
BUILDING
EVENT-DRIVEN
MICROSERVICES
PRAIRIE
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online
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group

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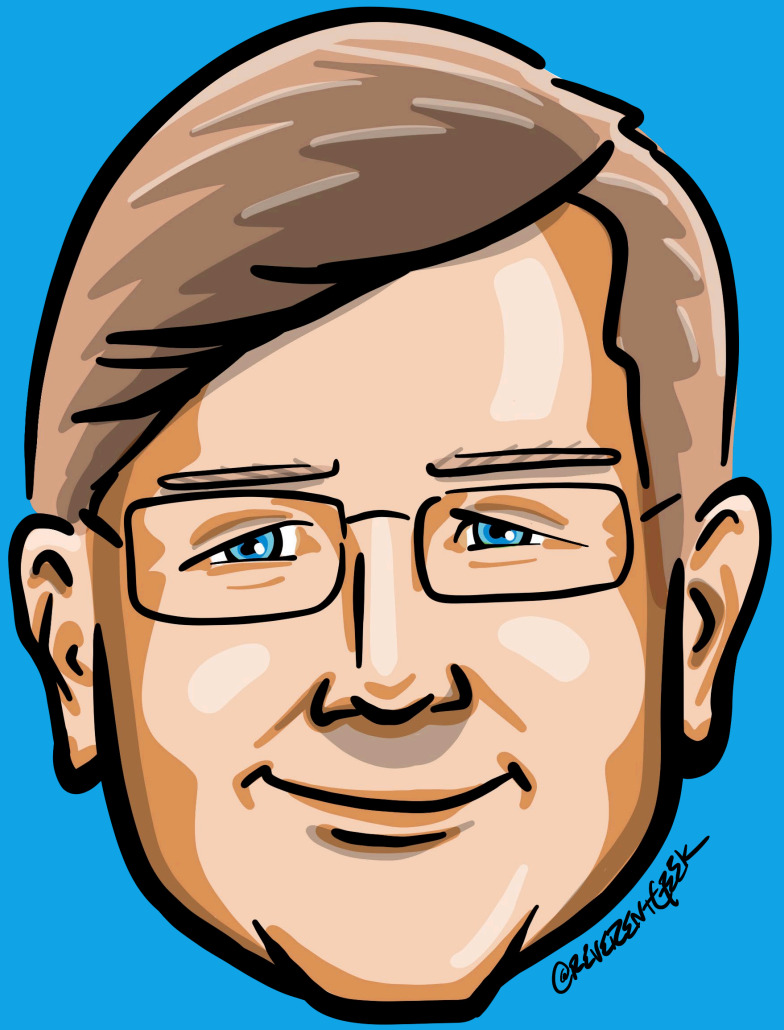
RICHARDSON

Who is Chad Green

glennis SOLUTIONS

Director of Architecture
Louisville, KY

MVP Microsoft® Most Valuable Professional

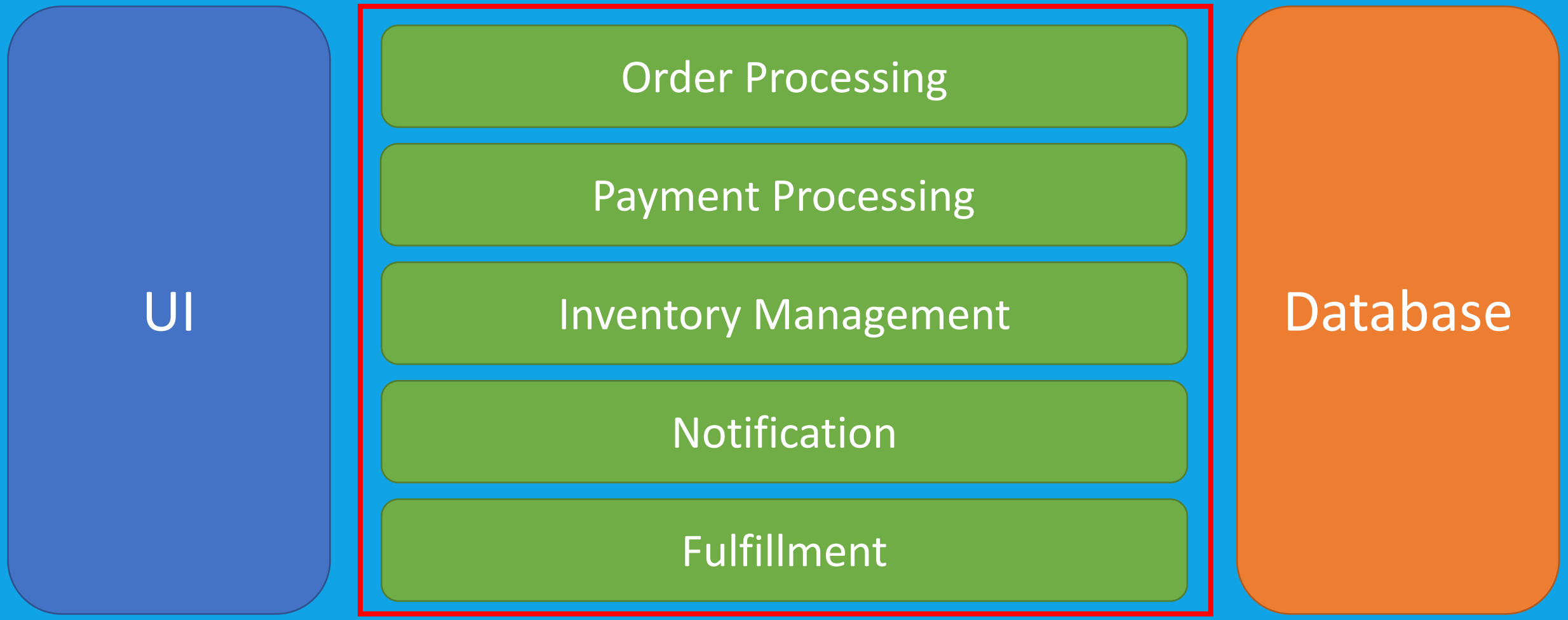


Preamble

Building Event-Driven Microservices

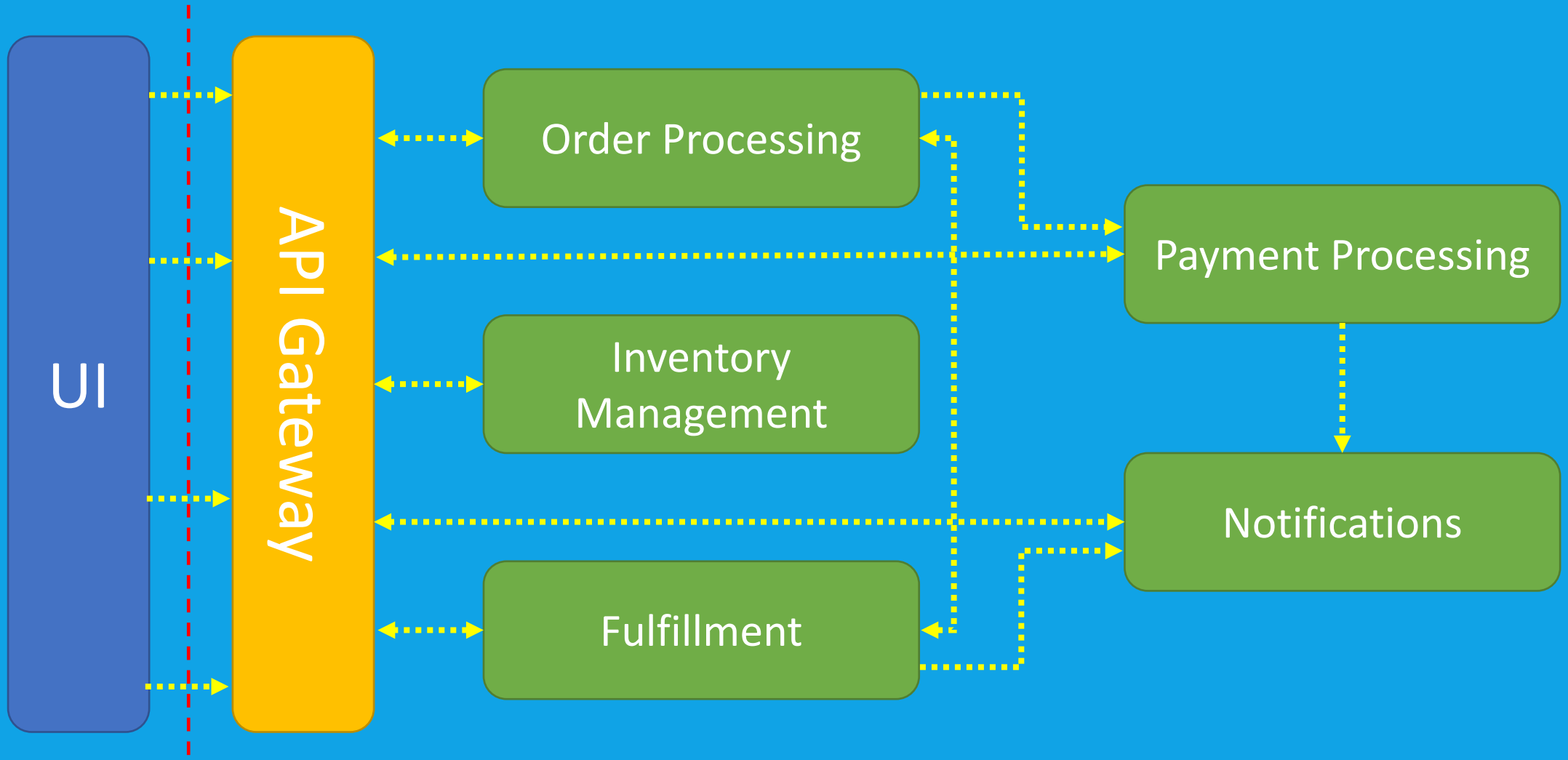
Monolith

Enterprise Architecture



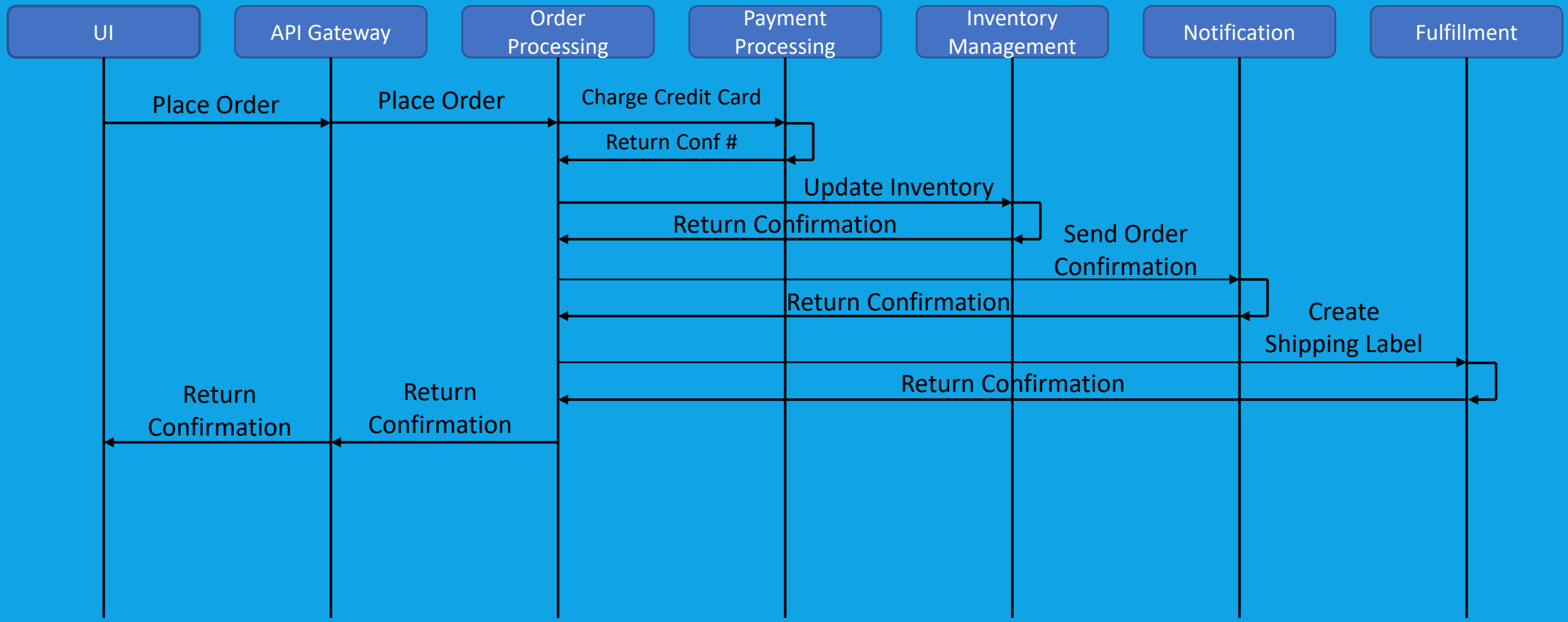
Microservices

Enterprise Architecture



Process Flow

Microservices



Event-Driven Architecture

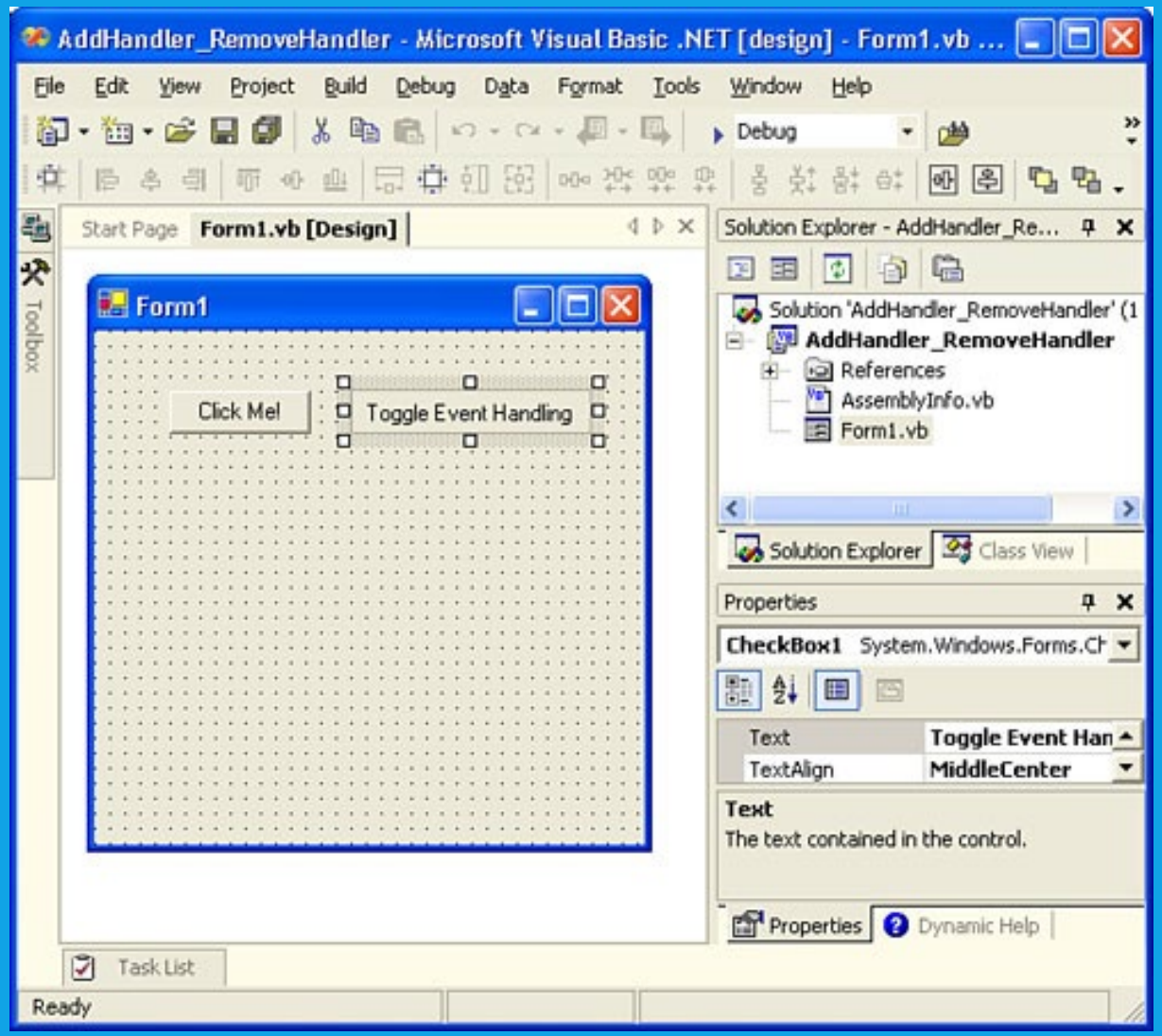
Building Event-Driven Microservices

Event-Driven Architecture

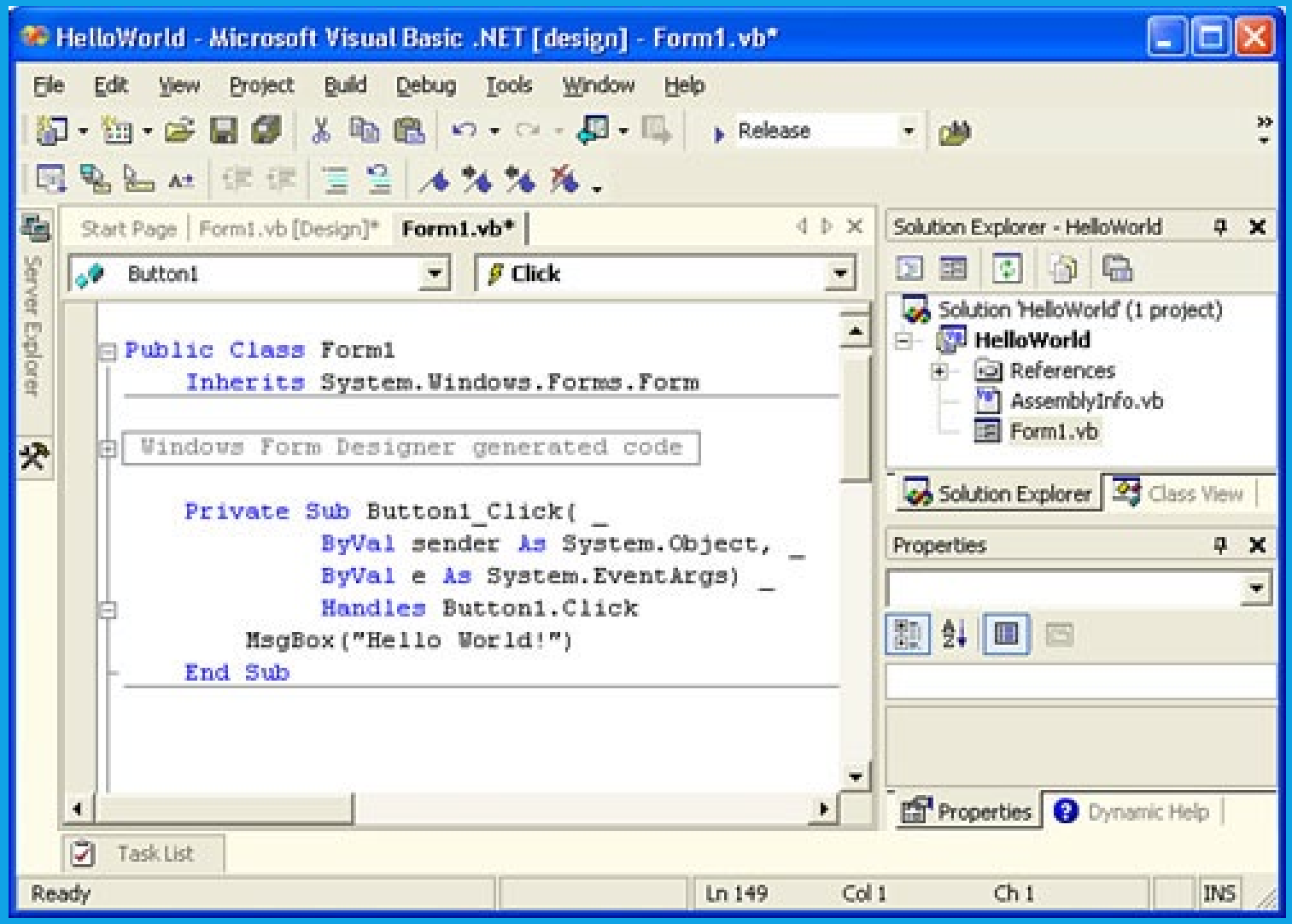
> A software architecture pattern promoting the production, detection, consumption of, and reaction to **events**.

- Wikipedia -

Event-Driven Architecture



Event-Driven Architecture



Event-Driven Architecture

“

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EDA is more loosely coupled than client/server paradigm because the component that sends the notification doesn’t know the identity of the receiving components at the time of compiling

- Garner -

Event-Driven Architecture

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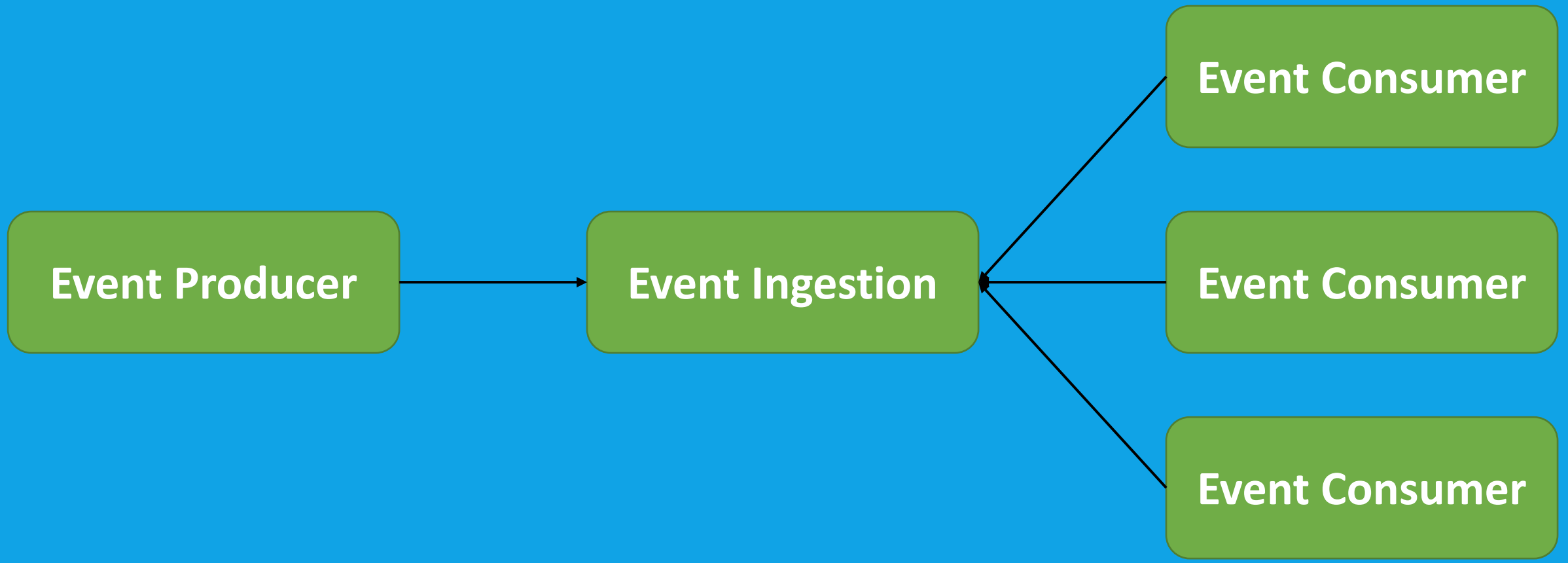
Event-Driven Architecture



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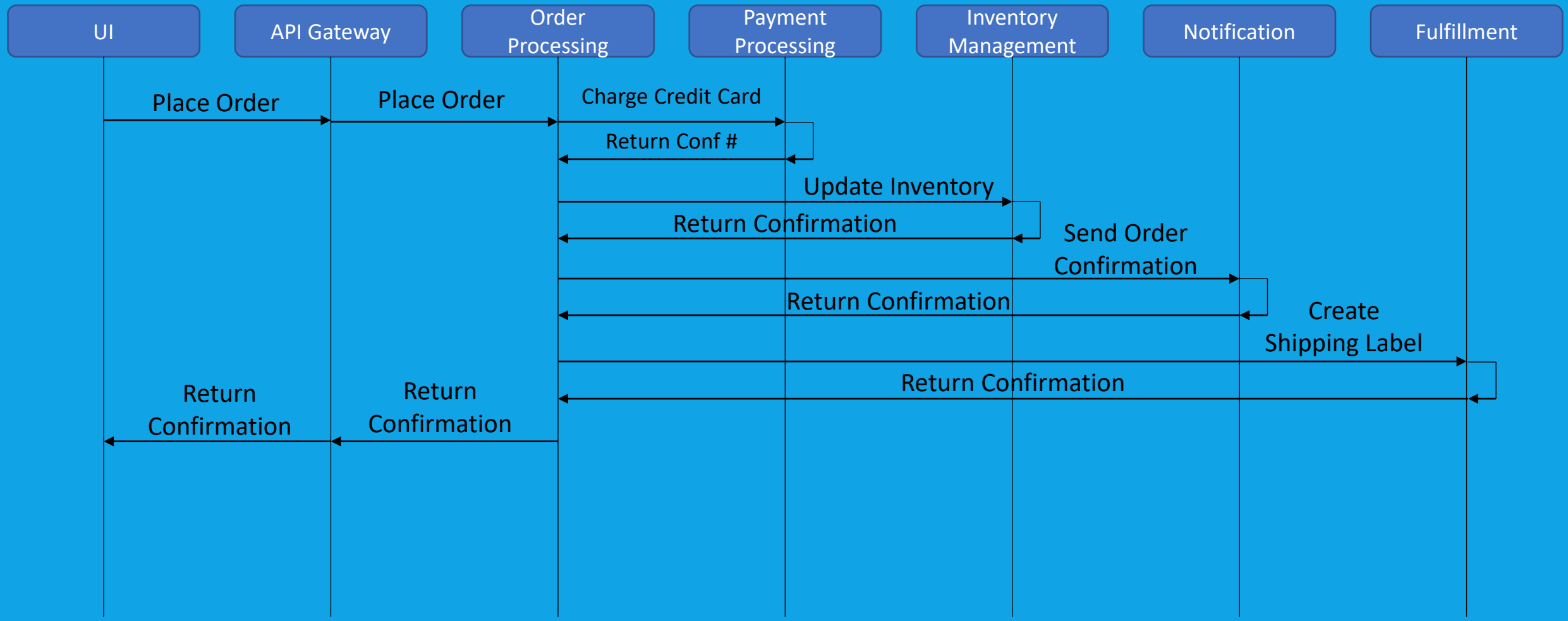
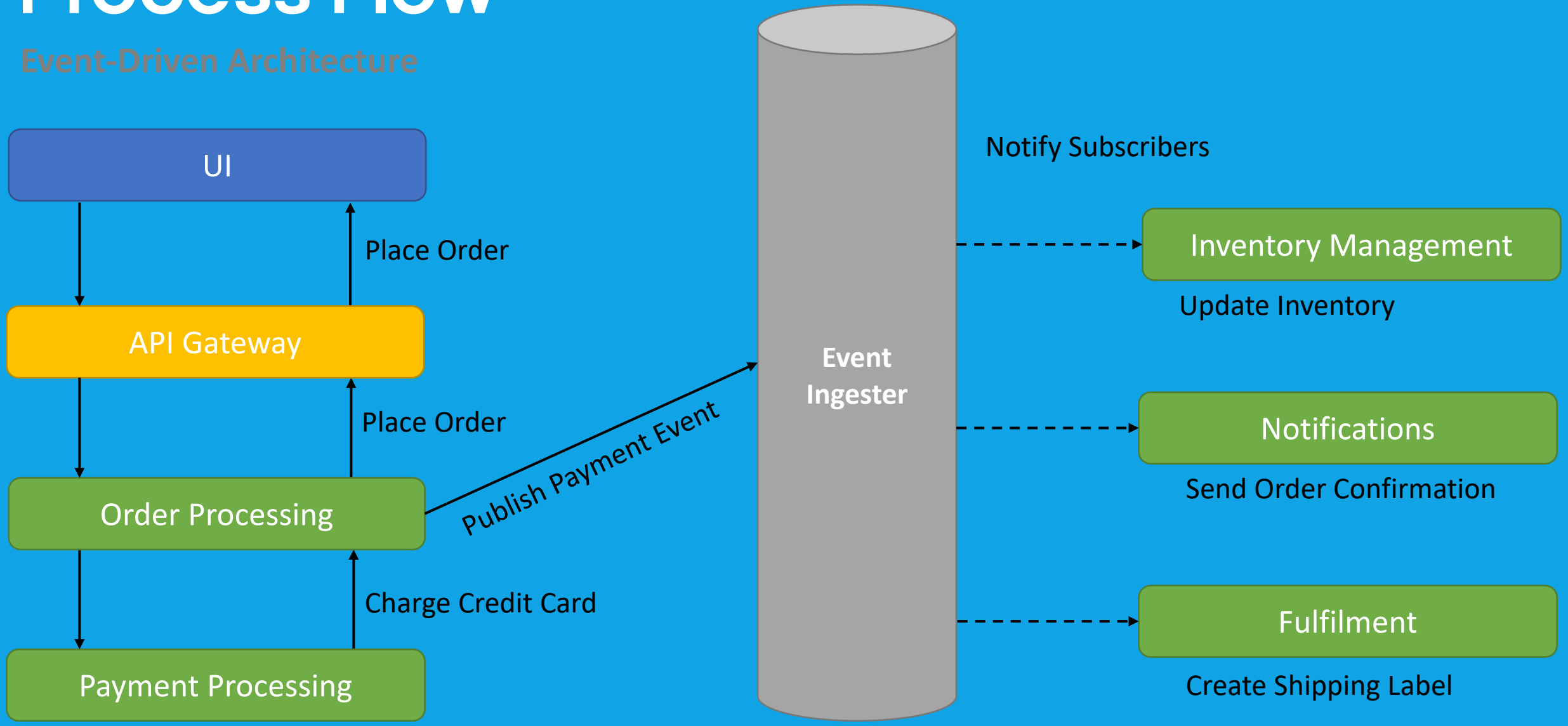


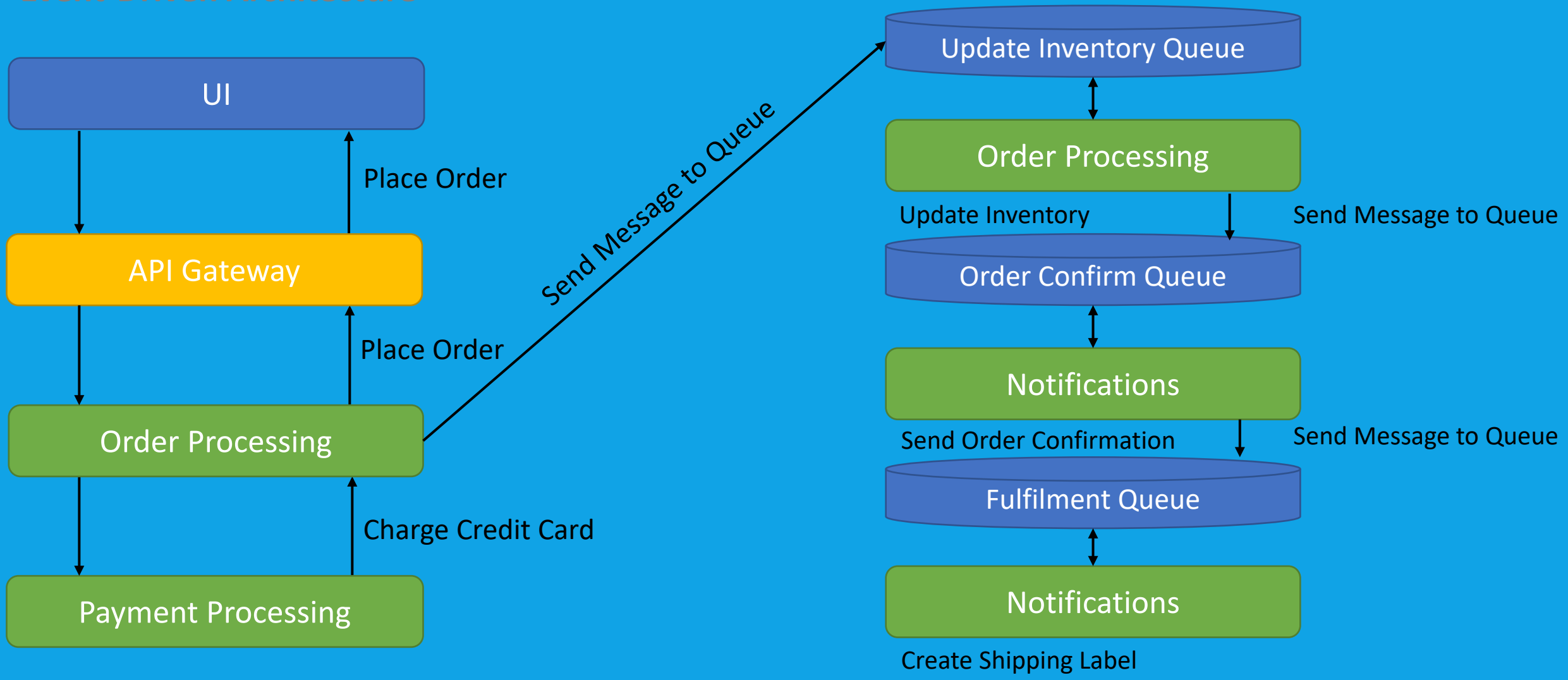
Process Flow

Event-Driven Architecture



Not Queue Based Processing

Event-Driven Architecture

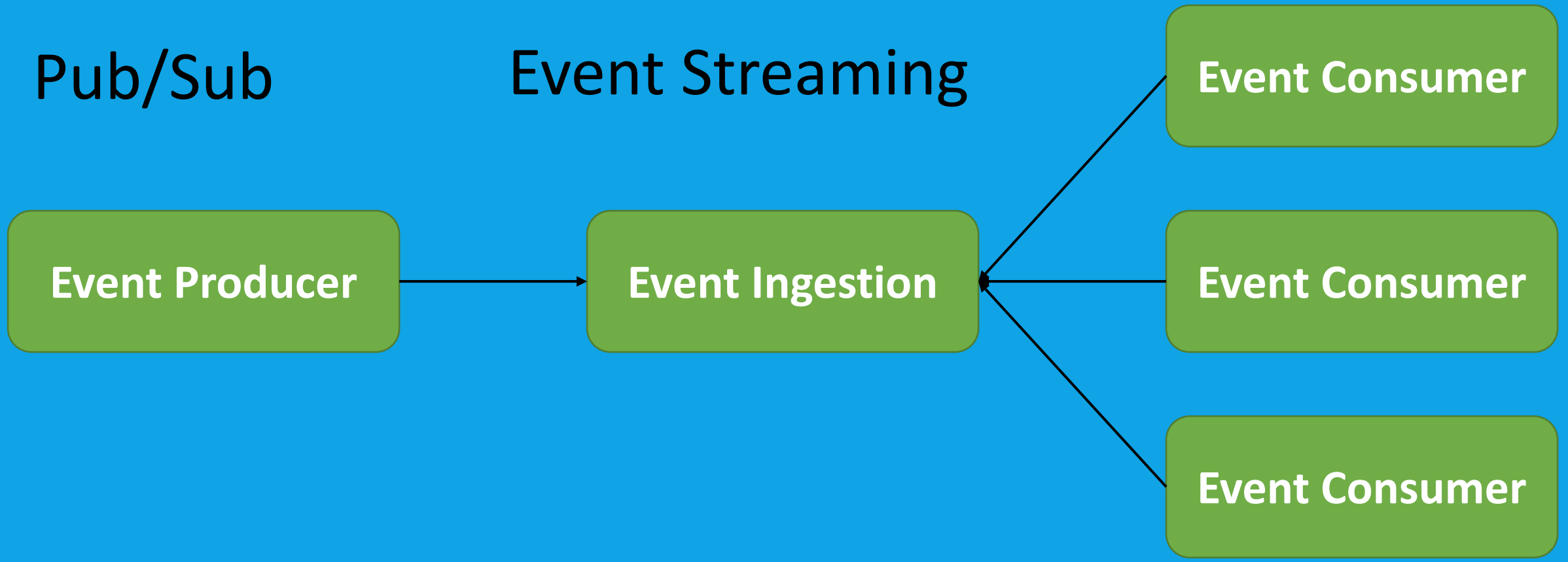


Event Consumption Models

Event-Driven Architecture

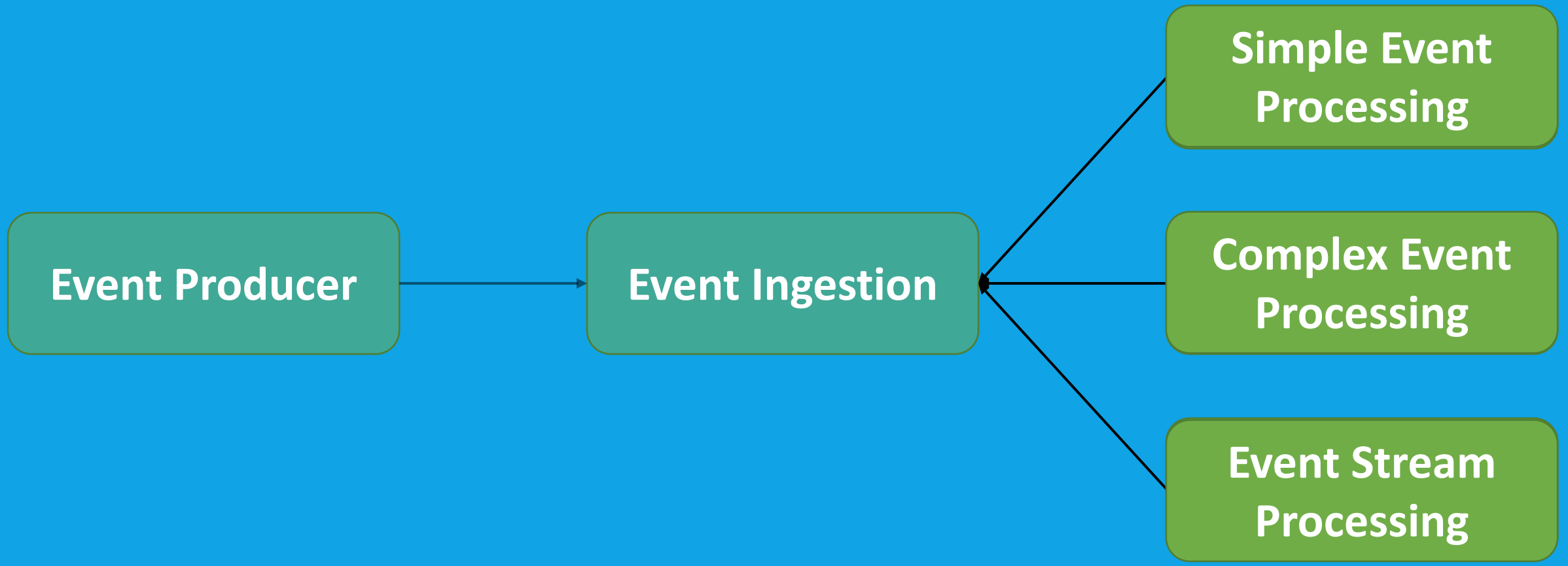
Pub/Sub

Event Streaming



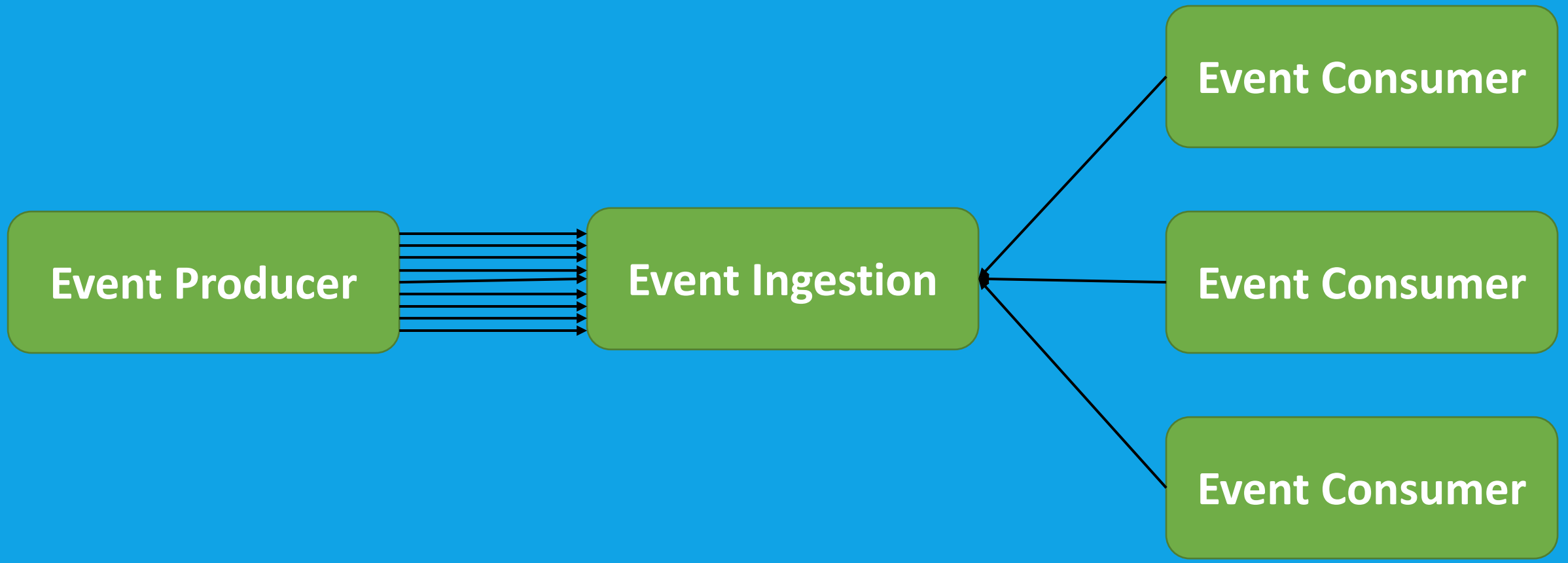
Consumer Processing Variations

Event-Driven Architecture



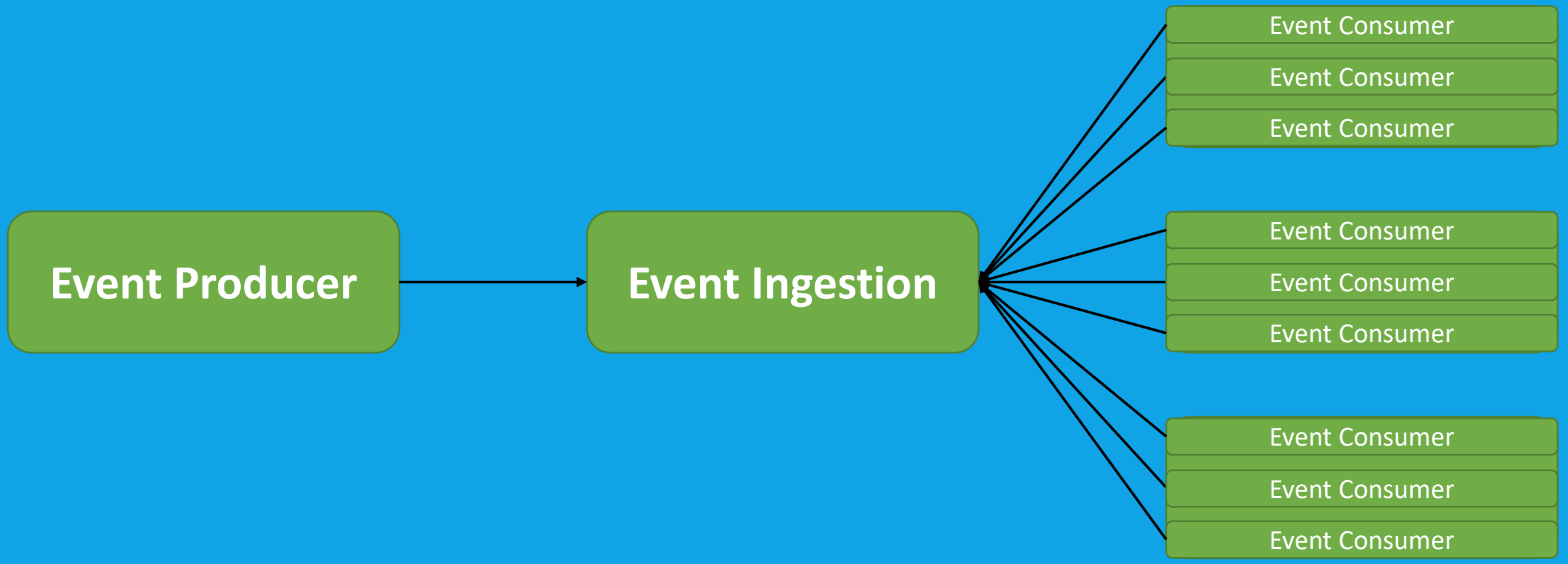
External Event Sources

Event-Driven Architecture



Multiple Consumer Instances

Event-Driven Architecture



When to use this architecture

Event-Driven Architecture

- Multiple Subsystems
- Real-Time Processing
- Complex Event Processing
- High Volume/Velocity Data

Benefits

Event-Driven Architecture

Decoupling

Encapsulation

Responsive

Scalable/Distributed

Independence

Drawbacks

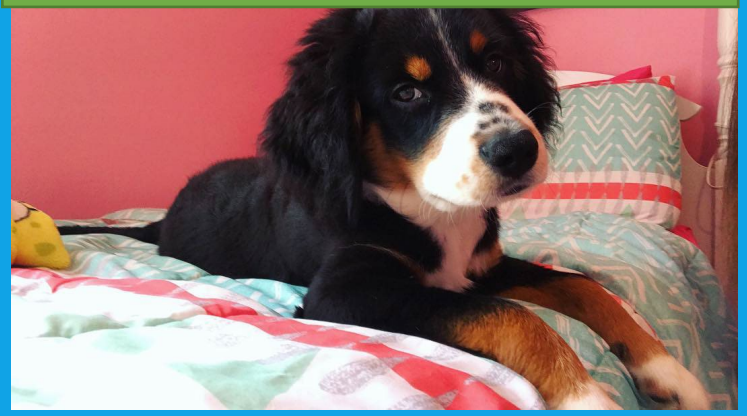
Event-Driven Architecture

Steep Learning Curve

Complexity

Loss of Transactionality

Lineage



Limitations

Event-Driven Architecture

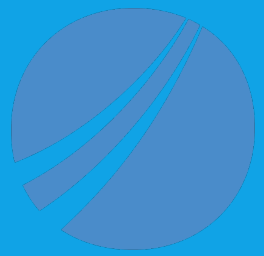
Guaranteed Delivery

Sequencing

Implementation Options

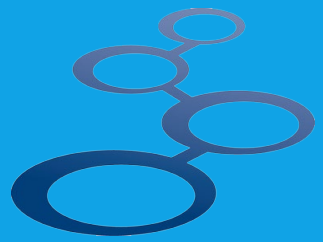
Building Event-Driven Microservices

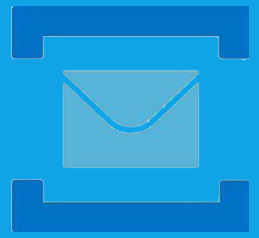
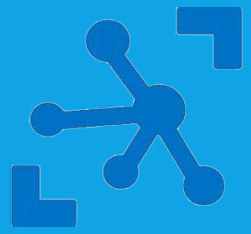
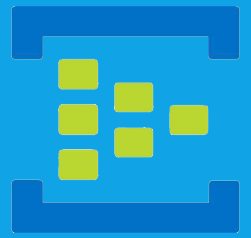
Implementation Options

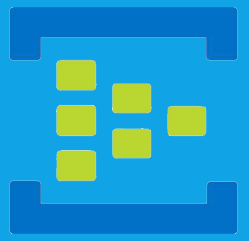




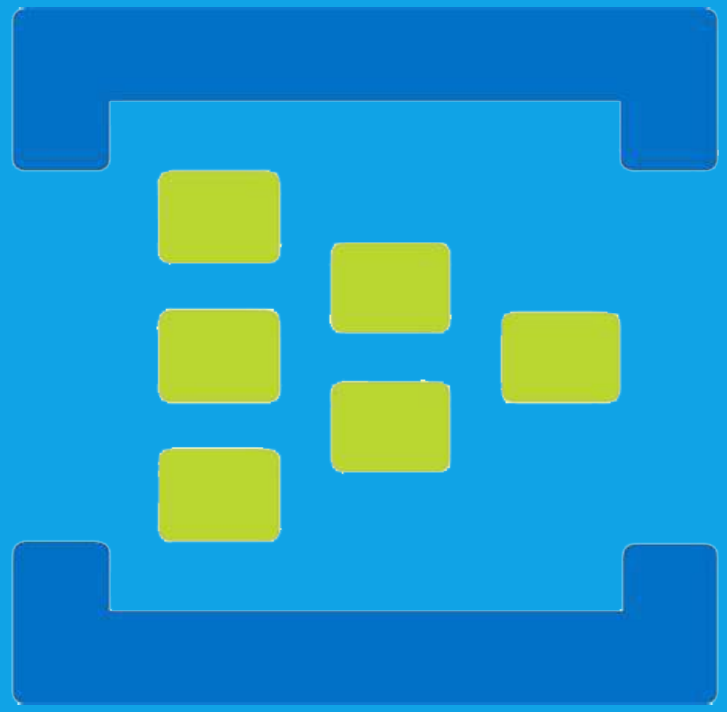





Implementation Options



Azure Event Hubs

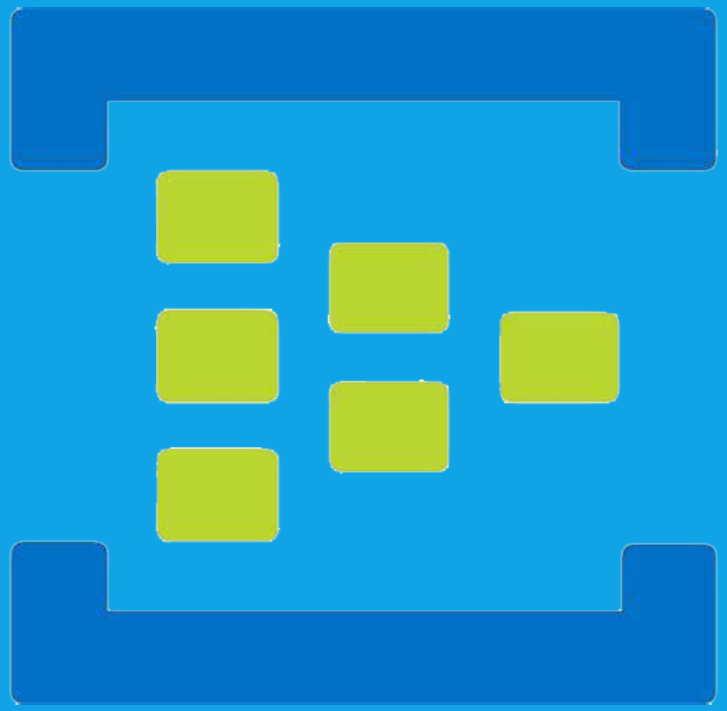
Simple, secure, and scalable real-time data ingestion



Fully managed, real-time data ingestion service that is simple, trusted, and scalable

Why choose Event Hubs?

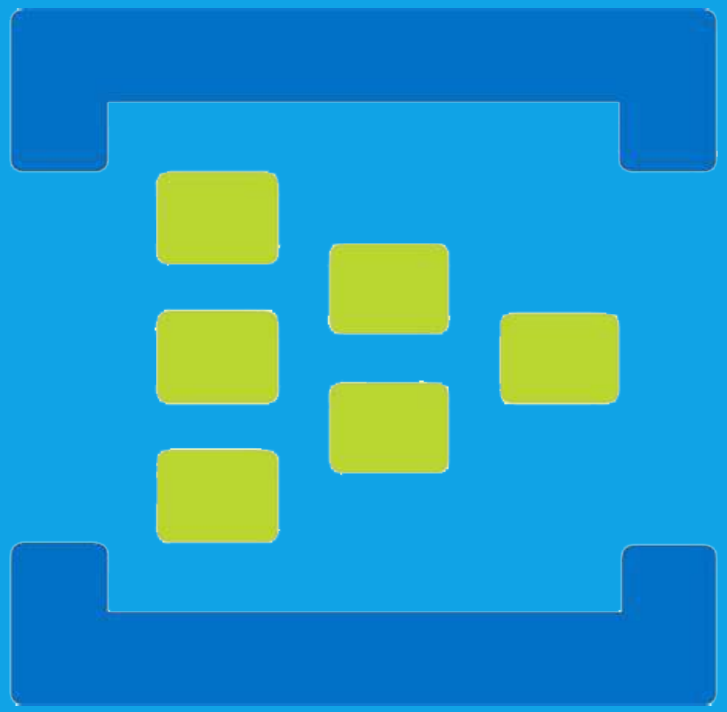
Azure Event Hubs

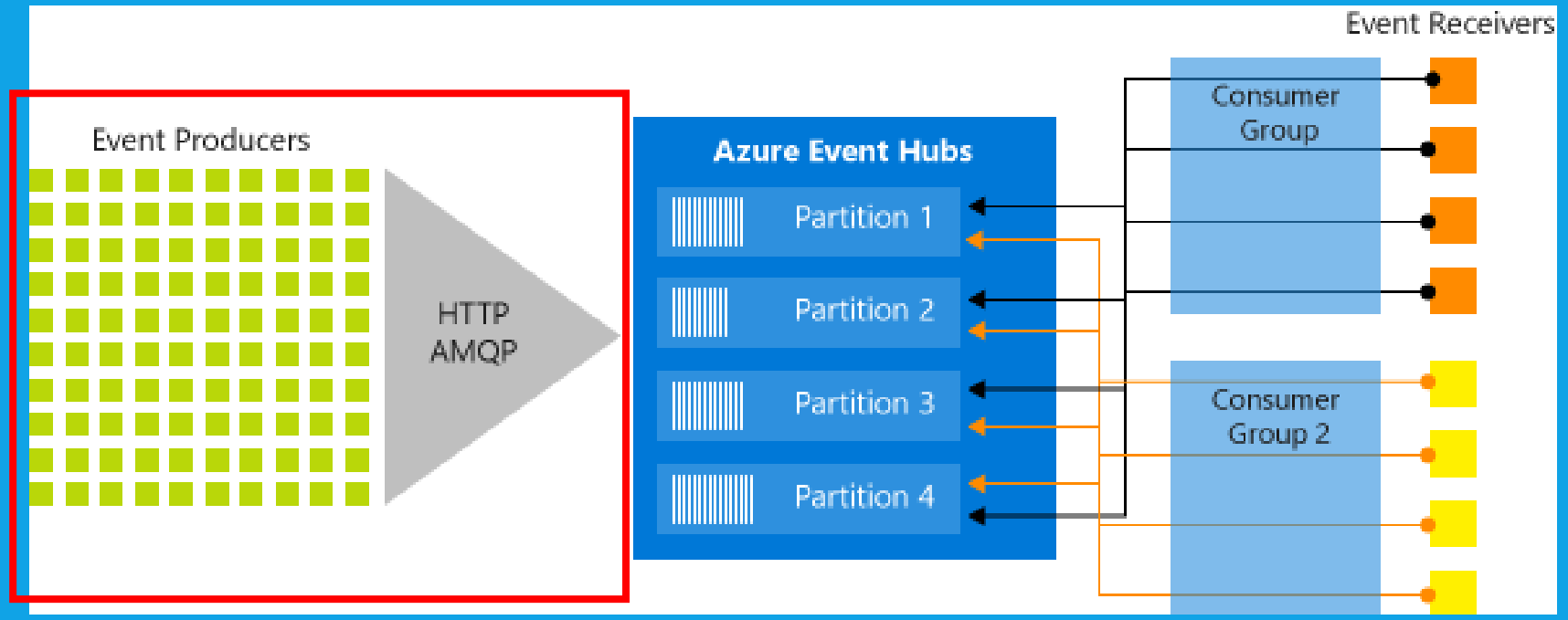


- Simple
- Secure
- Scalable
- Open

Key Architecture Components

Azure Event Hubs

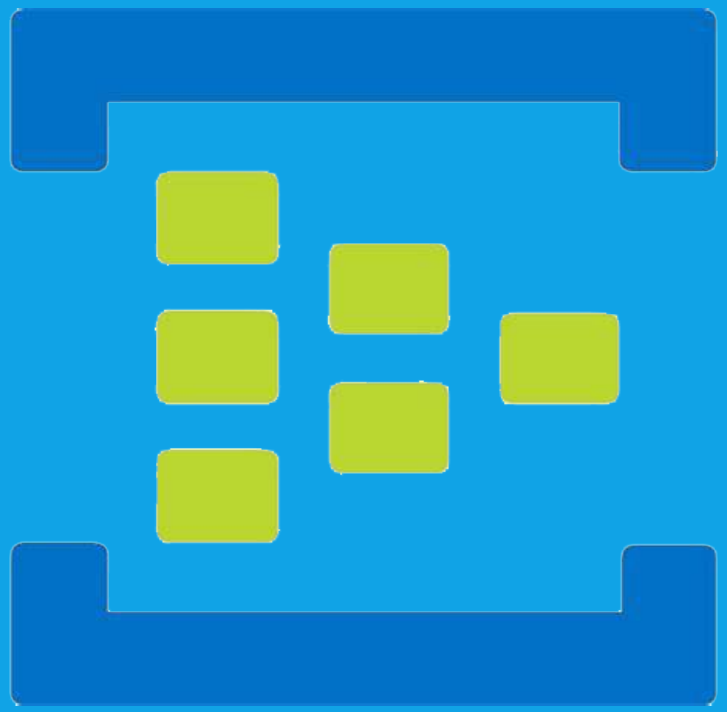


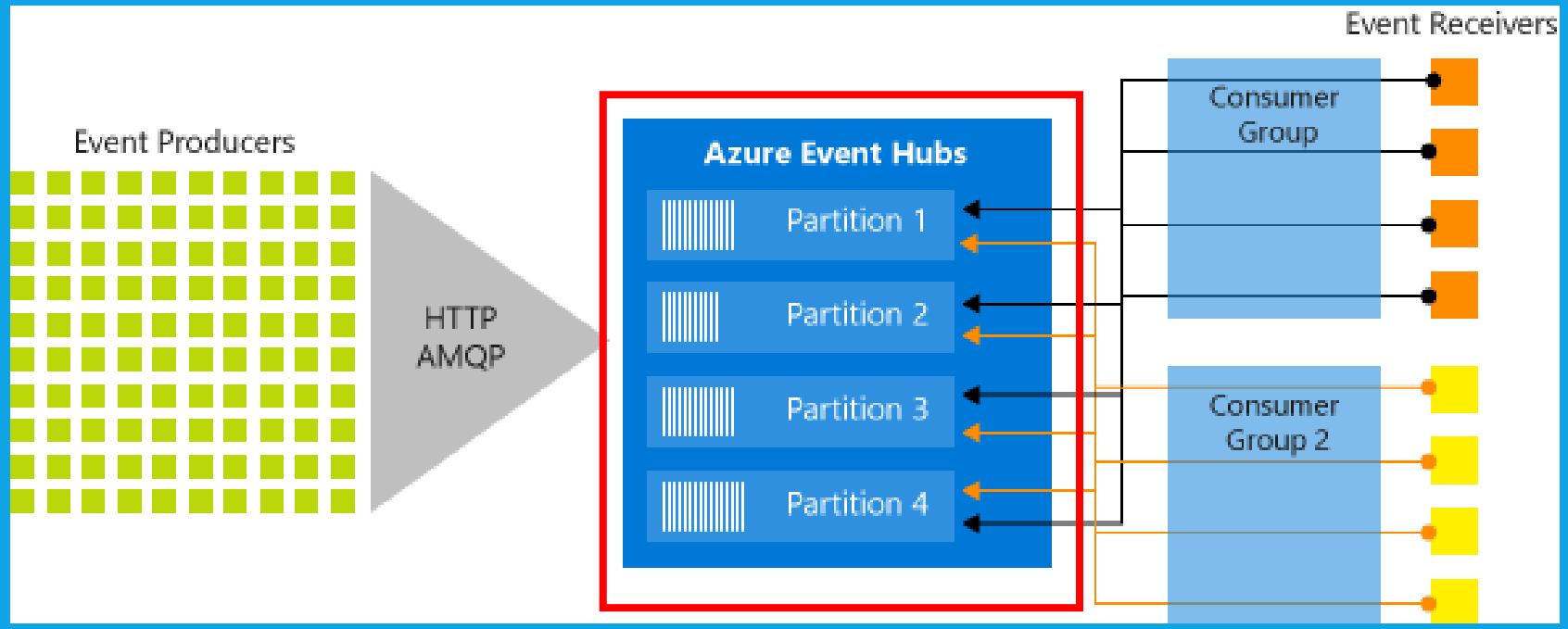


Event Producers

Key Architecture Components

Azure Event Hubs

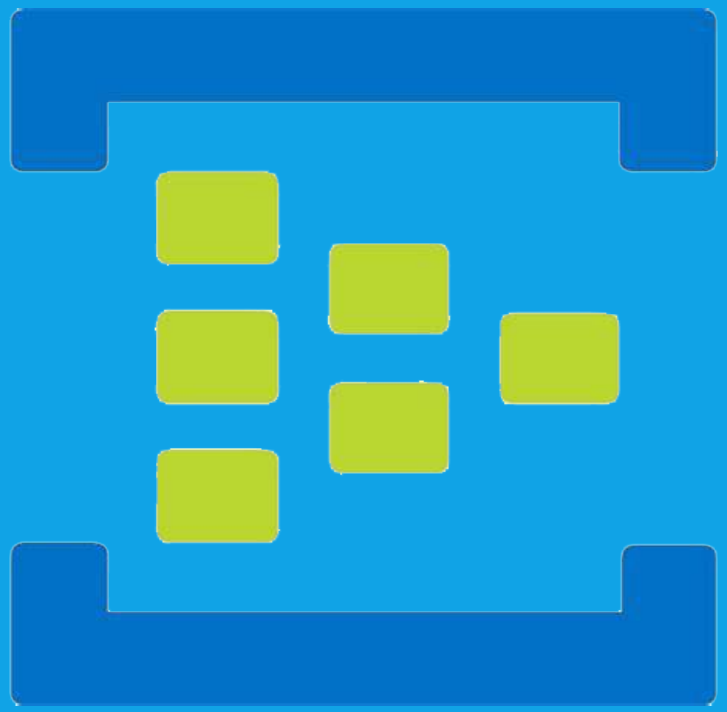


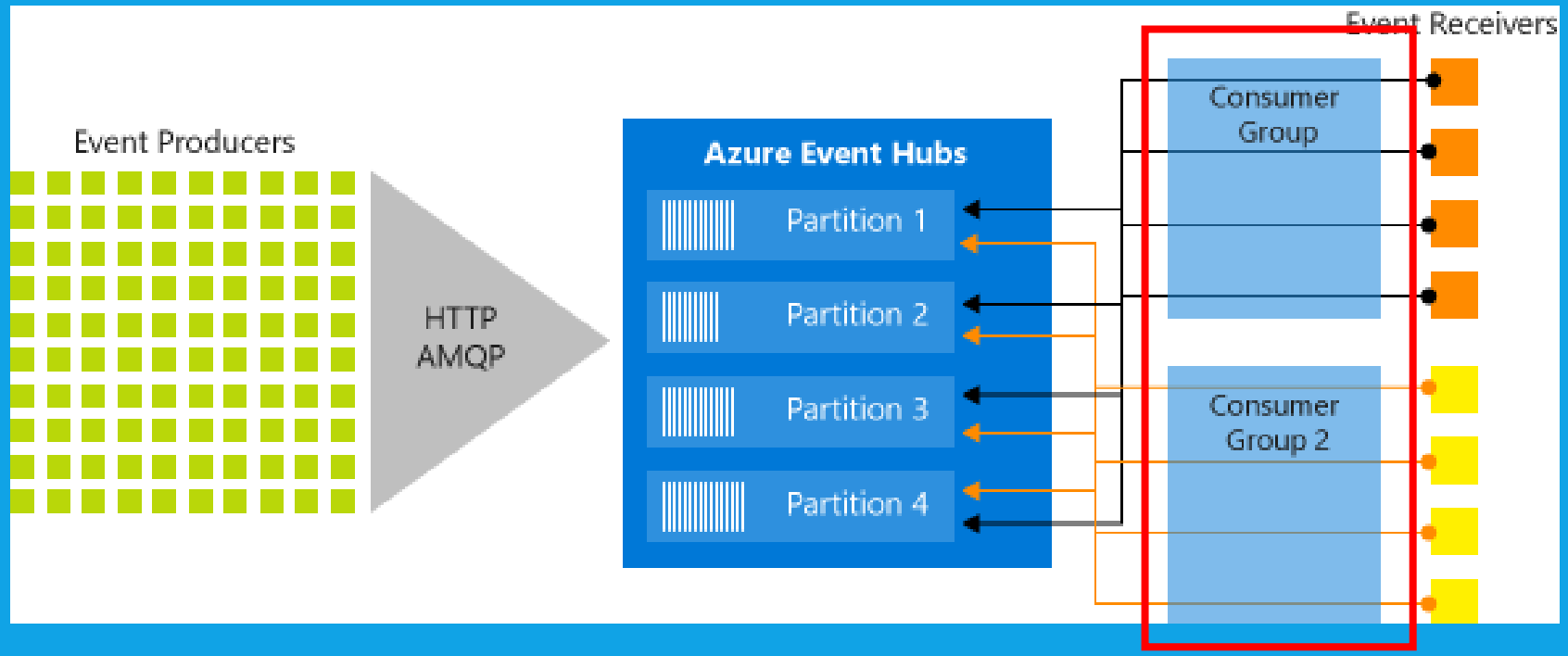


Partitions

Key Architecture Components

Azure Event Hubs

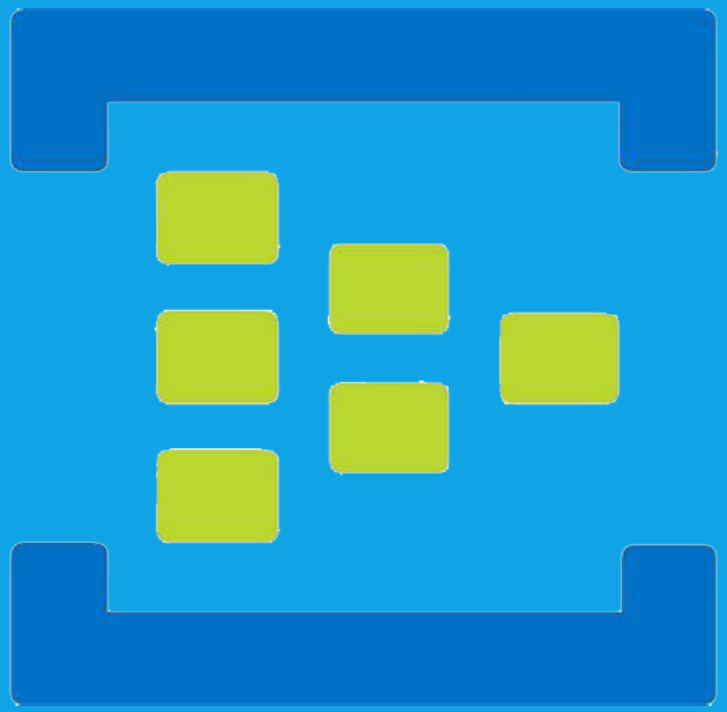


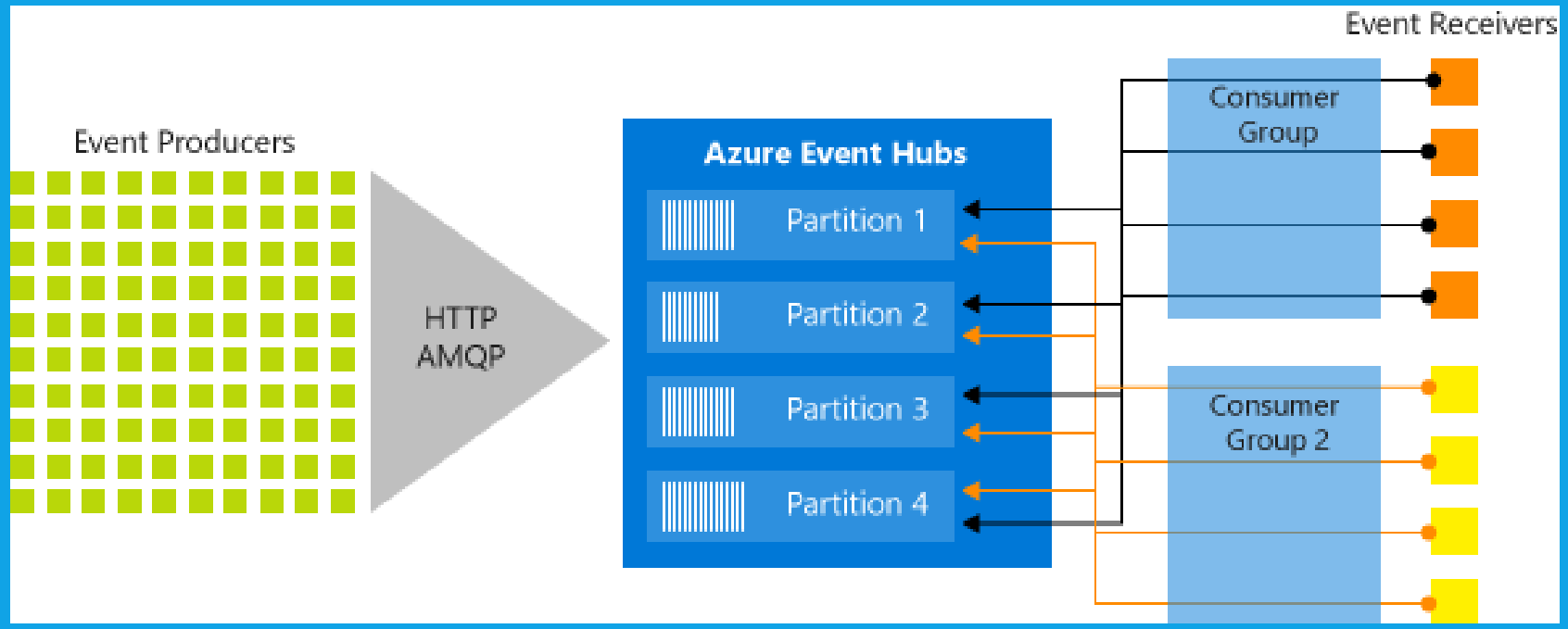


Consumer Groups

Key Architecture Components

Azure Event Hubs

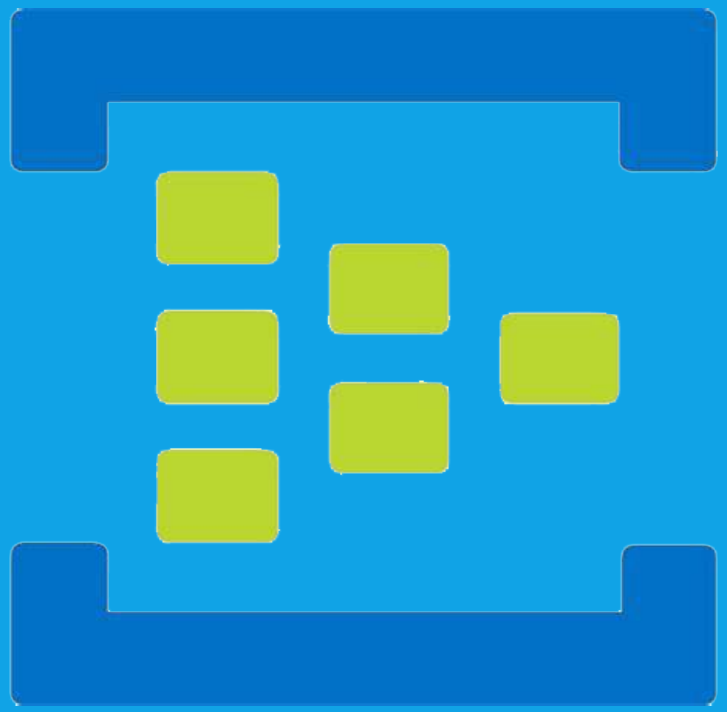


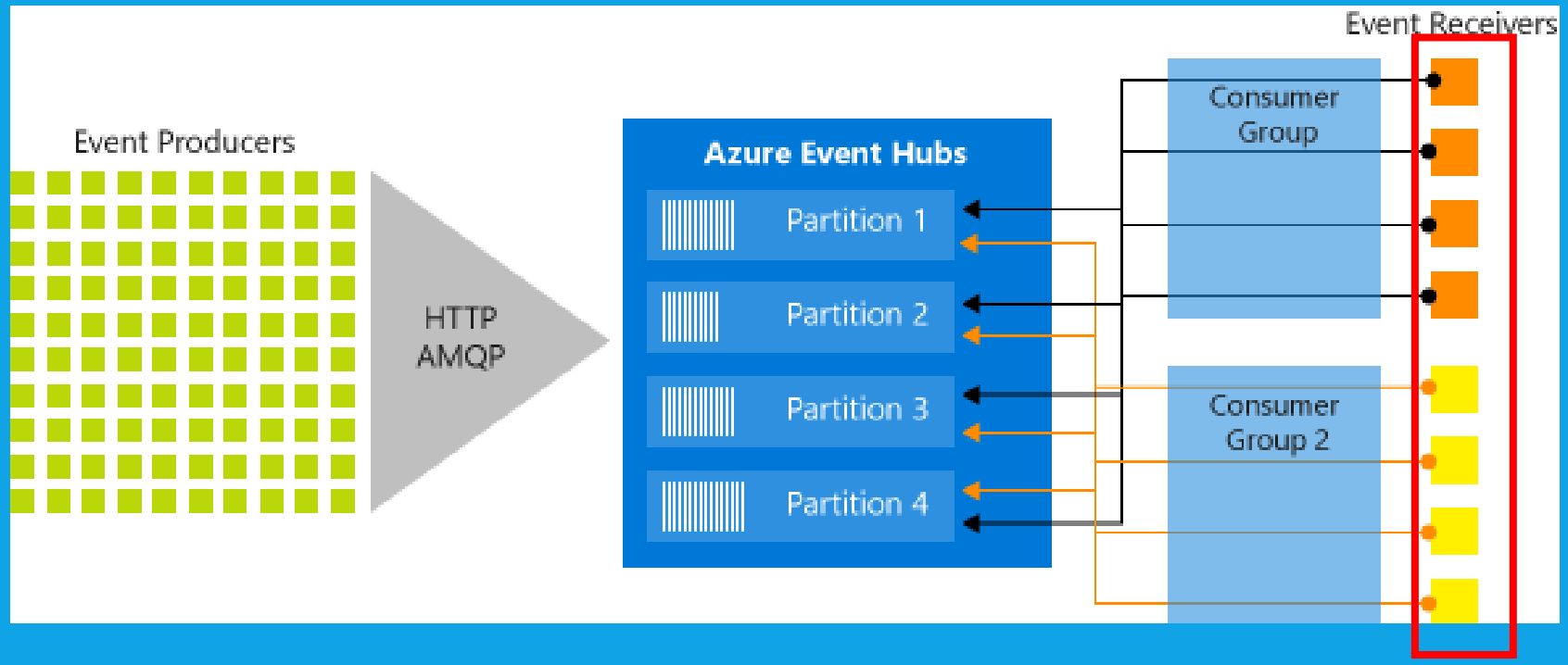


Throughput Units

Key Architecture Components

Azure Event Hubs





Event Receivers

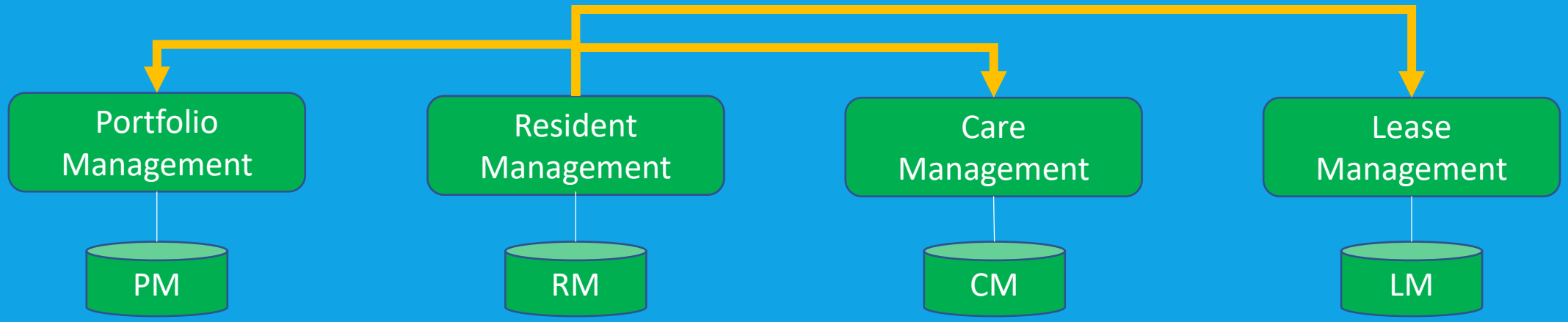
Demonstration

Building Event-Driven Microservices

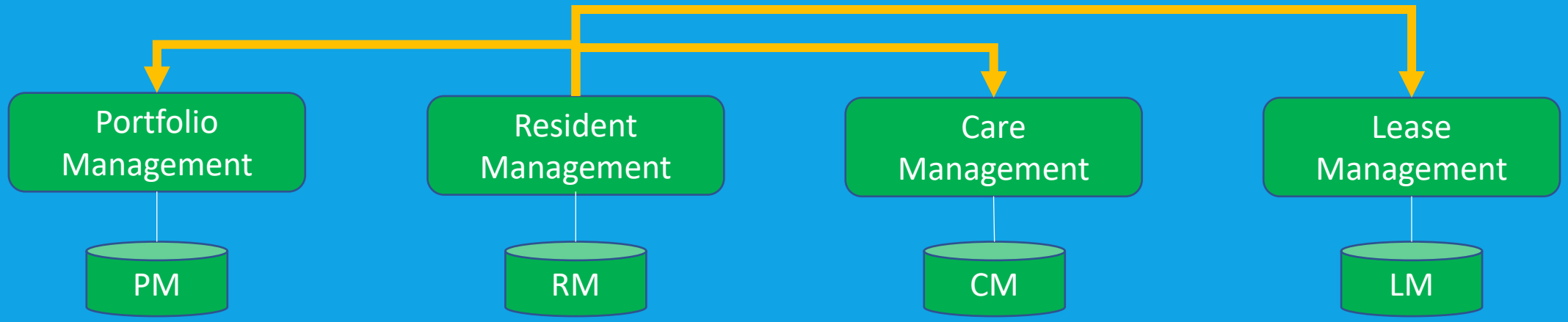

EST.
2022
SENIOR LIVING
SYSTEMS


Portfolio Management
PM
Resident Management
RM
Care Management
CM
Lease Management
LM

Resident Move-In



Resident Move-In



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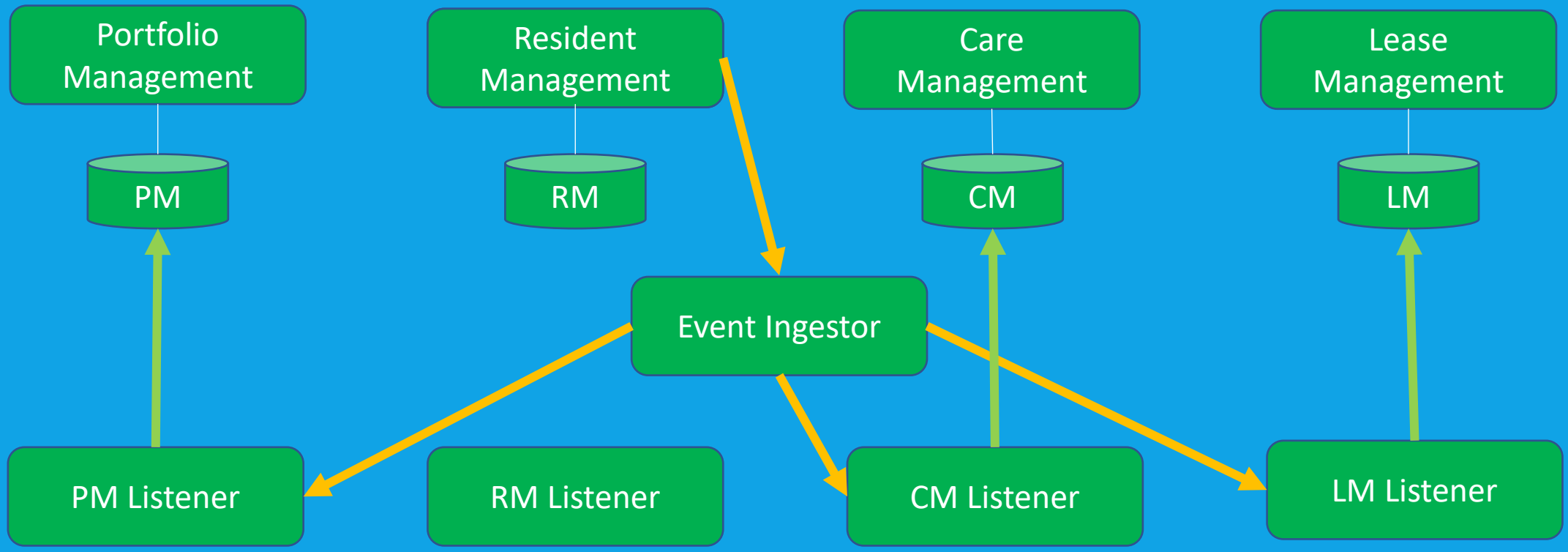
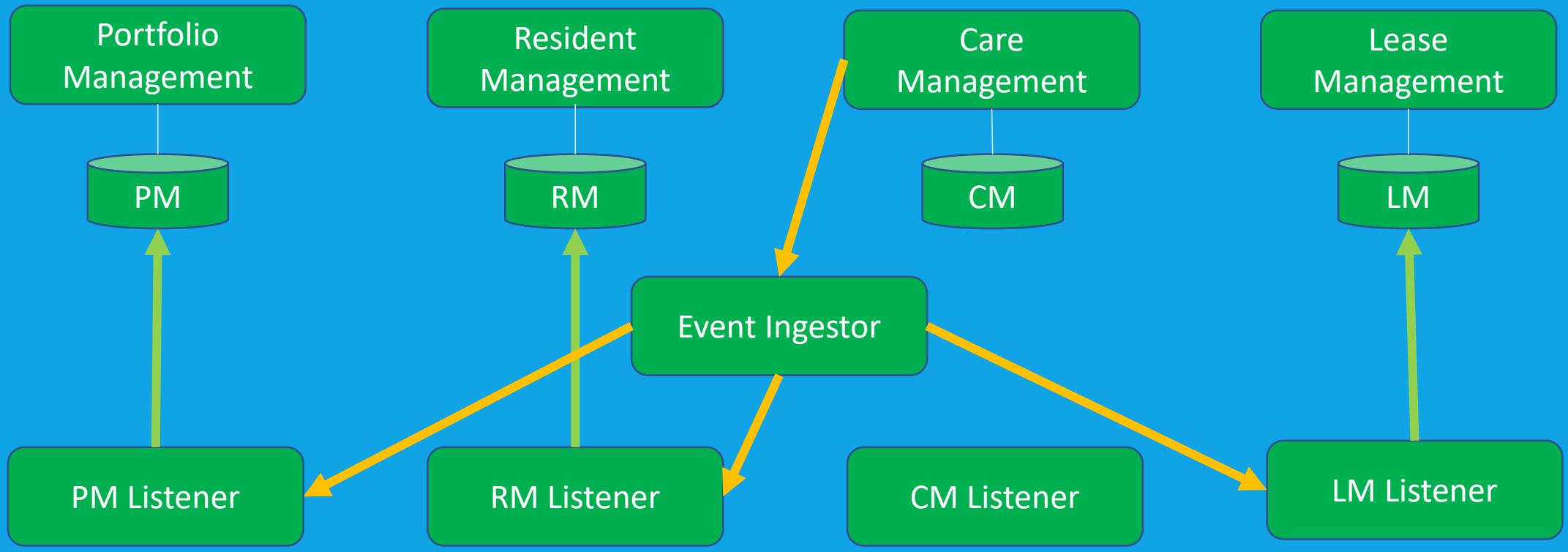


Upgrade Care



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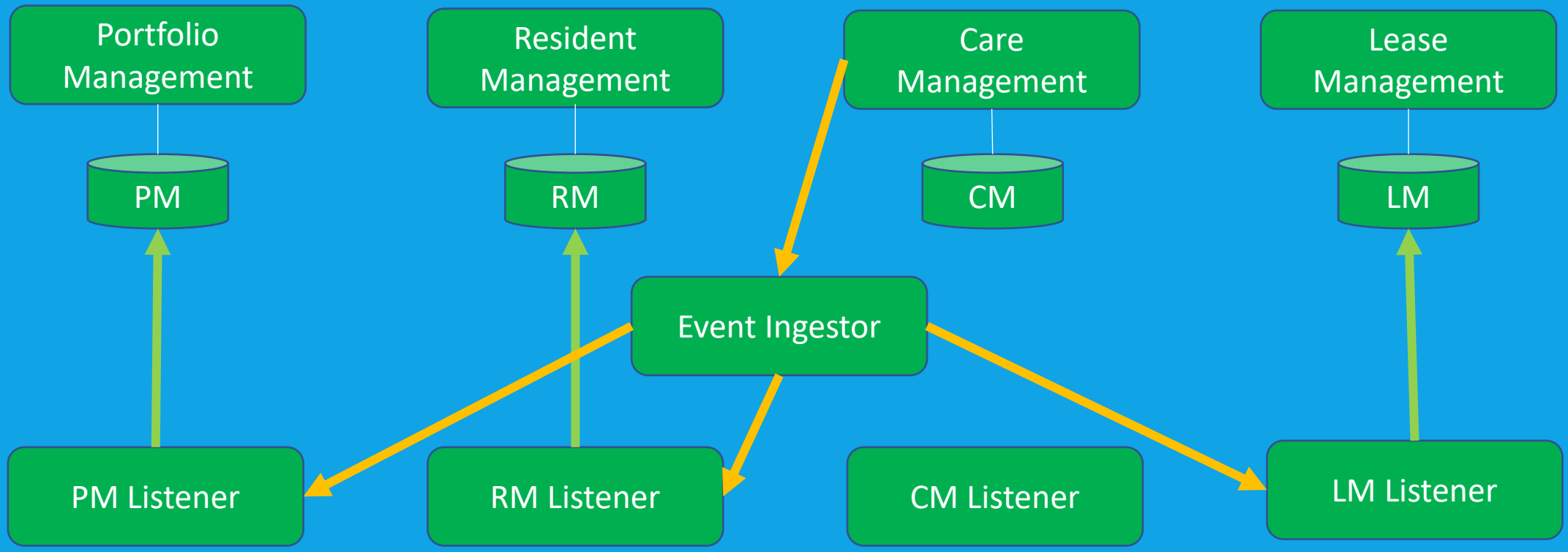

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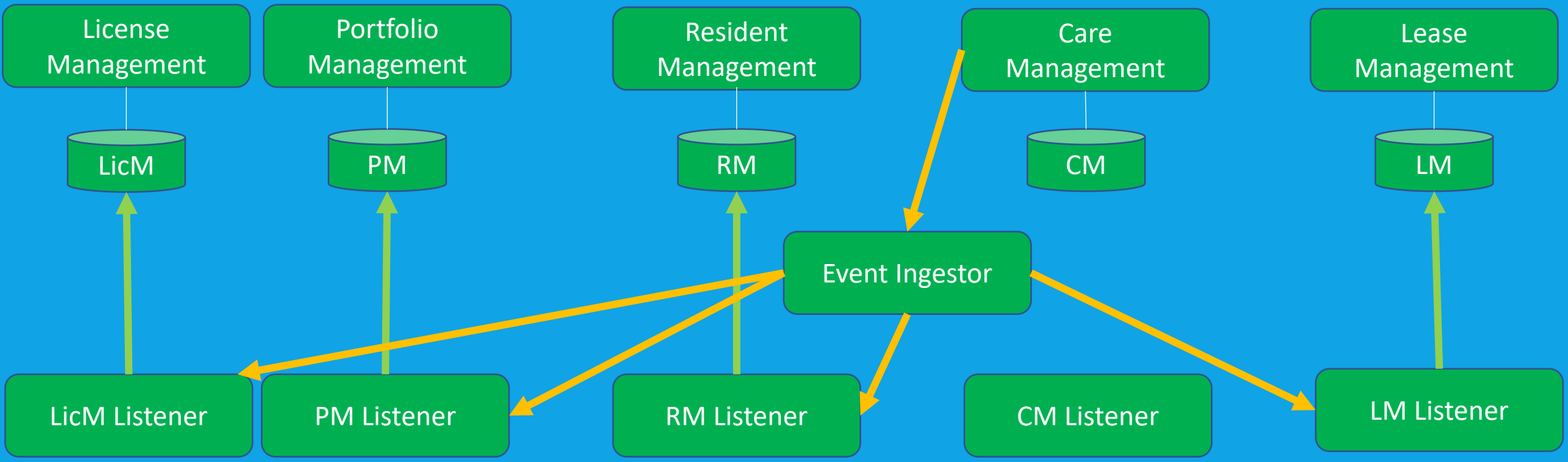
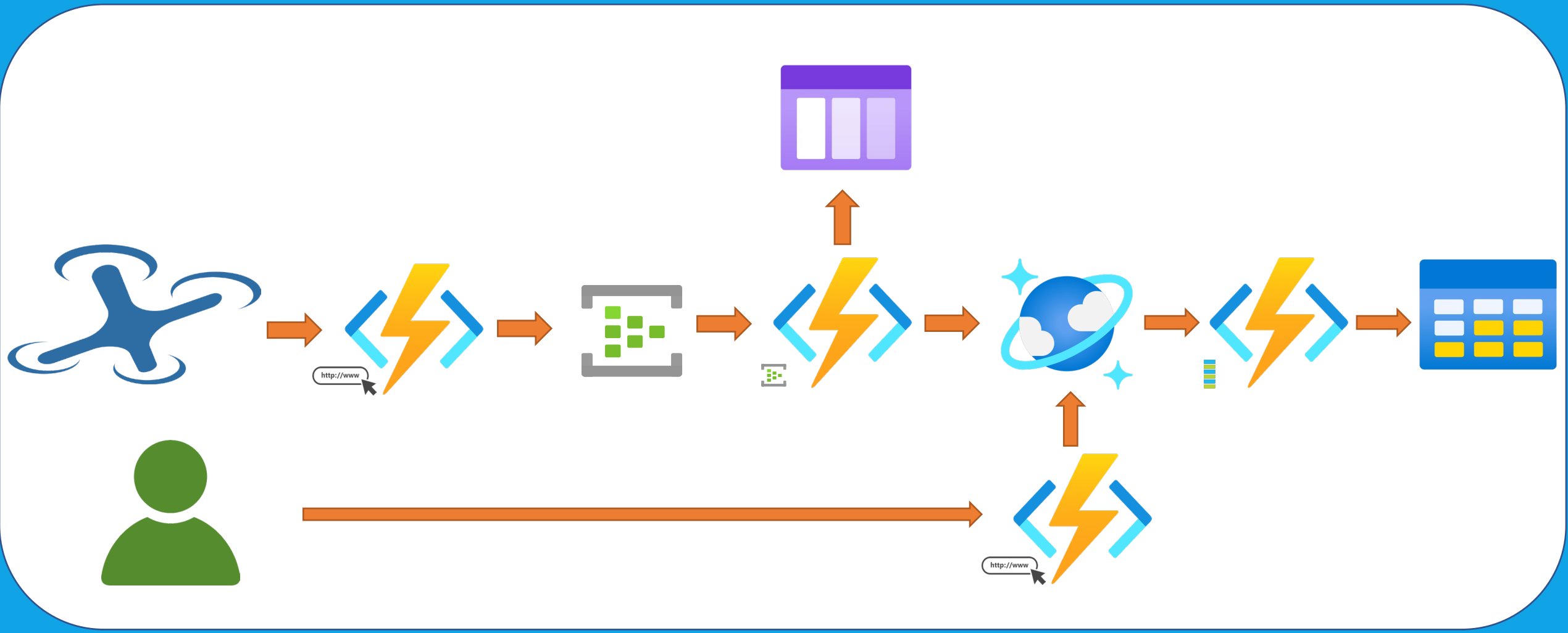


Drone Telemetry



Summary

Building Event-Driven Microservices

Event-Driven Architecture

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> - Garner -

SWOT

Summary

Strengths

- Decoupling
- Encapsulation
- Responsive
- Scalable / Distributed
- Independence

SWOT

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- Complexity
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- Linage

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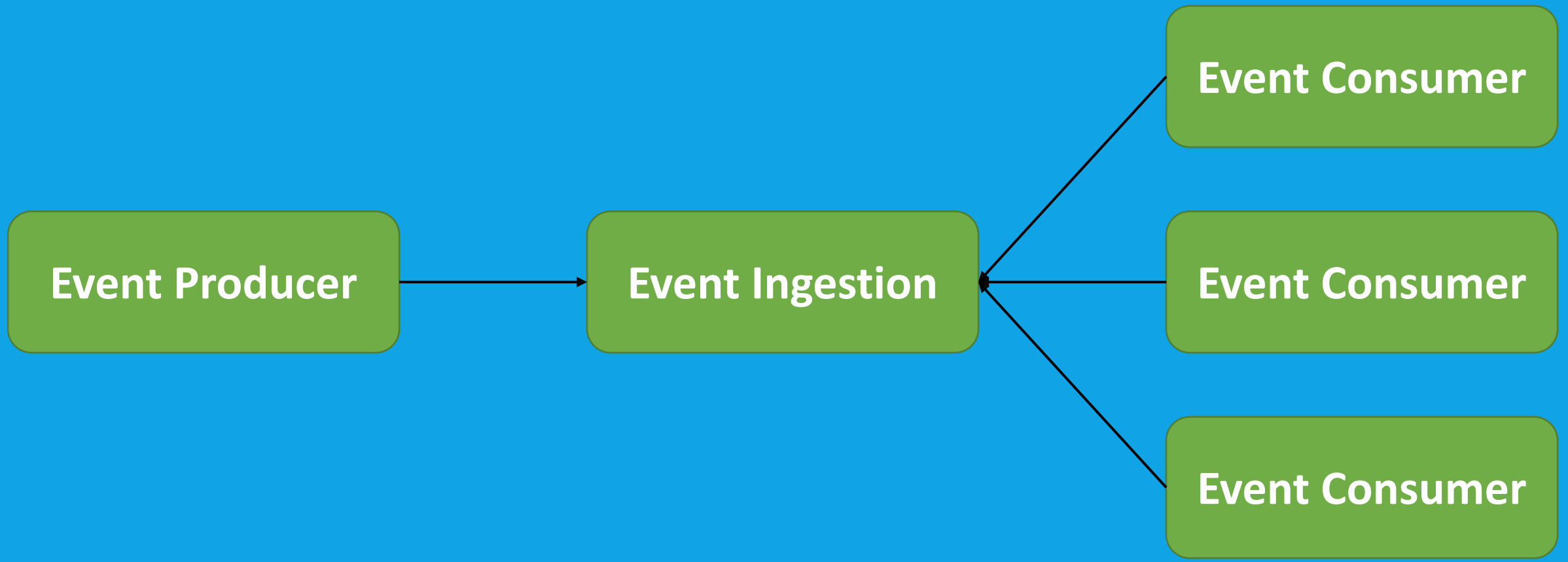
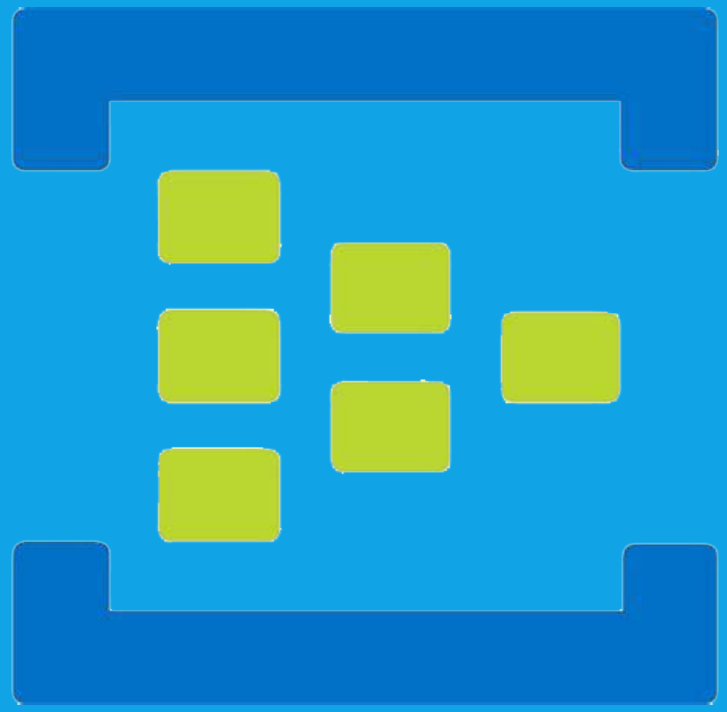


Azure Event Hubs

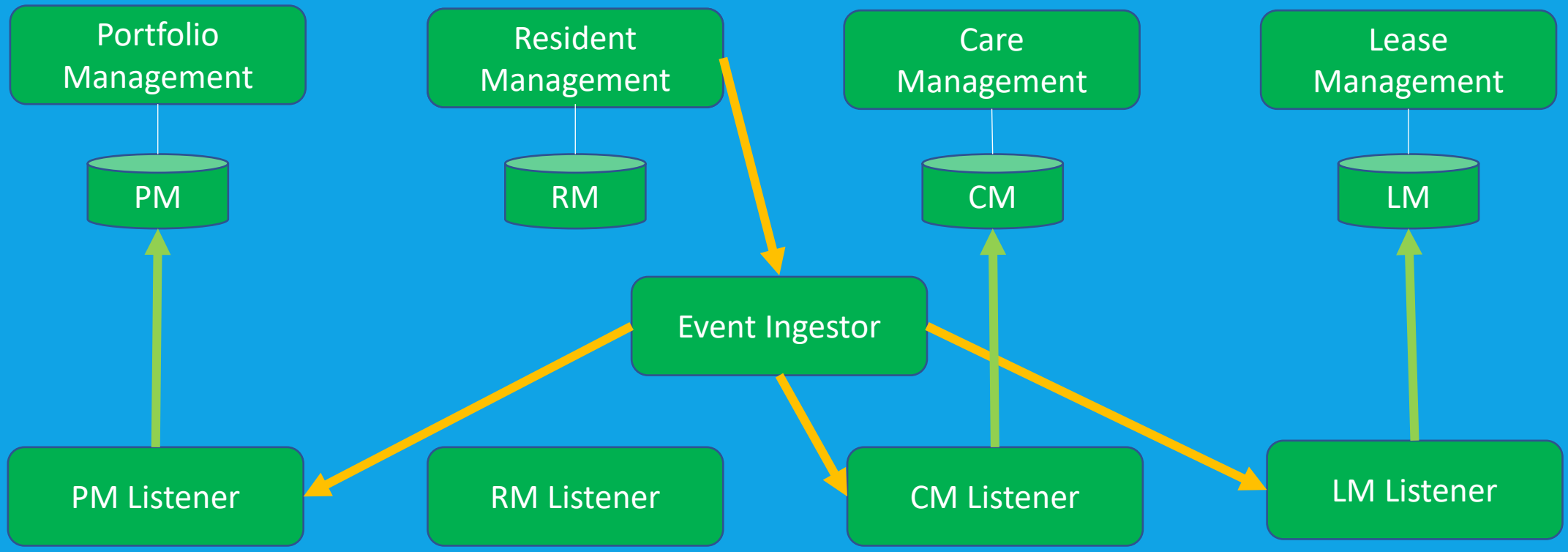
Summary



Fully managed, real-time data ingestion service that is simple, trusted, and scalable

Simple	Secure	Scalable	Open

Real-World Demonstrations



Thank You

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