Kafka for Real Time Messaging

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Kafka Architecture

Demo: Setup Kafka

Setup Kafka on Mac OS

Demo: Kafka with Python Application

Create a simple consumer and producer and exchange
message using Kafka

Handling Failures and Building a Resilient System

Core Capabilities

High throughput

Scalable

Permanent storage

High availability

Ecosystem

Built-in stream processing

Connect to almost anything

Client libraries

Large ecosystem open source tools

Kafka Use Cases

User activity tracking

Log aggregation

Metrics collection

Commit log

Stream processing

Points of Failure

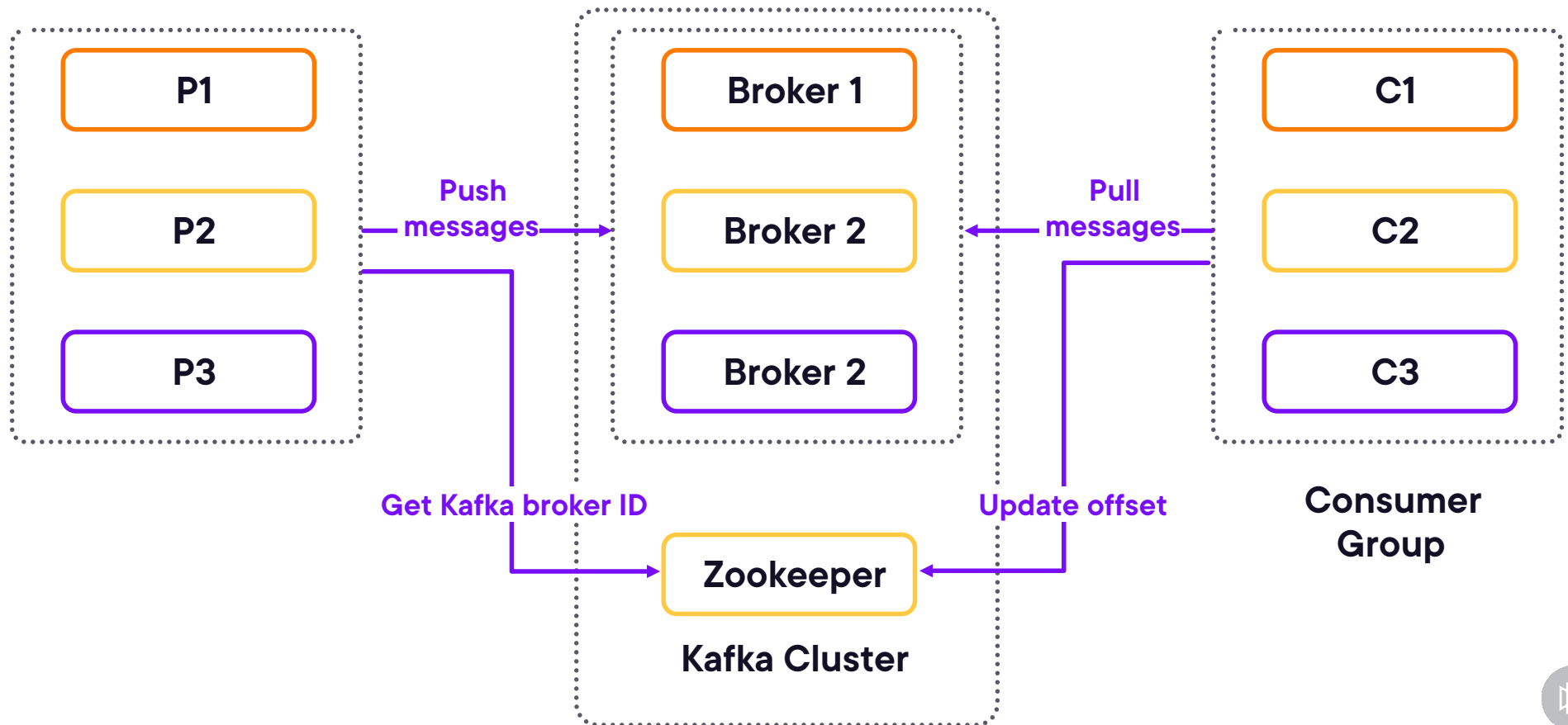|		
Broker Failure	Producer Failure	Consumer Failure

Partition Leader Failure	Network Issues

Kafka Architecture

Kafka on High Level

Monolith

Topic

Topic

Real time

Batch Processing
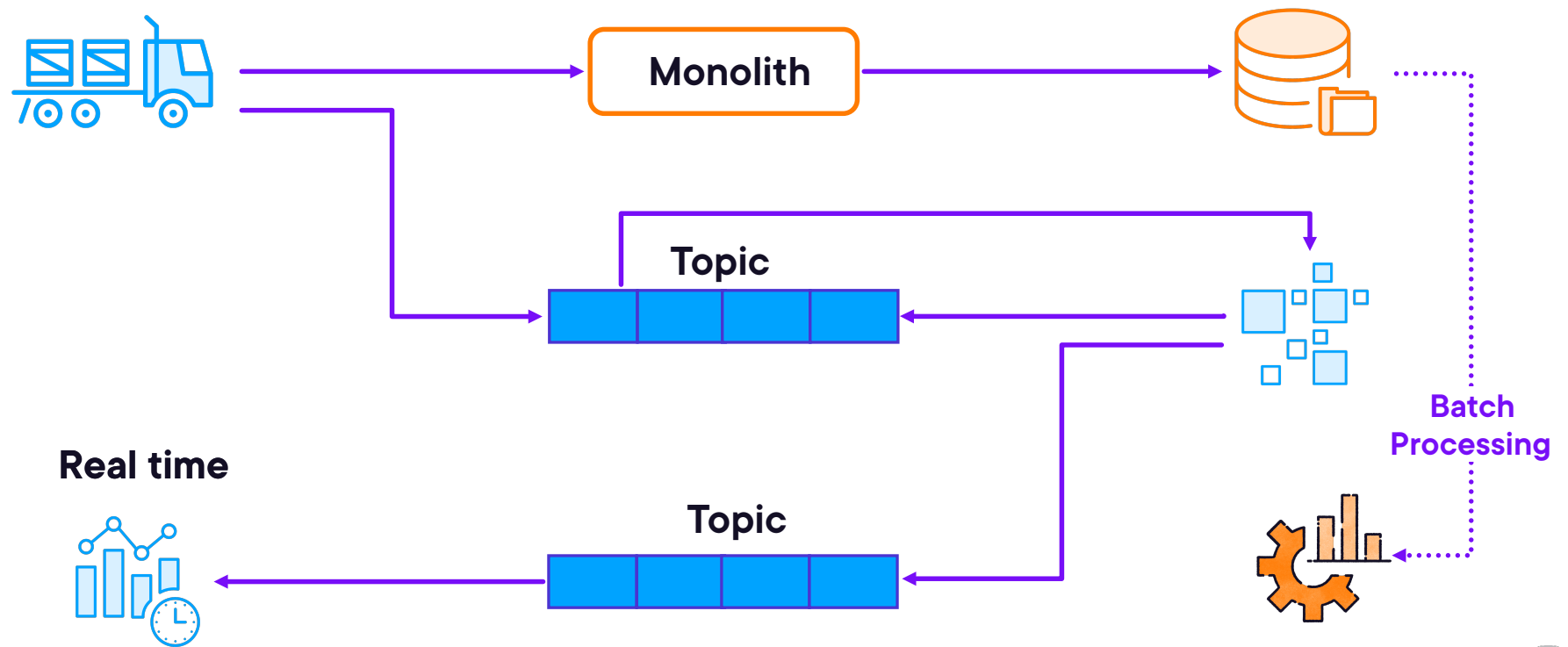
Kafka Connect
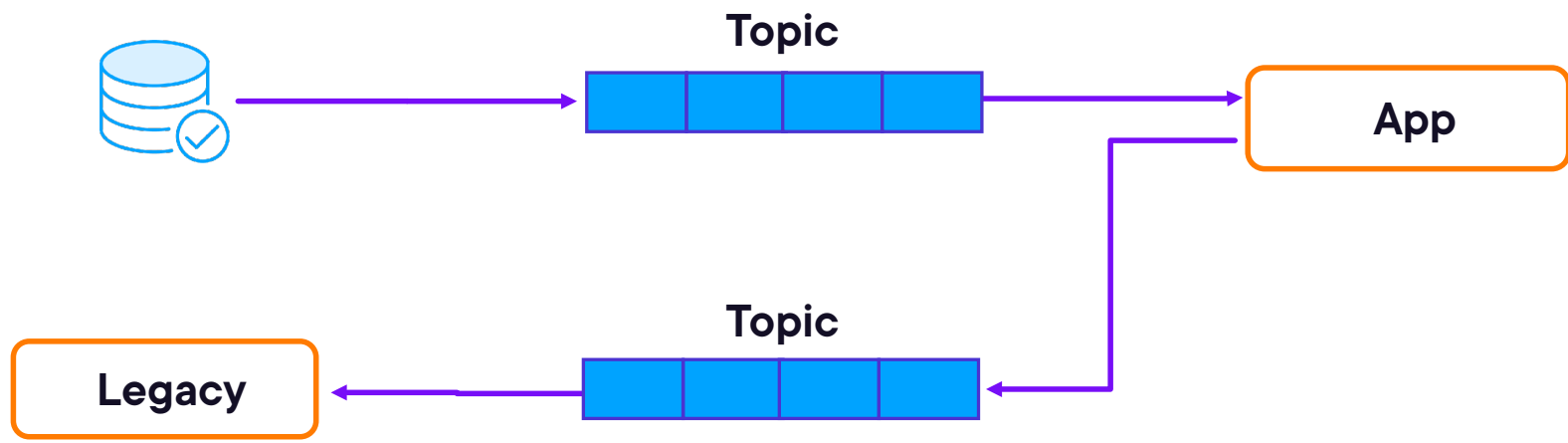
Single Partition Topic

Offsets

0   1   2   N

| M1 | M2 | | | | Mn |
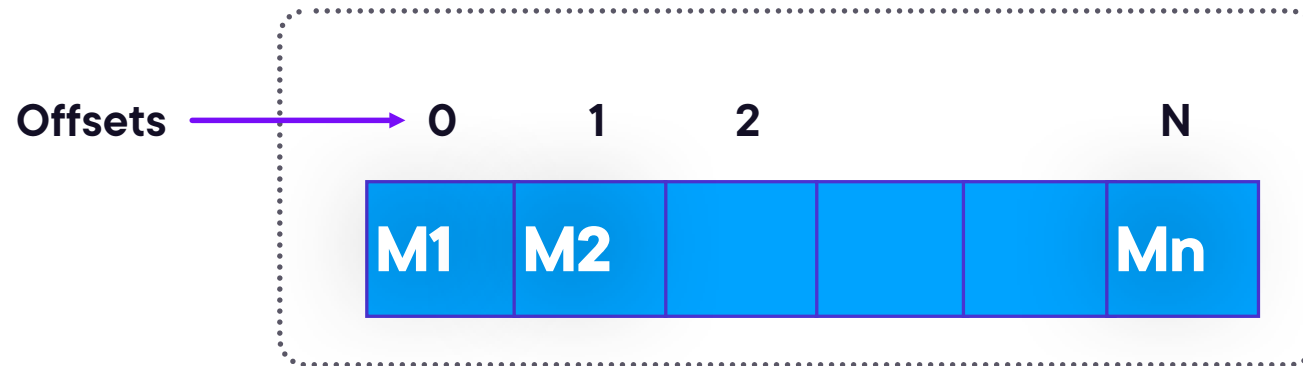
Topic with Three Partition

Partition 0

0	1	2	3	4	5

Partition 1

0	1	2	3	4	5

Partition 2

0	1	2	3	4	5