



Microsoft Fabric

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Automate at scale with Event-driven Architectures and Business Events

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Agenda

- | | |
|----|--|
| 01 | Event-driven architectures in Fabric with Fabric and Business Events |
| 02 | Demo: Using Business Events in real-world scenario |
| 03 | Act with Activator on data and events |
| 04 | Real customers using Event-driven architecture in Fabric |
| 05 | What We're Unlocking Next |

Business Signals Are Hard to Act On

- ❑ Business signals **lack a shared, trusted definition**
- ❑ Signals are **raw and continuous**, not discrete business moments
- ❑ The same **signal** is **interpreted differently** across systems
- ❑ Downstream **consumers lack a stable business contract**
- ❑ Each consumer must **re-implement logic** to act on signals
- ❑ **Event-driven development slows** as systems scale

Business Events In Fabric Real-Time Intelligence

Explicit, schema-defined business signals

Discrete events that represent meaningful business changes

A shared business definition across downstream consumers

Define once, reuse across multiple publishers and consumers

Faster, predictable event-driven development in Fabric

Business Events

Schema-defined, discrete signals that represent meaningful changes in the business



Sources

“Where business signals are published”

Workflows that emit business-relevant signals.



Schema Registry

“Where business events are defined”

Business event contracts



Consumers

“Where business decisions are executed”

Automation, applications, and downstream actions

Business Signals to Action in Fabric

A unified event-driven model



Sources



Consumers

User Data Functions



Emit events when running custom code

Notebooks



Emit events when performing compute intensive analytics

Business Signals to Action in Fabric

A unified event-driven model



Sources



Consumers

Activator



Alert and automate downstream processes with Email and Message in Teams

Execute custom logic with User Data Functions

Perform compute intensive analytics with Notebooks

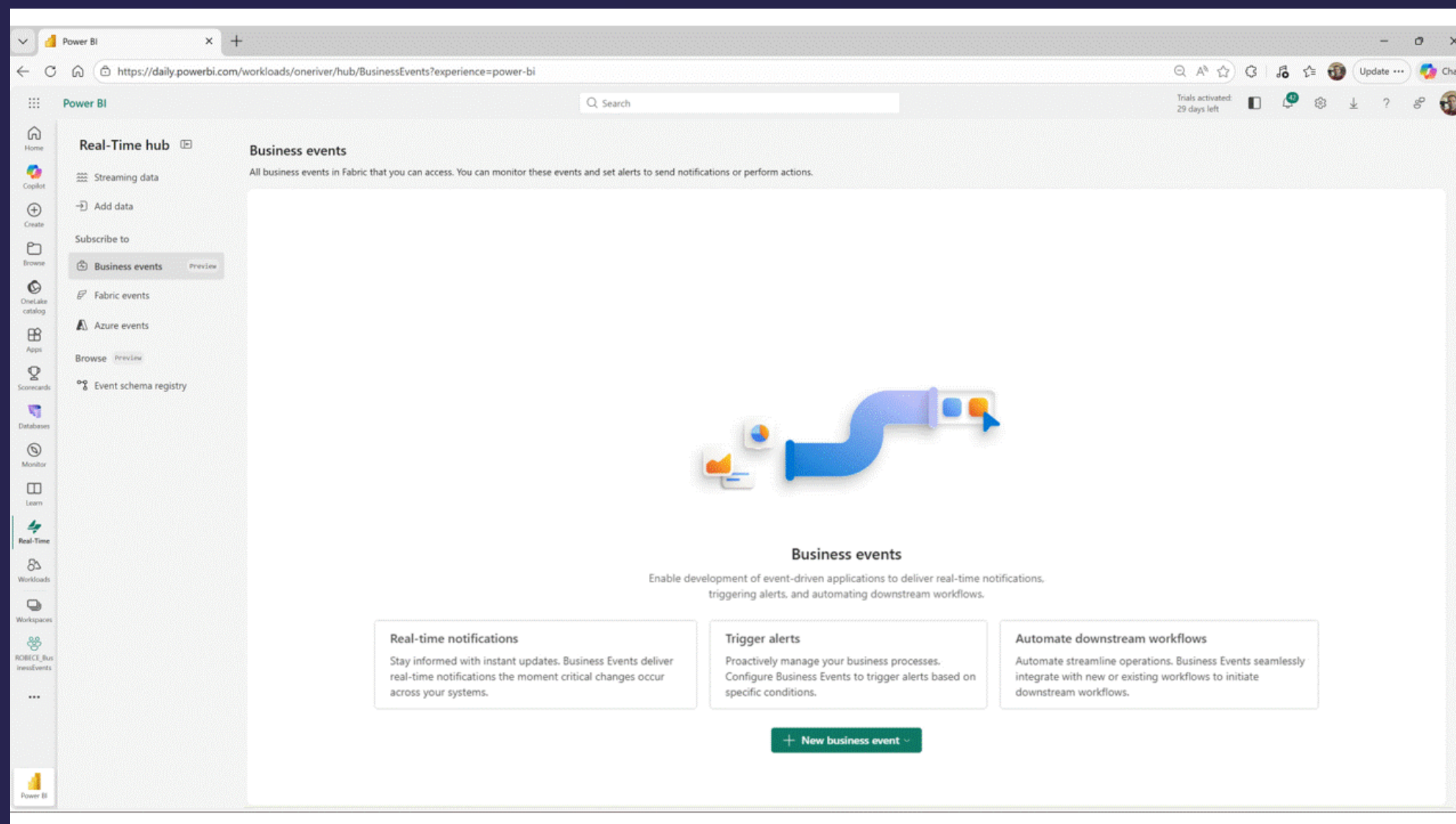
Automate business processes with Custom Actions



Business Events in Fabric

Define, publish, and act on business-relevant signals in real time

Public Preview



Use **standardized event definitions** so producers and consumers interpret signals consistently

Enable **asynchronous, event-driven consumption** across downstream consumers

Automatically **trigger decisions and workflows** when business conditions occur

Execute **context-aware actions** using full business context, not raw events

Real-time entrance congestion monitoring

Entrance congestion can escalate in minutes, especially during peak arrival windows

Detect entrance congestion early, as crowd density begins to build up

Act before congestion escalates, by taking proactive actions in real time

Improve fan safety and crowd flow, by preventing unsafe conditions at entrances

Enable smarter real-time operations, by optimizing staffing and gate utilization





Stadium / Simulator

Publish entrance
telemetry



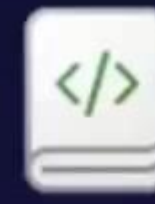
Azure IoT Hub

Event
ingestion



Eventstream

Stream and analyze
data with spark



Notebook

Publish
CongestionDetected
business event



Real-Time
Intelligence



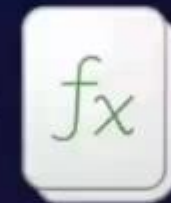
Real-Time
Intelligence

Set alert on
CongestionDetected
business event



Activator

Invoke custom
code in Function



User Data Function

Persist business
event in database



SQL Database

Visualize and
analyze congestions



Power BI

Azure and Fabric Events

Route system-generated signals to consumers for real-time decisions and actions

Sources



OneLake



Storage



Capacity



Fabric Job



Anomaly
Detector



Workspac
e Item

Consumers



Eventstream



Activator



Eventhouse



Lakehouse



Activator



Derived Stream



Custom Endpoint



Teams



Emails



Custom Actions



Data Pipeline



Notebook



User Data Function



Capacity Overview Events

Expose capacity state and usage as events to manage performance, scale, and cost

Public Preview

The screenshot shows the Microsoft Fabric Real-Time hub interface. The left sidebar contains navigation options: Home, Copilot, Create, Browse, OneLake catalog, Apps, Scorecards, Monitor, Learn, Real-Time (highlighted), Workloads, Workspaces, My workspace, and Power BI. The main content area is titled 'Real-Time hub' and includes a 'Fabric events' section. This section lists various event types with their descriptions:

Name	Description
Anomaly detection events (preview)	Events produced by anomaly detection models that indicate detected anomalies.
Capacity overview events (preview)	Events produced for capacity's state changes and summary-level capacity usage.
Job events	Events produced by status changes on Fabric monitor activities, such as a job created, succeeded, or failed.
OneLake events	Events produced by actions on files or folders in OneLake, such as file created, deleted, or renamed.
Workspace item events	Events produced by actions on items in a workspace, such as an item created, deleted, or renamed.

Capacity is a shared pool of compute, powering workloads across Microsoft Fabric

Capacity Overview Events expose summary and state changes capacity signals

Monitor capacity changes in real time, as performance, scale, and cost evolve

Enable capacity-aware decisions, to control performance, scale, and cost



Anomaly Detection Events

Turn real-time anomalies into actionable events

Public Preview

The screenshot displays the Microsoft Power BI Real-Time hub interface. The left sidebar contains navigation options: Home, Copilot, Create, Browse, OneLake catalog, Apps, Scorecards, Monitor, Learn, Real-Time (highlighted), Workloads, Workspaces, and My workspace. The main content area is titled 'Real-Time hub' and includes a 'Fabric events' section. This section lists various events with their names and descriptions:

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OneLake events	Events produced by actions on files or folders in OneLake, such as file created, deleted, or renamed.
Workspace item events	Events produced by actions on items in a workspace, such as an item created, deleted, or renamed.

Continuously monitor data in real time, to identify behavior that deviates from expected patterns

Automatically detect and flag anomalies, as soon as abnormal behavior is observed

Emit anomaly detection events, when anomalies are detected in your data

Enable faster, automated responses, to unexpected conditions and emerging issues



Job Events

Turn Fabric job activity into actionable operational events

General Availability

The screenshot displays the Microsoft Power BI Real-Time hub interface. On the left, a navigation pane lists various features: Home, Copilot, Create, Browse, OneLake catalog, Apps, Scorecards, Monitor, Learn, Real-Time (highlighted), Workloads, Workspaces, and My workspace. The main content area is titled 'Real-Time hub' and contains a 'Fabric events' section. This section includes a table with the following data:

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Workspace item events	Events produced by actions on items in a workspace, such as an item created, deleted, or renamed.

Fabric jobs run background operations, to perform actions on your data

Track job and activity lifecycle changes, across Fabric-managed operations

Emit job events on status changes, such as created, succeeded, or failed

Enable real-time operational awareness, for monitoring, alerting, and automation

Signals that matter
and taking the right actions in time
to change outcomes



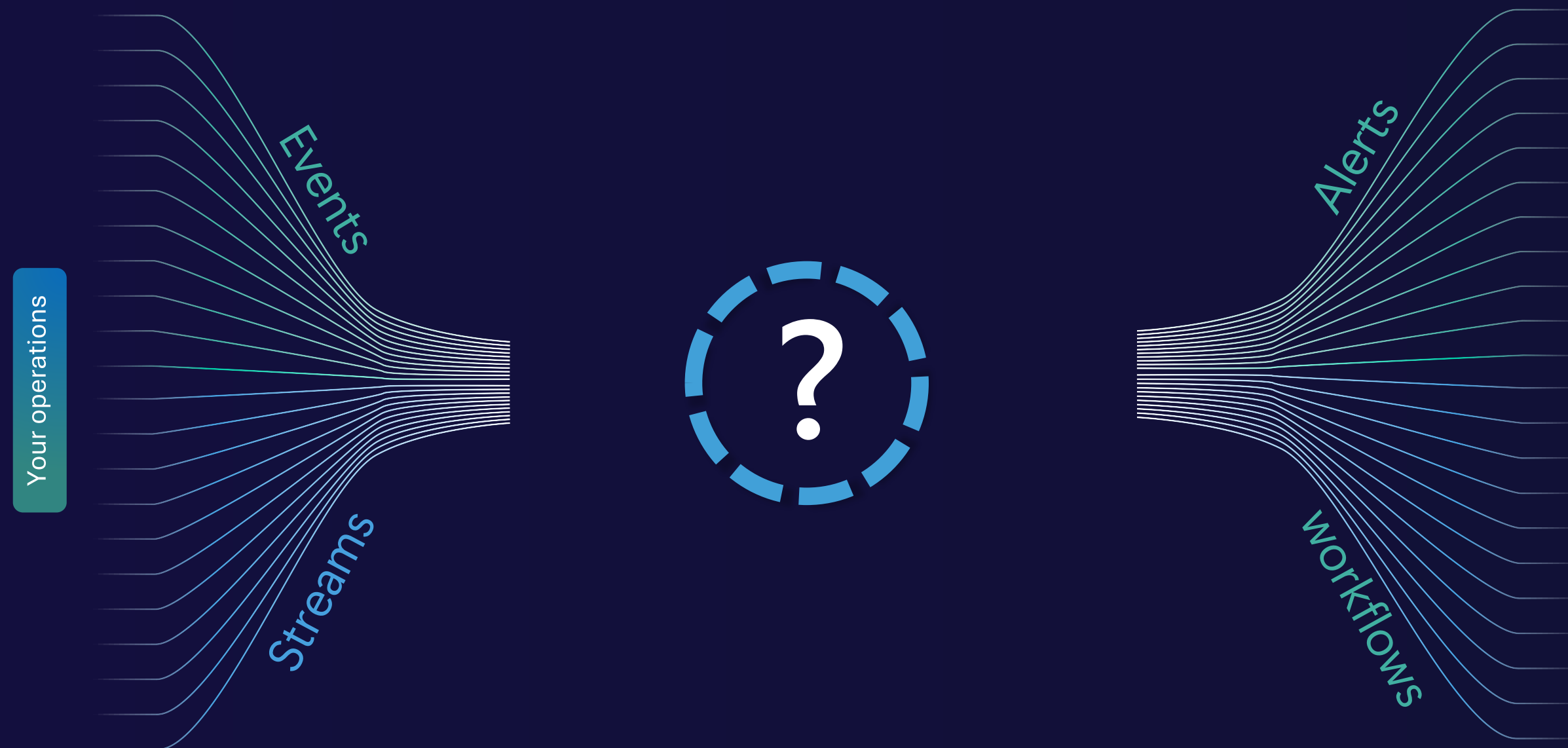
Reactive & manual



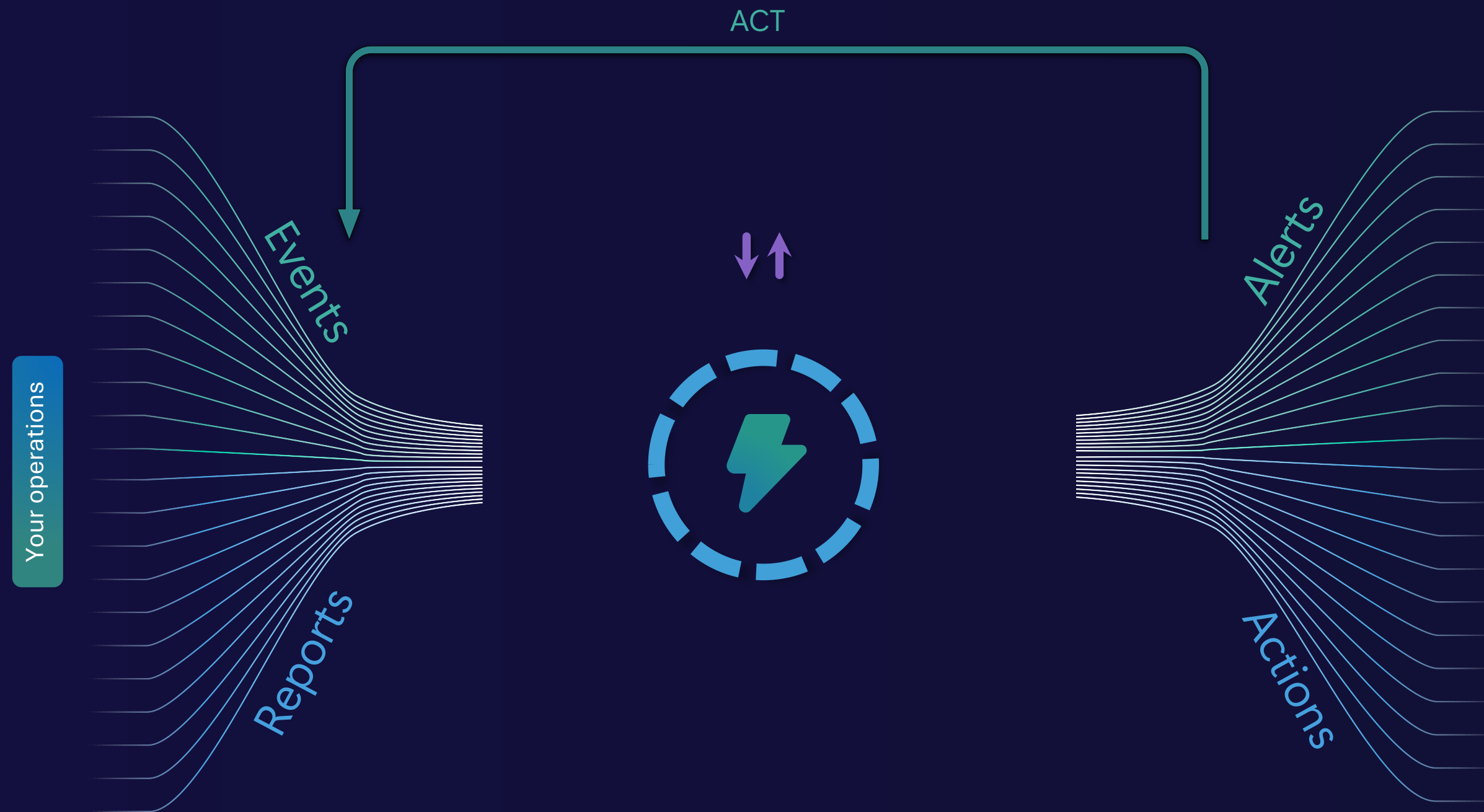
Proactive & autonomous



Acting on your data



Activator as connecting tissue



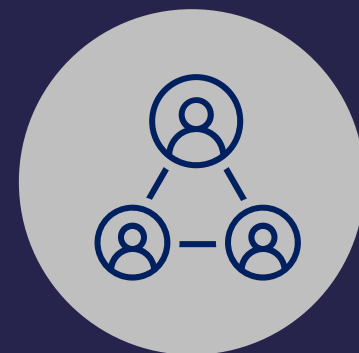
Activator use cases



Personal alerts

Personal notifications, often created via embedded "Set alert" pane

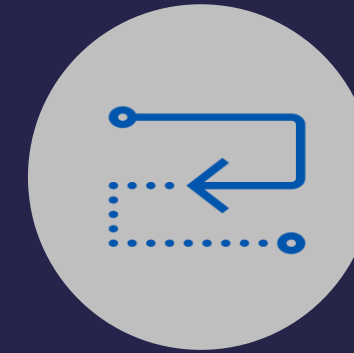
Very low event volume
Simple conditions



Insights monitoring

Alerts and workflows driven by rules over queries

Low to medium event volume
Simple to medium conditions



Fabric automation

Processes driven by rules over system and other events

Low to medium event volume
Simple conditions



Real-Time decisions

Rich modeling, rules, and actions over business entities

Low to very high event volume
Simple to very complex conditions

Less complex

Range of user scenarios

More complex

Activator



No-code user experiences



Rules



Actions

Users, with the help of AI, can define
and iterate on the business logic

Available Data Sources

STREAMS



Eventstream

QUERIES



KQL



DW

VISUALIZATION



Real-time Dashboard



Power Bi

EVENTS



Fabric, Azure, Business

MODEL



Ontology

BATCH DATA



OneLake



Activator



No-code user experiences



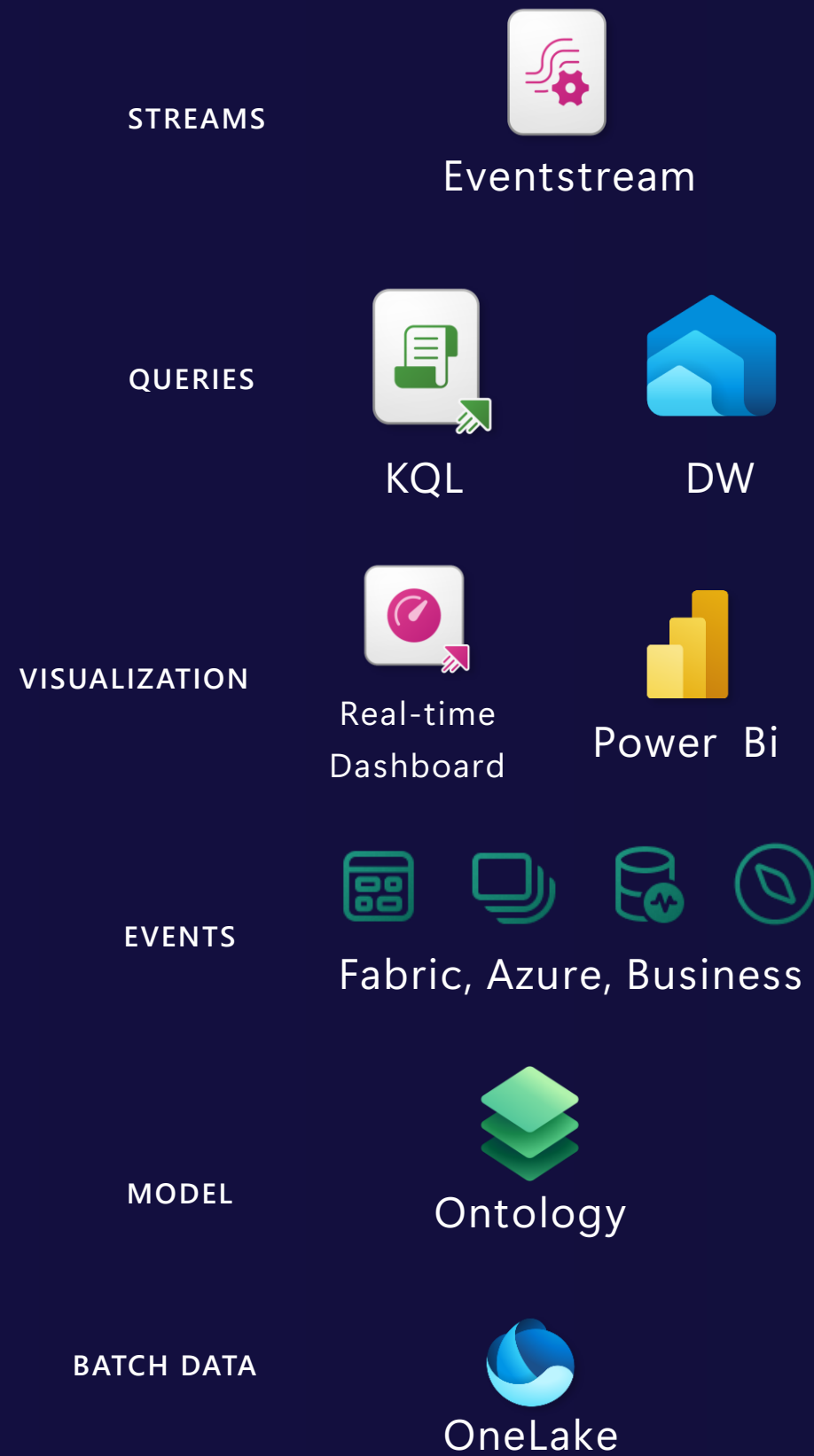
Rules



Actions

Users, with the help of AI, can define and iterate on the business logic

Available Data Sources



Activator



No-code user experiences



Rules

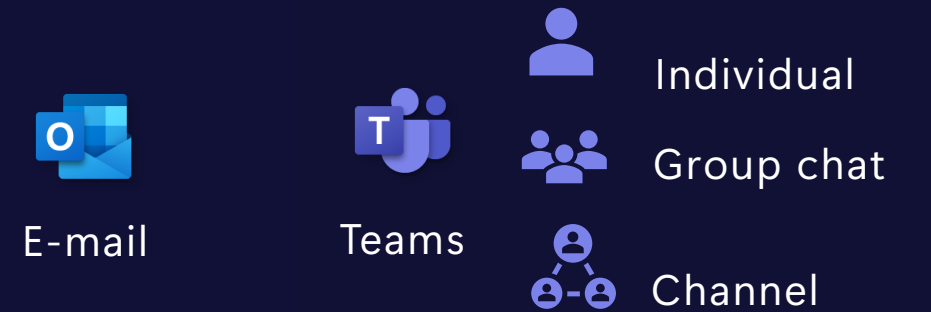


Actions

Users, with the help of AI, can define and iterate on the business logic

Available Actions

NOTIFICATIONS



CUSTOM ACTION



Explorer

Search

Package delivery sample

Package

Current city

Delivery attempts

Delivery status

Delivered

Delivery failed

Picked up

Exception reason

Weather

Hours in delivery

Above average for Seattle

Humidity

Outside allowed range

Packageld

Recipient email

Special care contents

Temperature (°C)

Too cold for plants

Too hot for medicine

Delivery events

Package created

Package delivery events

Too hot for medicine

Auto-refresh: On

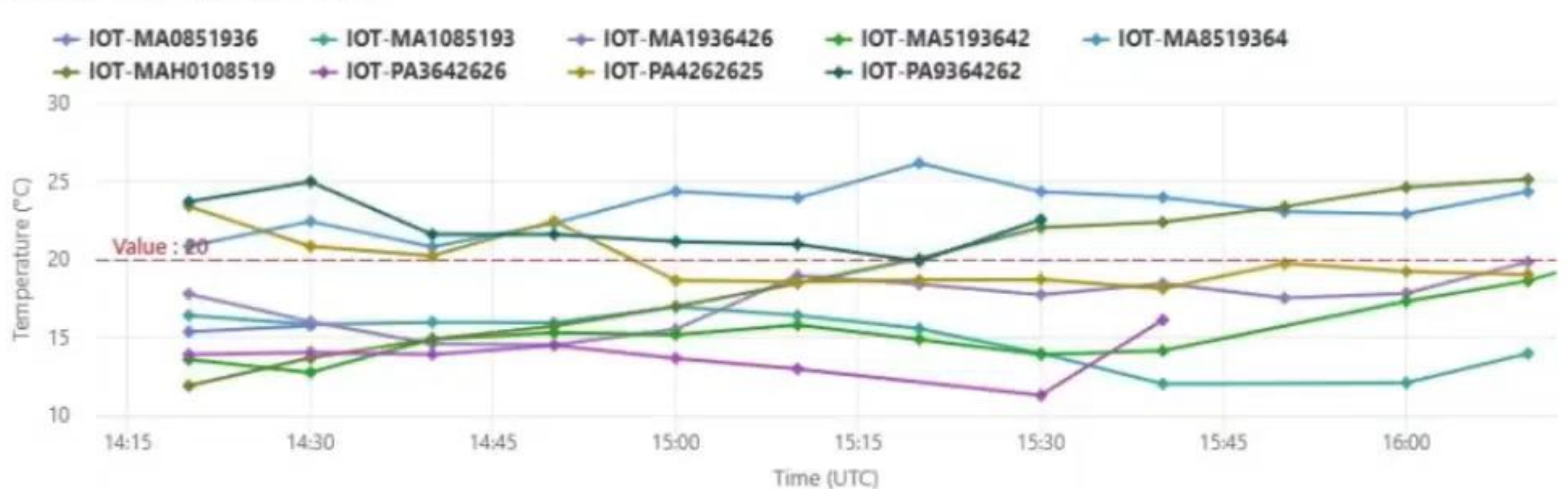
Instance: 10 of 150 IDs

Time: Last 2 hours

Live feed Definition Analytics History

Monitor

Temperature (°C) Average over 10 minutes



Condition

Increases above 20



Property filter

Special care contents Is equal to Medicine

Definition

Monitor

Attribute: Temperature (°C)

Summarization

Operation: Average

Window size: 10 minutes

Step size: 10 minutes

Add filter Add summarization

Condition

Condition: Increases above

Value: 20

Occurrence: Every time the condition is met

Property filter

Filter 1

Attribute: Special care contents

Operation: Is equal to

Value: Medicine

Reset Save Start

Stateless rules

Stateful rules

WHAT



Evaluates each activity independently.
Doesn't remember anything that happened before.
Decision to activate alert is made on event-by-event basis

WHEN



One-time alerts, inspections

WHY



Fastest (5sec latency on average) but simple conditions. Potentially chatty rules

EXAMPLES



Send an alert when Temperature is more than 70

Stateless rules

Conditions

Example

Condition

Condition 1

Operation

Occurrence

Action

To *

Subject *

On every value

Numeric state

Is equal to

Is not equal to

Is greater than

Is greater than or equal to

Is less than

Is less than or equal to

Is within range

Is outside of range

Text state

Logical state

Operation

Occurrence

Action

Action

On every value

Numeric state

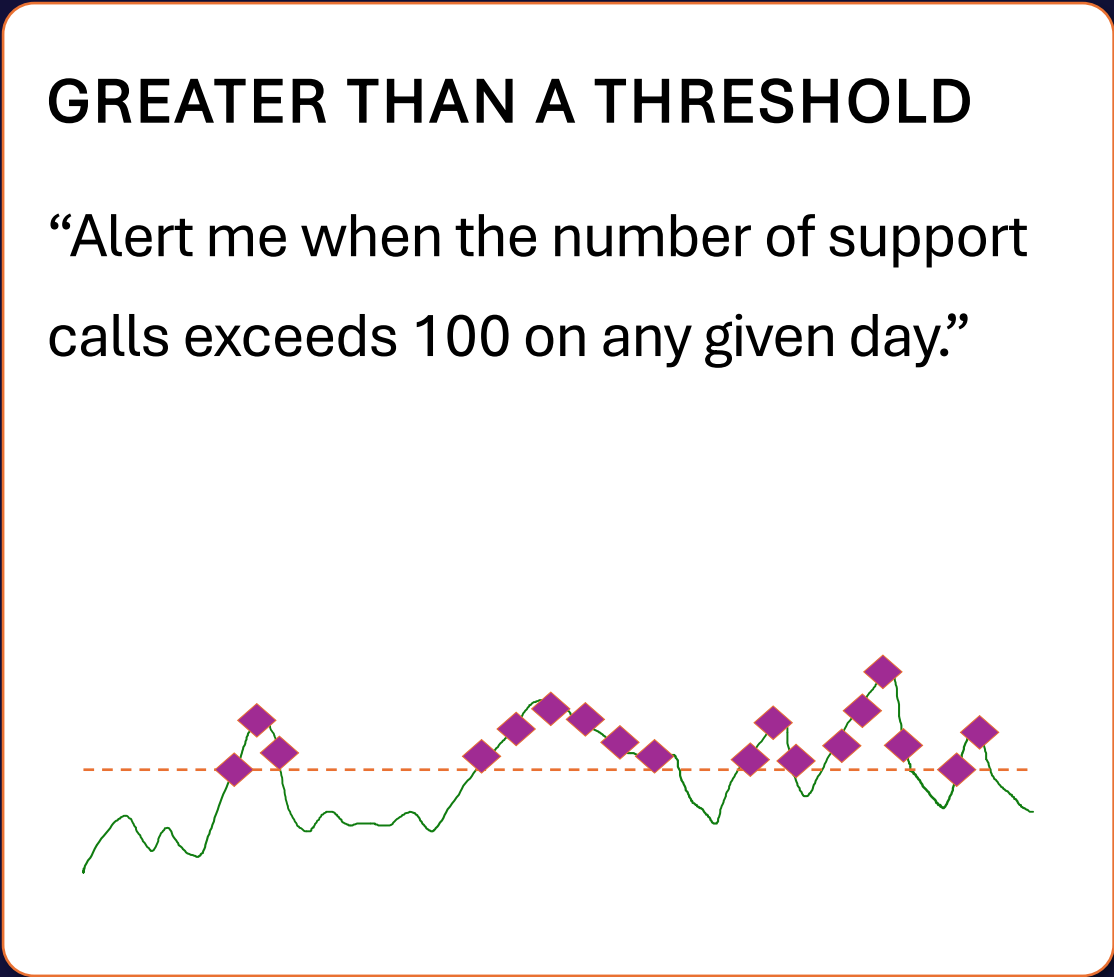
Text state

Logical state

Heartbeat

✓ On every value

No presence of data



Stateless rules

Stateful rules

WHAT



Tracks activity across multiple events over time
Makes decisions based on patterns

WHEN



Detecting suspicious behavior or anomalies
Threshold-based alerts
Patterns over time

WHY



As new events arrive Activator evaluates whether condition is met. Globally or per each instance. Reduce the noise by alerting only on state transitions

EXAMPLES



Alert me when support calls exceed 100 today

Stateful rules

Conditions

Condition

Condition

Value

Occurrence

Property filter

Filter 1

Attribute

Operation

Value

Increases above

Numeric change

✓ Increases above

Increases to or above

Decreases below

Decreases to or below

Enters range

Exits range

Changes from

Changes to

Decreases by

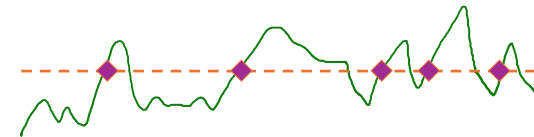
Increases by

Add filter

Examples

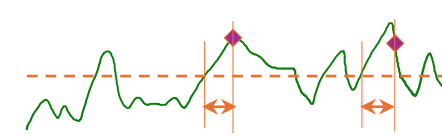
CROSSES ABOVE A THRESHOLD

“Alert an account manager upon any invoice becoming 10 days overdue.”



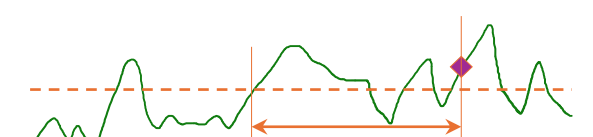
CROSSES ABOVE & STAYS ABOVE

“File a ticket upon any freezer crossing and staying above 32F for 15 minutes.”



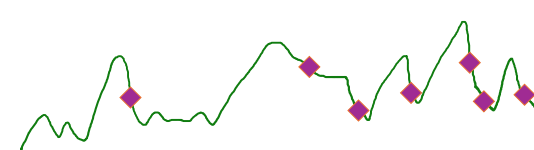
CROSSES ABOVE 3 TIMES IN AN HOUR

“File a ticket whenever any freezer exceeds 32F three times in an hour.”



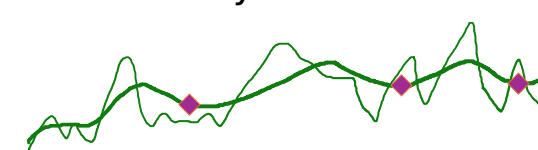
DECREASES BY 10%

“Alert the product manager when revenue decreases by 10% in one day.”



ROLLING AVERAGE DECREASES BY 10%

“Alert when the 6-hour rolling average of sensor readings decreases by 10%.”

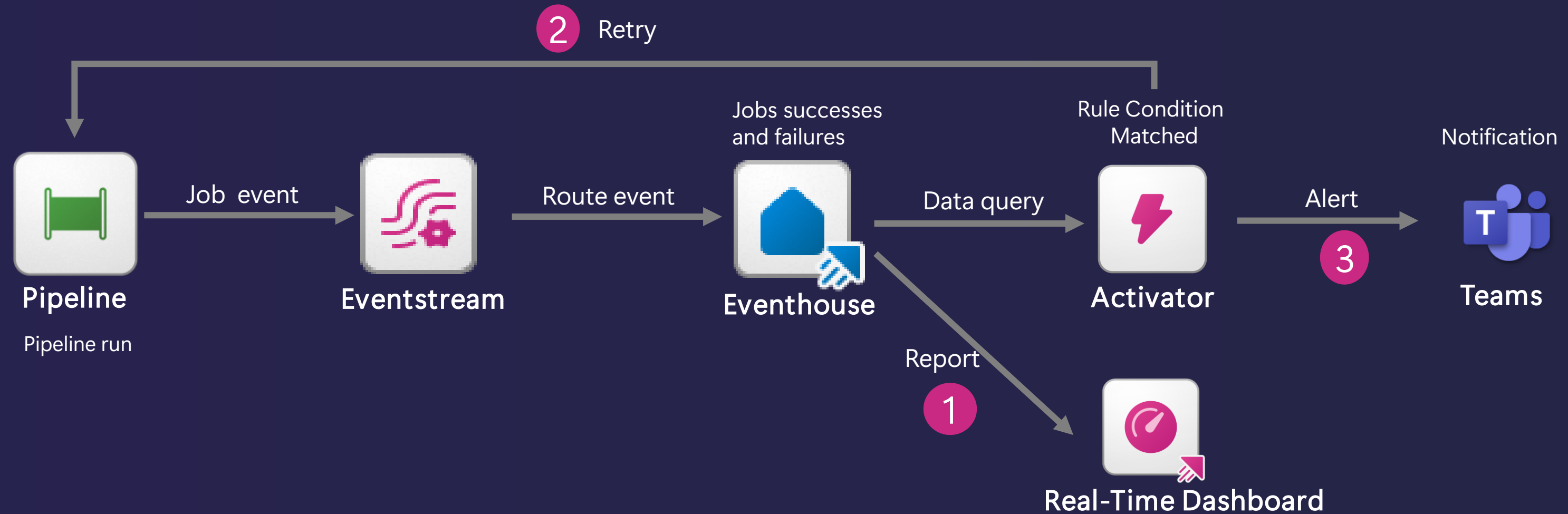


NO HEARTBEAT FOR AN HOUR

“Text the store manager whenever a device goes for an hour without sending a heartbeat.”

How well is my system operating

Monitoring my jobs and pipeline performance over time



1. I want to report on over-time success and failures of my pipeline runs

2. I want to re-run failed jobs

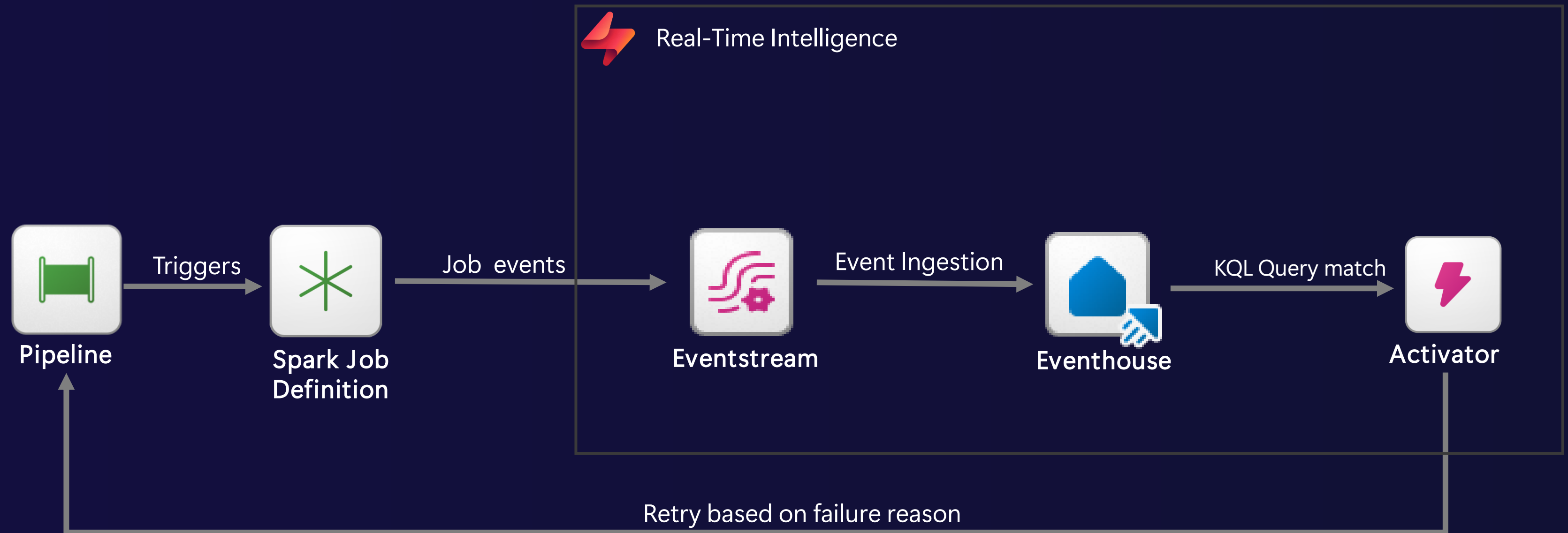
3. I want to get notified when my pipeline jobs failures exceed the acceptable threshold



**LONDON
STOCK
EXCHANGE**

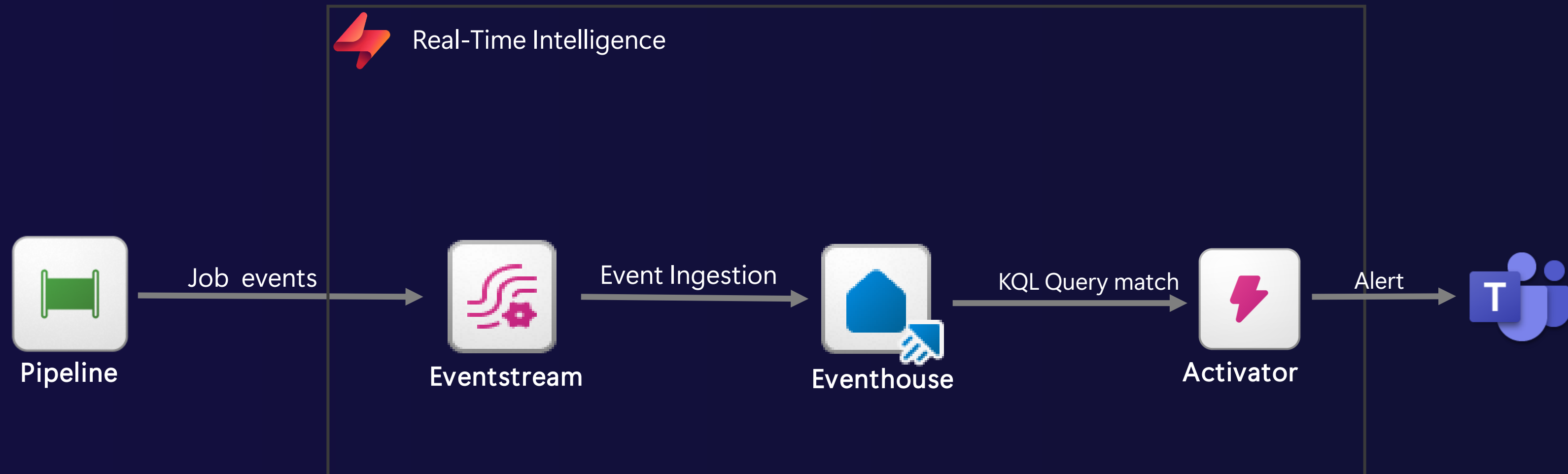
Event-driven architecture

Job Events to detect failures and manage retries through Activator



Event-driven architecture

Job Events to notify failures through Teams notifications





Real-Time Alerts in Data Warehouse

Public Preview

Home

Reporting

Security

Management

Help

Get data

New SQL query

SQL templates

Query activity

Model layouts

Download SQL database project

Open in

New API for GraphQL

Add to data agent

Copilot

Share

Explorer

Warehouses

WorldWideSales

Schemas

dbo

INFORMATIO...

queryinsights

sys

Security

Queries

My queries

SQL query 1

SQL query 10

SQL query 11

SQL query 12

SQL query 13

SQL query 2

SQL query 3

SQL query 4

SQL query 5

SQL query 6

SQL query 7

SQL query 8

SQL query 8

SQL query 13

Run

Save as view

Explain query

Fix query errors

Preview

Copilot uses AI. Mistakes can happen. Verify code suggestions before running them. [Review terms](#)

-- Step 3: Use SUM([LatestRecordedPopulation]) to get total population per city/state

-- Step 4: Filter groups where total population exceeds 2,500,000

-- Step 5: Sort results by total population descending

SELECT

[City],

[StateProvince],

SUM([LatestRecordedPopulation]) AS [TotalPopulation]

FROM

[dbo].[dimension_city]

GROUP BY

[City],

[StateProvince]

HAVING

SUM([LatestRecordedPopulation]) > 2500000

ORDER BY

[TotalPopulation] DESC;

Messages

Results

ABC	City	ABC	StateProvince	123	TotalPopulation
1	New York		New York		24525399
2	Los Angeles		California		15170484
3	Chicago		Illinois		8086794
4	Brooklyn		New York		7696905
5	Queens		New York		6818313
6	Houston		Texas		6298353
7	San Diego		California		5229608
8	Manhattan		New York		4857270
9	Philadelphia		Pennsylvania		4578018
10	Phoenix		Arizona		4336896
11	The Bronx		New York		4225419
12	San Antonio		Texas		3982221

Search

Copilot

Preview

result set. For example, you could use WHERE to only include rows where City = 'Seattle'.

- HAVING filters groups after the GROUP BY operation and after any aggregate functions (like SUM or AVG) have been calculated. It applies to the grouped results, not the raw rows. Use HAVING when you want to restrict results based on the outcome of aggregate functions, for example, only showing groups where SUM(Population) > 2,500,000.

You can use both WHERE and HAVING in the same query—WHERE limits rows before aggregation, HAVING limits the groups after aggregation.

Would you like to see an example using both WHERE and HAVING in the same query?

Is this response helpful?

View prompts

Ask me anything about this warehouse, or tell me how I can help.

0 / 500

AI-generated content can have mistakes. Make sure it's

Succeeded (1 sec 822 ms)

Copilot completions: On

Copilot completions: Ready

Columns: 3

Rows: 18

Create customized alerts based on real-time query results

Automatically trigger actions from emails to custom functions

Detect quality issues from failed jobs to schema changes

Monitor key business KPIs and respond instantly



Conditions and actions on Ontology entities

Public Preview

The screenshot displays the Microsoft StadiumOperations ontology interface. On the left, a sidebar lists various entity types, with 'ConcessionInventory' selected. The main area shows an ontology graph with 'ConcessionInventory' and 'stand_has_inventory' entities. The right panel, titled 'Entity type configuration', shows the configuration for 'ConcessionInventory', including its base type, key, instance display name, and a list of properties.

Entity type configuration

Base entity type: Loading...

Entity type name: ConcessionInventory

Key: inventory_id

Instance display name: item_name

Properties

Name	Data source	Property type
category	concession_inventory	Static
inventory_id	concession_inventory	Static
item_name	concession_inventory	Static
last_restock_time	concession_inventory	Static
max_capacity	concession_inventory	Static

Provides a **connected overview** of your business, continuously **grounded in all your data**

Users easily navigate views **through familiar concepts** at both the instance and fleet level

Overlay geospatial analytics on top of your **operational context** shaped by your ontology

Embed **no-code rules** to automatically trigger alerts, actions, and workflows to **turn insight into action**



Create & manage rules inside Eventstream

Public Preview

Microsoft | Fabric | FabConStock X | Confidential/Internal Only

Search

Home | Refresh | Deactivate all | Activate all | Set alert | Edit

Home

Workspaces

Copilot

OneLake catalog

Monitor

Real-Time

Workloads

Reflex_Activ
ationTeam...

...

Data

Sources

StockMarket

Destinations

ActivatorStockAlerts

StockMarket

Active

FabConStock

StockStream

ActivatorStockAlerts

Active

Data preview

Data insights

Refresh

Note: Some events are not shown in the preview table. Possible causes include an incorrect input data format, preview data size exceeding the limit (1.50MB), or preview record count exceeding the limit (200).

Hide settings

Search

Show details

Data type

Json

Last refreshed

20/03/26 14:50:24

time	sy...	sector	se...	bi...	bi...	as...	as...	la...	la...	v...	m...	seq
2026-03-20T14:47:13.973Z	HOOJ	mediaentertainment	commonstock	1260.28	60	0	0	1390.28	12	90954	0.0442	735
2026-03-20T14:47:13.973Z	BMZM	retailing	commonstock	2216.84	112	0	0	2306.84	45	203556	0.01773	8037
2026-03-20T14:47:13.973Z	NSFT	softwareservices	commonstock	390.63	93	0	0	390.63	11	978539	0.02508	853
2026-03-20T14:47:13.973Z	HOOJ	mediaentertainment	commonstock	1290.28	77	0	0	1370.28	49	90972	0.0442	5204
2026-03-20T14:47:13.973Z	BMZM	retailing	commonstock	2356.84	81	0	0	2326.84	81	188023	0.01773	5648

Faster and simpler to turn events into action.
Create an Activator rule inside Eventstream in just 2 clicks

Define rule conditions to specify the values you want to monitor in your events

Configure actions such as notifications or workflows

View and manage all rules associated with that Eventstream



Roadmap for Fabric Real-Time Intelligence

March 2026 – Fabcon

- Business events PuPr
- Spark Structured Streaming with Eventstream PuPr
- DeltaFlow: Seamless stream processing of Database CDC Feeds PuPr
- Mirrored Database Change Data Feed Connector PuPr
- MQTTv3 Connector PuPr
- Connectors VNET support PuPr
- SQL Operator GA
- Connector Source: Real-time Weather GA
- Pause/Resume Derived Stream GA
- Anomaly Detector Events source PuPr
- Set Alert in Eventstream PuPr
- SSL/mTLS encryption PuPr (soon)
- Oracle DB CDC Connector PuPr (soon)
- Eventstream to Activator destination GA
- Activator actions: Trigger Fabric User Data Functions PuPr
- Activator actions: Trigger Spark job PuPr
- Activator actions: Create custom action in Activator (Power Automate workflow) PuPr
- Activator actions: Teams message to group chat and channels PuPr

June 2026 - Build

- Custom Endpoint Entra ID auth GA
- Observability PuPr
- CMK support PuPr
- Service Bus connector GA
- Dataverse Connector PuPr
- Large Message (>1MB) support PuPr
- Azure Data Explorer Connector GA
- Activator as a Business Events consumer PuPr
 - Ontology Rules PuPr
 - Set Alert in Eventstream PuPr
 - Event driven rules in Data Warehouse PuPr
 - Refresh dataflow via Activator PuPr
 - Activator MCP PuPr
 - Power BI: Alert when new row appears PuPr
 - New actions in Activator PuPr
 - Anomaly Detector full item experience PuPr

Future

- Capacity Operation Events PuPr
- Capacity Overview Events GA
- Business events GA
- Diagnostic Logs to Eventstream GA
- Custom Connectors PuPr
- Solace PubSub Connector GA
- MQTT broker GA
- Mongo DB CDC Connector GA
- Workspace Private Link GA
- Unify batch & streaming data platforms with CopyJob PuPr
- DeltaTable as reference data PuPr
- Schema registry GA
- Anomaly Detector Multiple Configurations PuPr
 - Fabric item activation limit: 50->100 activation/user/min GA
 - Fabric actions parameters GA
 - Run User Data Functions via Activator GA
 - Manage all your Activator rules in one place

Get hands-on

Complete the tutorial
Play Kusto Detective Agency

Engage

Ask questions on the forum
Submit ideas and vote
Use the docs

Learn more

Complete the learning path
Get certified
Read the blog

Stay updated

Check the release plan
Follow on LinkedIn

Learn about Fabric

Watch on YouTube
Find customer success stories



aka.ms/realtimetutorial

aka.ms/realtimedetective

aka.ms/realtimeforum

aka.ms/realtimeideas

aka.ms/realtimedocs

aka.ms/realtimelearningpath

aka.ms/realtimeskill

aka.ms/realtimeblogs

aka.ms/realtimereleaseplan

aka.ms/realtimelinkedin



aka.ms/ontology-tutorial

aka.ms/fabric-iq-forum

aka.ms/fabric-iq-ideas

aka.ms/fabric-iq-overview

aka.ms/fabric-iq-blogs

aka.ms/fabric-iq-release

aka.ms/fabricyoutube

aka.ms/fabric-customer-success



Feedback

Learn more about Business
Events and Activator in
Fabric:



<https://aka.ms/businessesvents>

Get hands-on today!