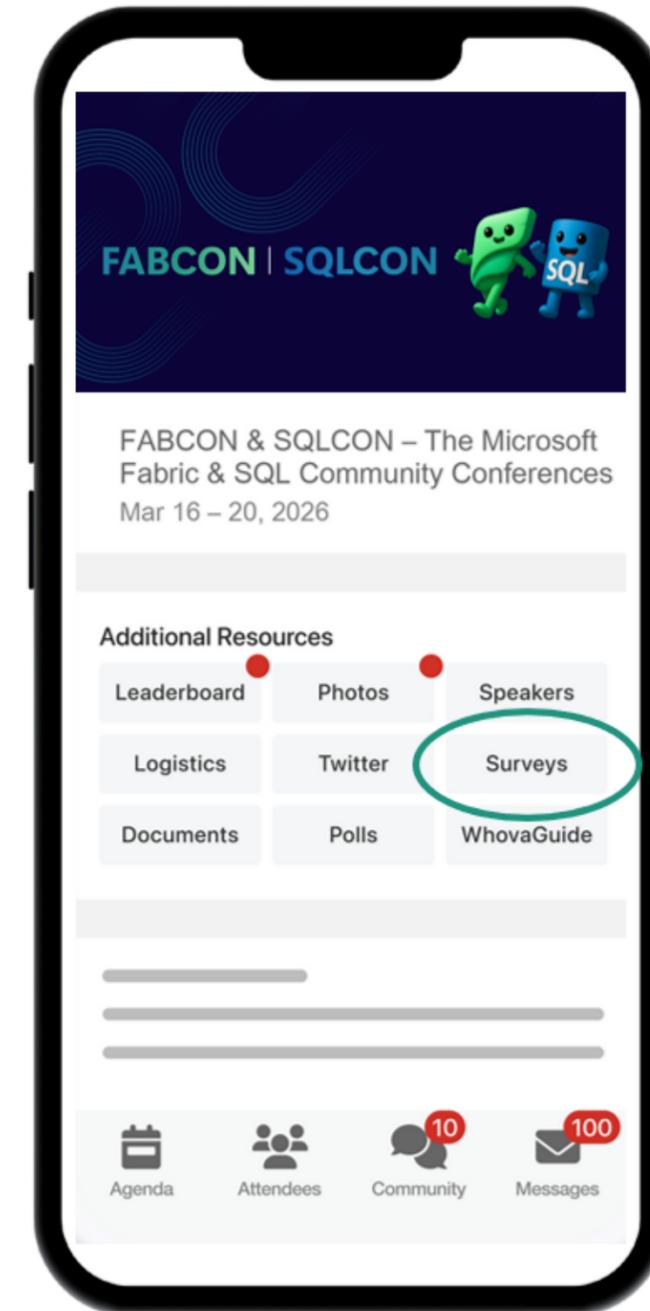
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