



Confluent Federal - Data Streaming Platform for Government & DoD Mission Readiness

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Agenda

- 01 Introduction to Confluent
- 02 Why Confluent/Key Pillars
- 03 Deployment Options
- 04 Common Use Cases
- 05 Q&A

We are the pioneers
and experts in data
streaming



Created by the founders of Confluent

Evolved into the world's leading
data streaming platform

Why Confluent?

Mission Speed: No need for DIY integration

- 200+ Pre-Built Connectors
- Over 1 Million Engineering Hours

Edge-to-Core Continuity

- DDIL to Cloud

Security Posture

- RBAC, ABAC, PBAC
- FIPS 140-2

Battle-Tested Observability

- End-to-end tracing

Real-Time Schema Enforcement and Evolution

- Schema registry, Data Governance

Battle Proven across the DoD

- Deployed on-prem, air gapped, cloud (any CSP)

Data is the Fuel for a Modern Businesses...



Payments Processing

Transaction Authorized
10/20/2020 7:34 PM CST
User (sometimes) / Source(Always)
[Show Transaction History](#)

Purchase Amount

Subtotal	\$40.00
Tax	\$4.41
Shipping	\$10.00
Total	\$54.41

Payment Method: 1115 **VISA**

Sale ID: NT-923232533

Account Information: [View Account](#)

Name: Barbara Wilson

[Refund](#)

[Email Receipt](#)

Loyalty Rewards

Search Walmart

Rewards Center

\$12.75 Rewards balance | **\$12.75** Lifetime Earnings

Saved Rewards
\$7.75 potential earnings

[View all saved rewards](#)

Rewards Center Tools

Earn or redeem rewards
Scan QR code at checkout or scan receipt barcode.

Browse rewards by department
[View all](#)

Pharmacy

Personalized Recommendations

Everyday store prices • Earning with Fresh Membership

Search Fresh Grocery

Delivery | Pickup **55min**

Tons of deals in one tap
Curated for you and updated daily
[See deals](#)

Buy It Again

+ +

\$1.99/lb Apple per lb | **\$6.99** Avocado 8 ct. | **\$7.99** Donuts 12 ct.

Because you bought oat milk

Almond milk

+

Real-time Trades

GME

GameStop
\$450.25

▲ **\$199.53** (134.84%) Today
▲ **\$102.74** (29.56%) After-Hours

1D 1W 1M 3M 1Y 5Y

Today's Volume: 93,395,512

[Trade](#)

Fraud Detection

AT&T 8:44 PM 52%

227-663

Text Message Today 6:16 PM

Hi, it's Capital One. Did you just try to make this purchase with your card ending in 2315? Text back "yes" or "no" to let us know.

WM SUPERCENTER #1973 \$317.50

Please respond to help protect your account. Thanks!

[Yes](#)

Great! That's all we need to know. If your purchase was declined, try it again now.

To check if your purchase went through and get answers to other account questions, ask

Text Message

Top Fortune 500 Companies Use Confluent

9 OUT OF **10**

TRAVEL & RETAIL

10 OUT OF **10**

BANKING

8 OUT OF **10**

INSURANCE

7 OUT OF **10**

ENTERTAINMENT

9 OUT OF **10**

TECHNOLOGY

4 OUT OF **10**

HEALTHCARE

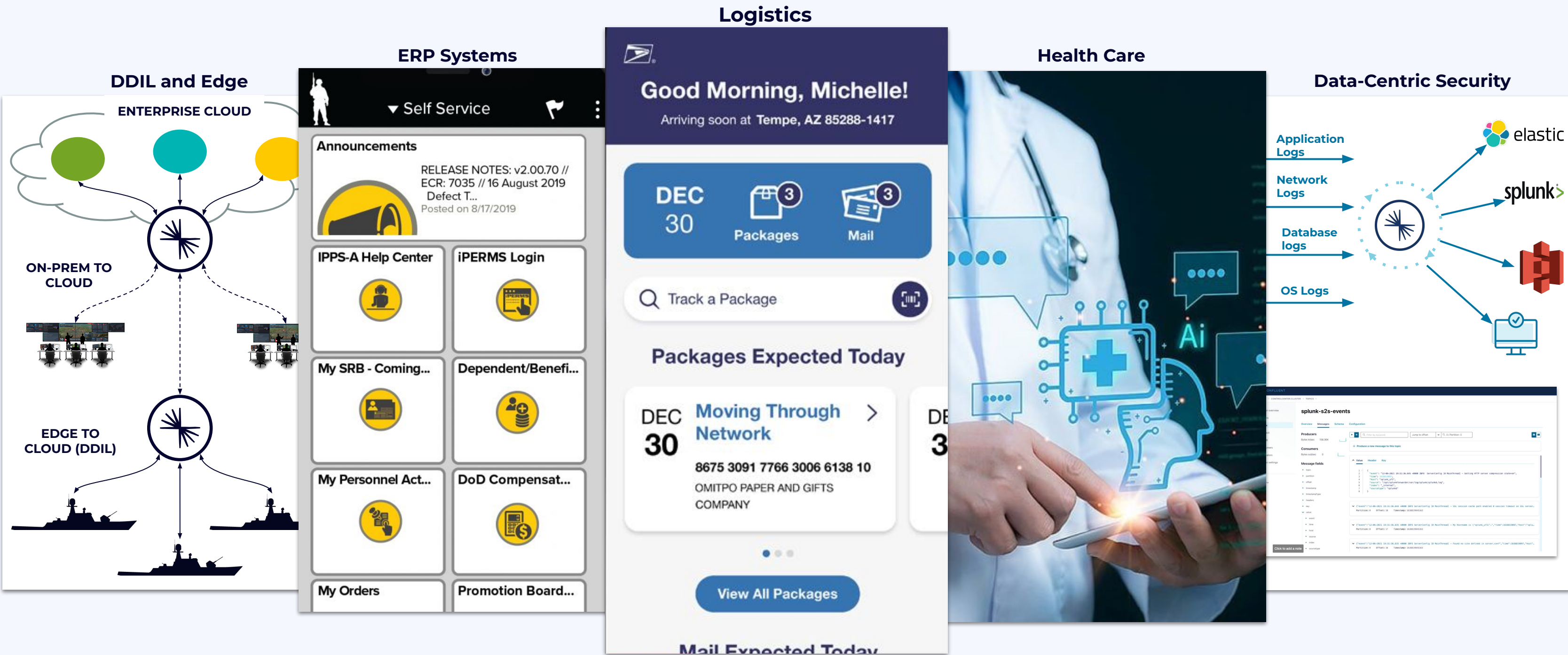
7 OUT OF **10**

AUTO & TRANS.

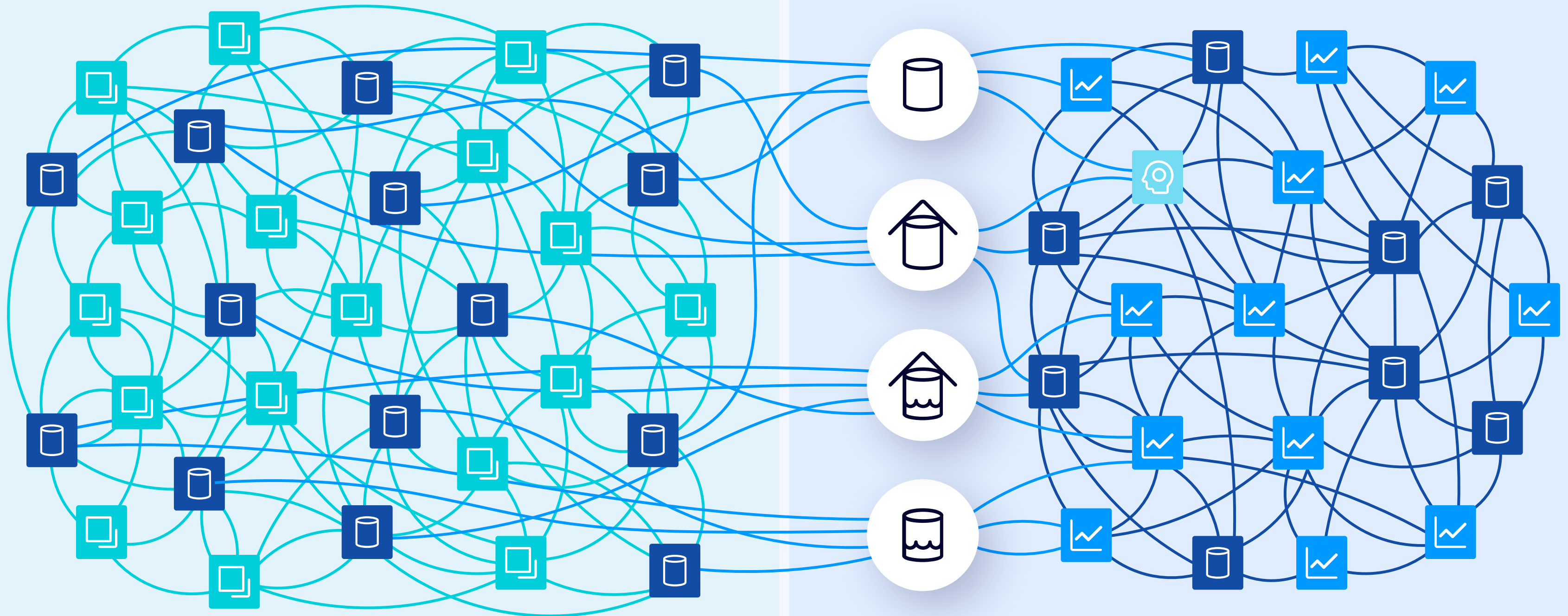
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TELECO

Data-driven Solutions for Critical Government Applications



As Data Needs Multiplied, Data Complexity Escalated

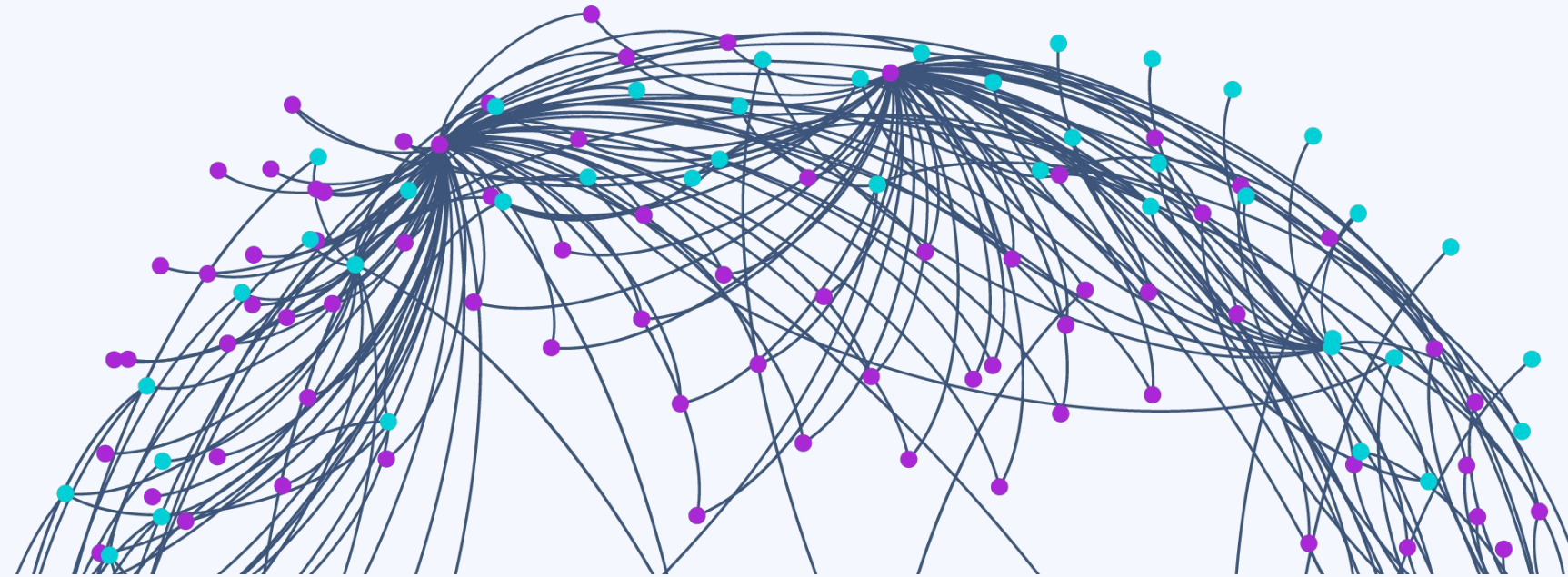


OPERATIONAL ESTATE

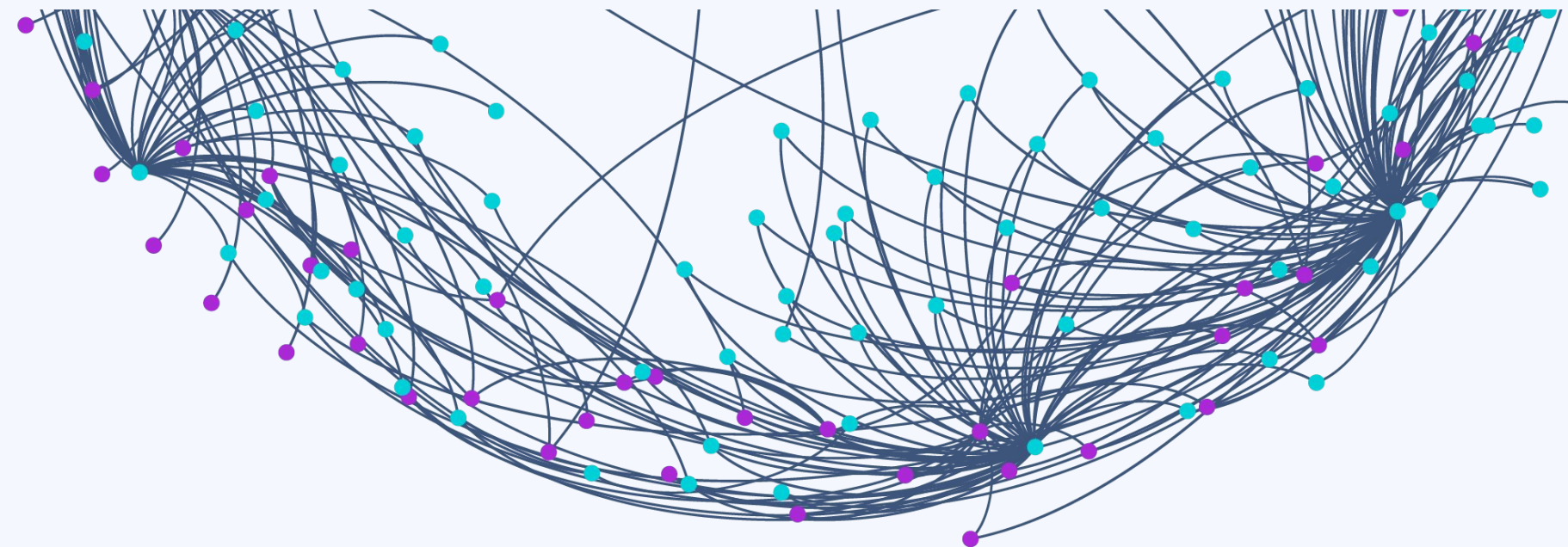
Serve the needs of applications to transact with customers in real-time

ANALYTICAL ESTATE

Support after-the-fact business analysis and reporting for various stakeholders

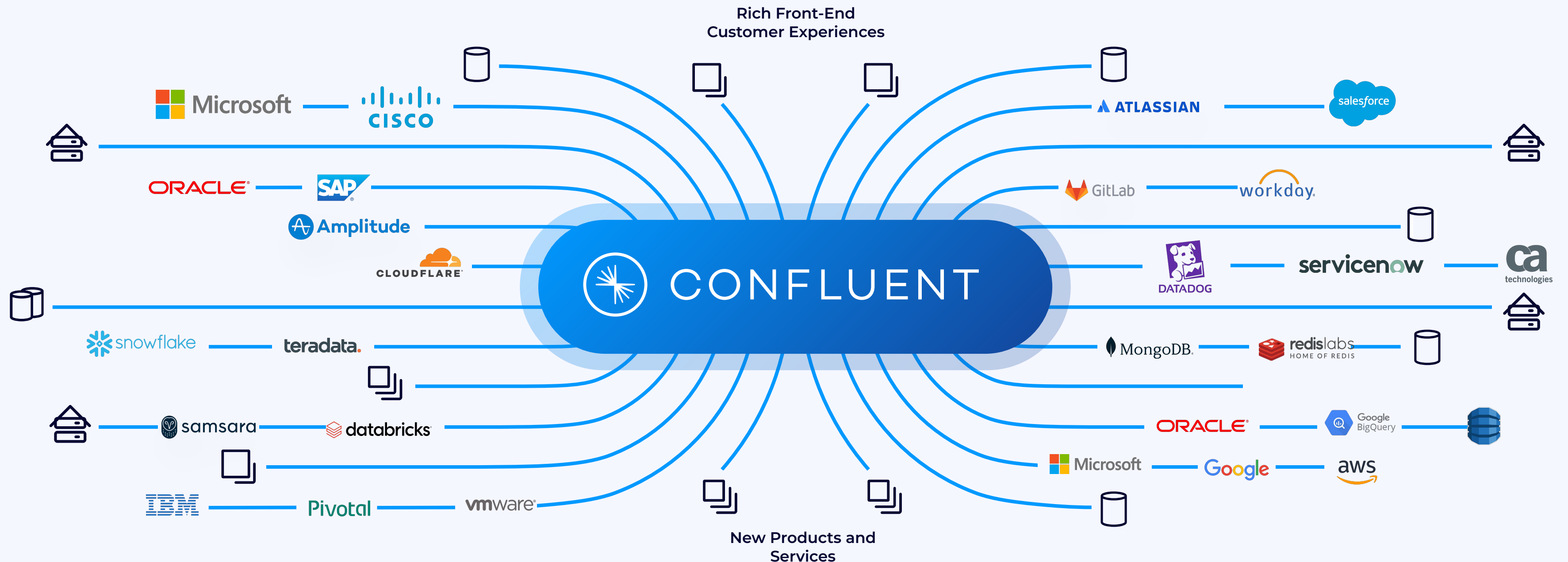


**Unlocking Data and Analytics
is Much Harder than it Should Be**



A New Paradigm to Democratize Data

Continuously ingest, process, govern and share streams of data in real-time



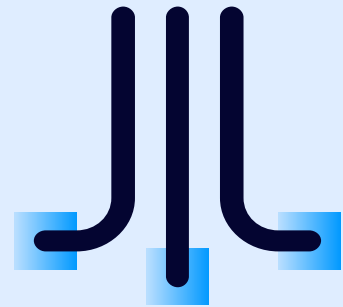


Why Confluent / Key Pillars

Confluent Is So Much More Than Apache Kafka

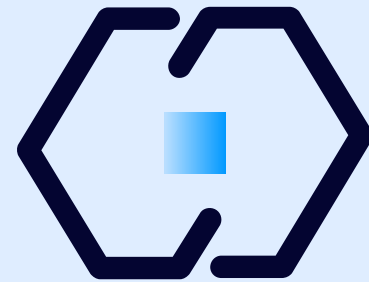


STREAM



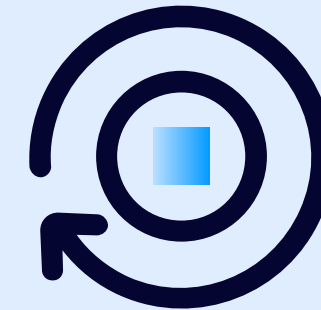
Reimagine data streaming everywhere, on-prem and in every major public cloud

CONNECT



Make it easy to on-ramp and off-ramp data from existing systems and apps

PROCESS



Drive greater data reuse with always-on stream processing

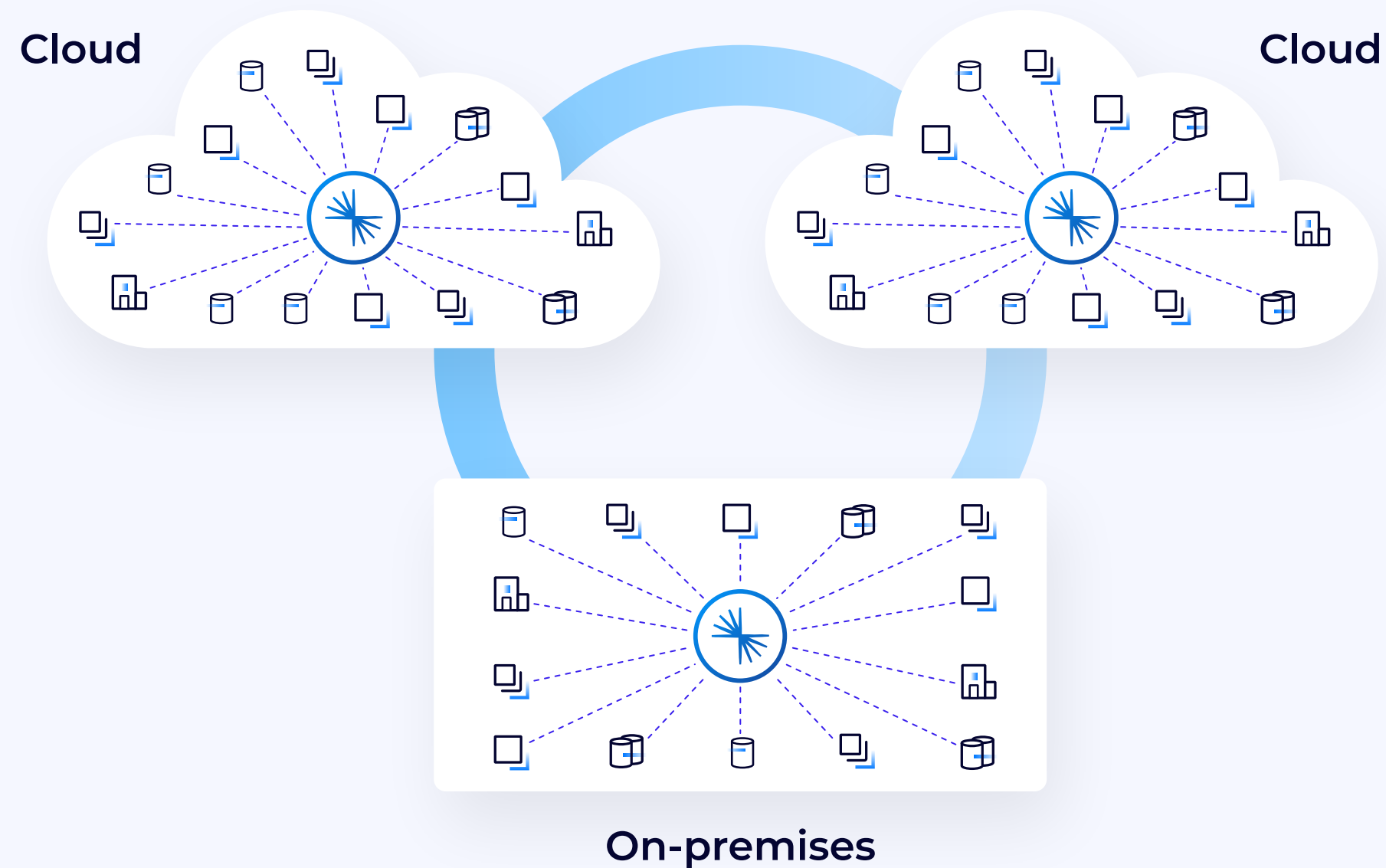
GOVERN



Make data in motion self-service, secure, compliant and trustworthy



Connect and Share your Data Everywhere



Run Anywhere

Run Unified

Run Consistently

Supporting any combination of on-prem, hybrid cloud and multicloud deployments for real-time data interoperability

Seamlessly Connect your Data and Apps Everywhere they Reside

Public Cloud

Leverage a fully managed service with **Confluent Cloud** across AWS, GCP, and Azure

Private Cloud & On-Prem

Deploy on premises on Kubernetes, VMs, or bare metal

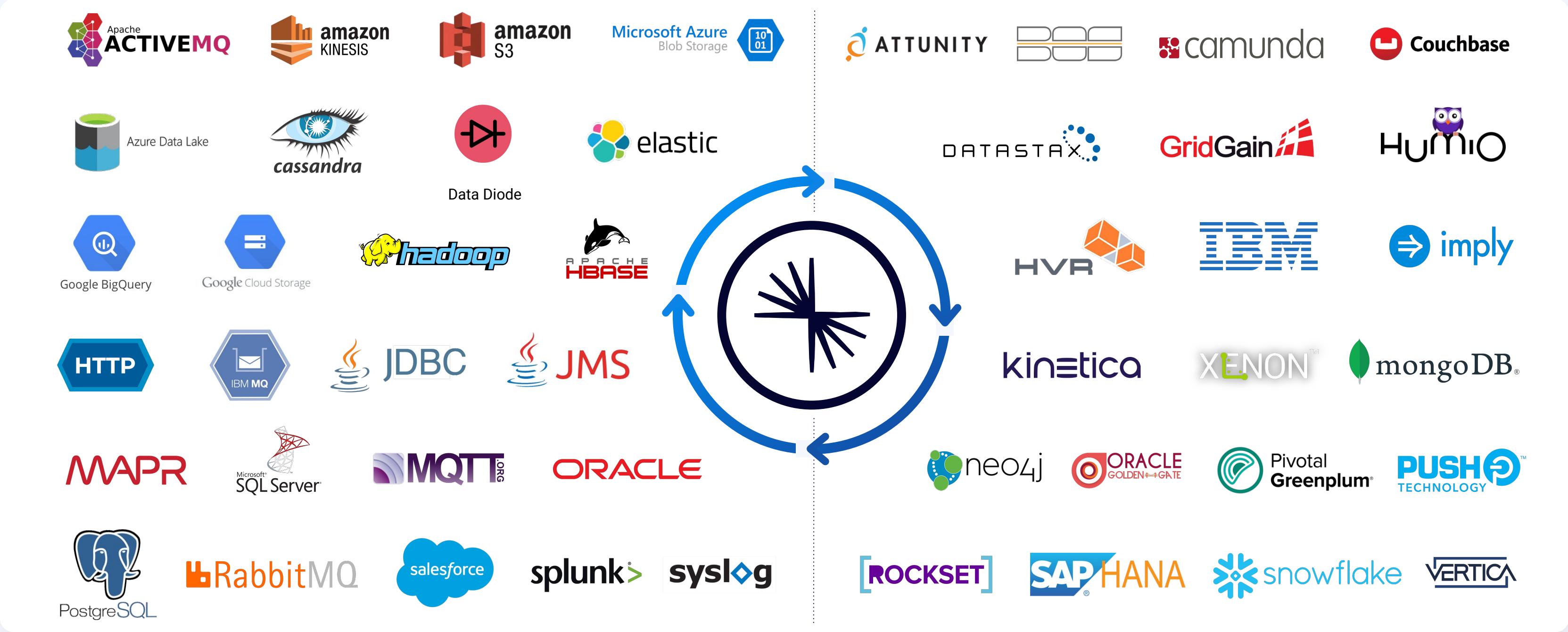
Edge Deployment

Leverage **Cluster Linking** for data sharing from the edge, on-prem, or in the cloud

Hybrid Cloud & Multicloud

Seamlessly build a persistent bridge from datacenter to cloud and across clouds

Unlock Real-time Value From Existing Systems and Applications with Ease



Pre-built Connectors

Use 120+ self-managed and 70+ fully managed zero-code connectors for instant connectivity from and to existing data systems

Custom Connectors

Bring your own connector and run it confidently and cost-effectively on our fully managed cloud service

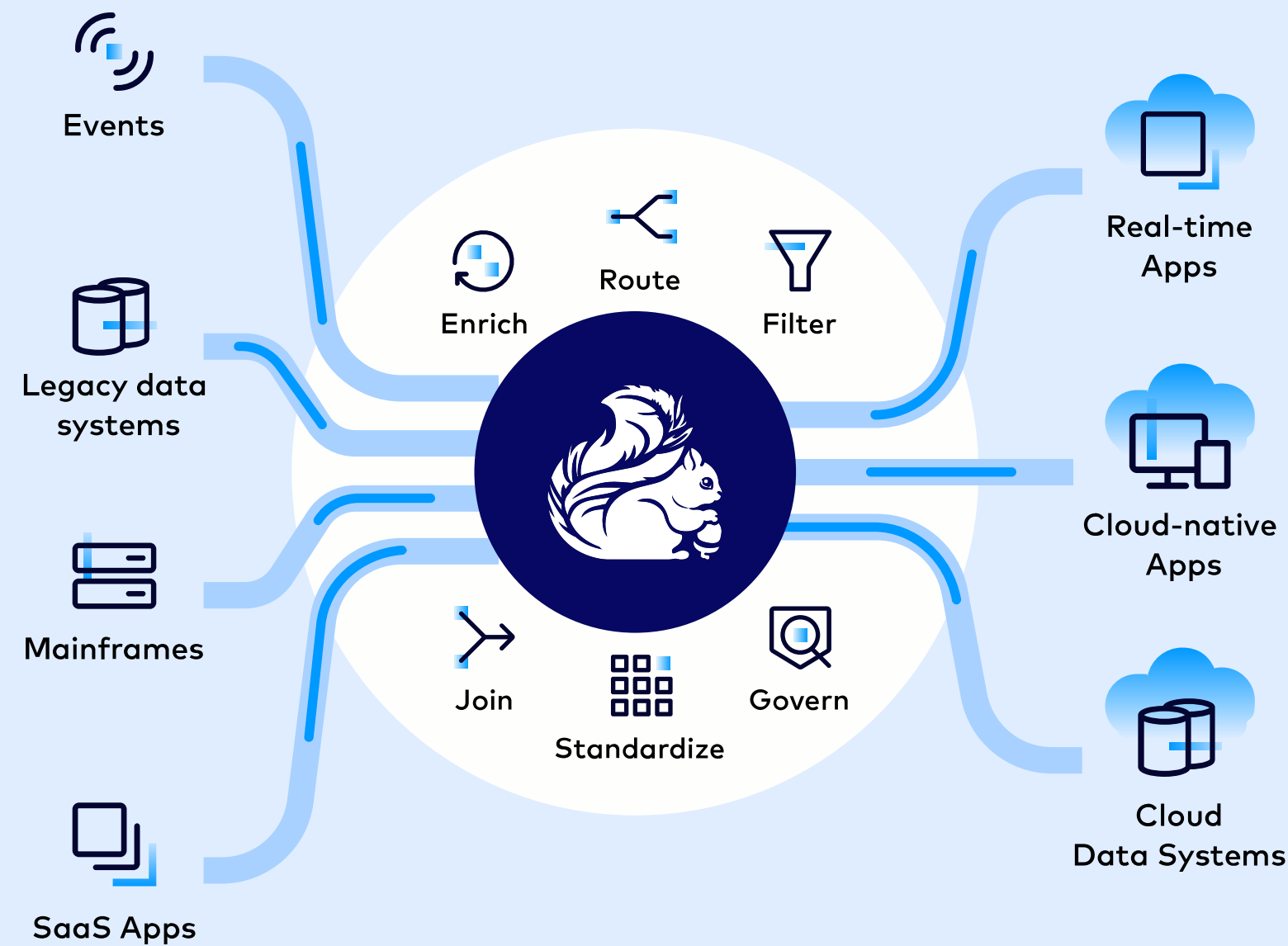
Native Integrations

Enjoy instant access to streaming data directly within popular platforms, so you never have to leave the tool of your choice

Process and Shape Data As It's Generated For Greater Reuse



Process your data once, process your data right



Data enrichment

Curate, filter, and augment data on-the-fly with additional context to improve completeness and accuracy



Data reusability

Share consistent and reusable data streams widely with downstream applications and systems



Real-time everywhere

Power low-latency applications and pipelines that react to real-time events, as and when they occur



Lower costs

Improve resource utilization and cost-effectiveness by avoiding redundant processing across silos

Flink growth has mirrored the growth of Kafka, the de facto standard for streaming data

>**75%** of the Fortune 500 estimated to be using Kafka

>**100,000+** orgs using Kafka

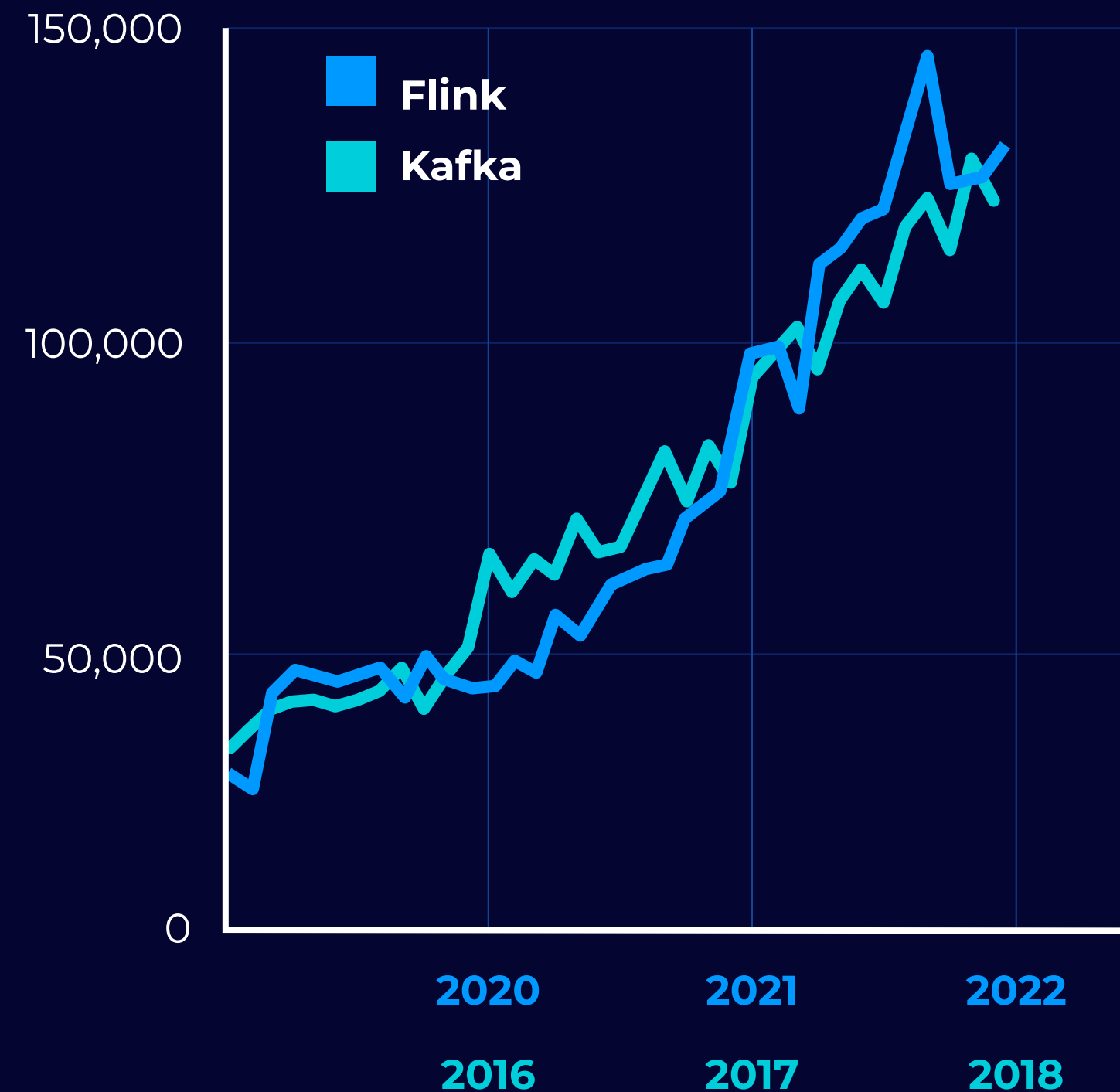
>**41,000** Kafka meetup attendees

>**750** Kafka Improvement Proposals

>**12,000** Jiras for Apache Kafka

Two Apache Projects, Born a Few Years Apart

Monthly Unique Users





Stream Confidently with Robust Security, Privacy, Compliance and Observability

Rich identity, access and confidentiality controls

End-to-end encryption, granular role based access controls, BYOK and cloud-native authentication methods

Integrations with market leading observability tools

Built-in integrations into tools such as Datadog, Prometheus, Dynatrace, Grafana Cloud and New Relic

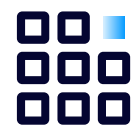
Native infrastructure health checks and audit controls

Central management of environment health, automated load rebalancing, built-in audit logs and health reports

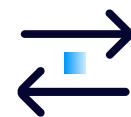
Compliance with industry regulations

Certified for ISO 27001, ISO 27701, SOC I, SOC II and SOC III, PCI, CSA, TISAX, and HITRUST; GDPR, CCPA, HIPAA ready and Financial Service Regulation Compliance

DATA CONTRACT



Structure
Schema



Integrity constraints
Data quality rules



Metadata
Tags, kv pairs



Policies
Field-level encryption



Evolution
Migration rules

Client-Side Field Level Encryption (CSFLE)

Protect your most sensitive data by encrypting individual fields within messages to achieve a high level of security and compliance

1 Tag schema fields

```
{
  ...
  {
    "name": "customerName",
    "type": "string",
    "confluent.tags": [
      "PII", "OII"
    ]
  }
}
```

2 Define an encryption policy (*)

```
...
"ruleSet": {
  "domainRules": [
    {
      "name":
        "encryptPII",
      "type": "ENCRYPT",
      "tags": ["PII"],
      "params": {
        "encrypt.kek.name":
          "mykek"
      }
    }
  ]
}
```

* On new or existing schemas via UI, CLI or API
* Customer can grant Confluent access to master key

3 Configure the Customer Master Key and produce with Kafka serializers

Client properties (aws example):
`rule.executors=aws`
`rule.executors.aws.class=io.confluent.kafka.schemaregistry.encryption.aws.AwsFieldEncryptionExecutor`

Serializers:
`KafkaAvroSerializer`
`KafkaProtobufSerializer`
`KafkaJsonSchemaSerializer`



Improve security of sensitive data and adhere to strict compliance requirements



Maintain flexible and granular access control of which specific fields to encrypt

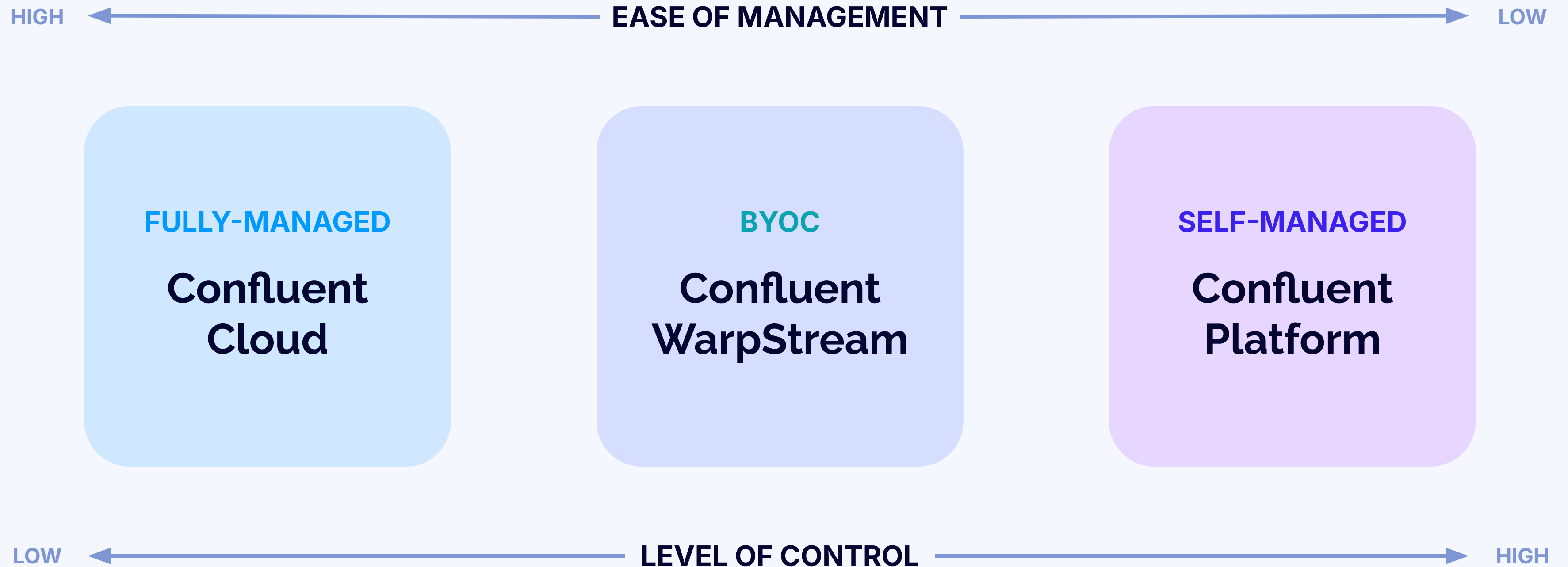


Lower total cost of ownership and operational complexity by reducing the need for topic duplication



Deployment Options

Confluent offers cost-effective options based on your use case and streaming needs that you can mix and match

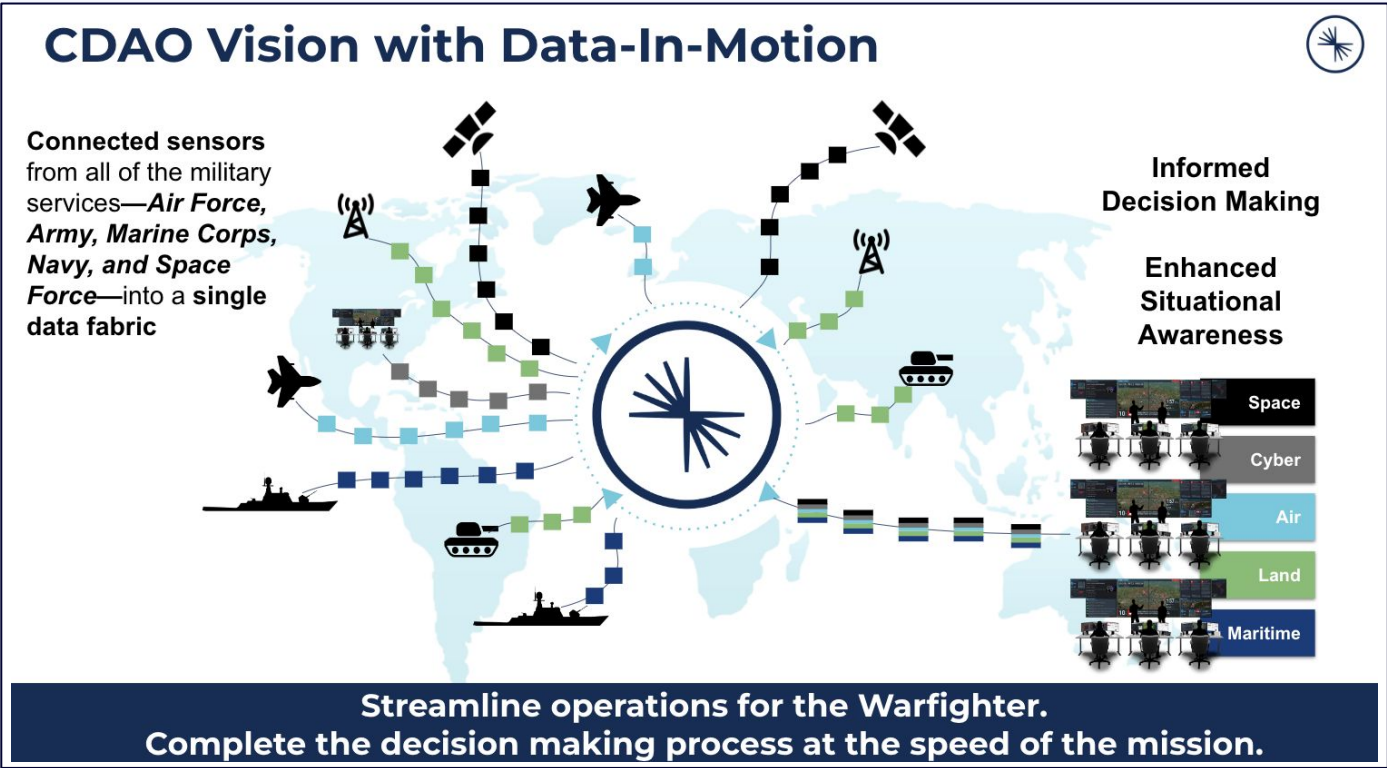




Common Use Cases

Use Cases Deployed Across the DoD

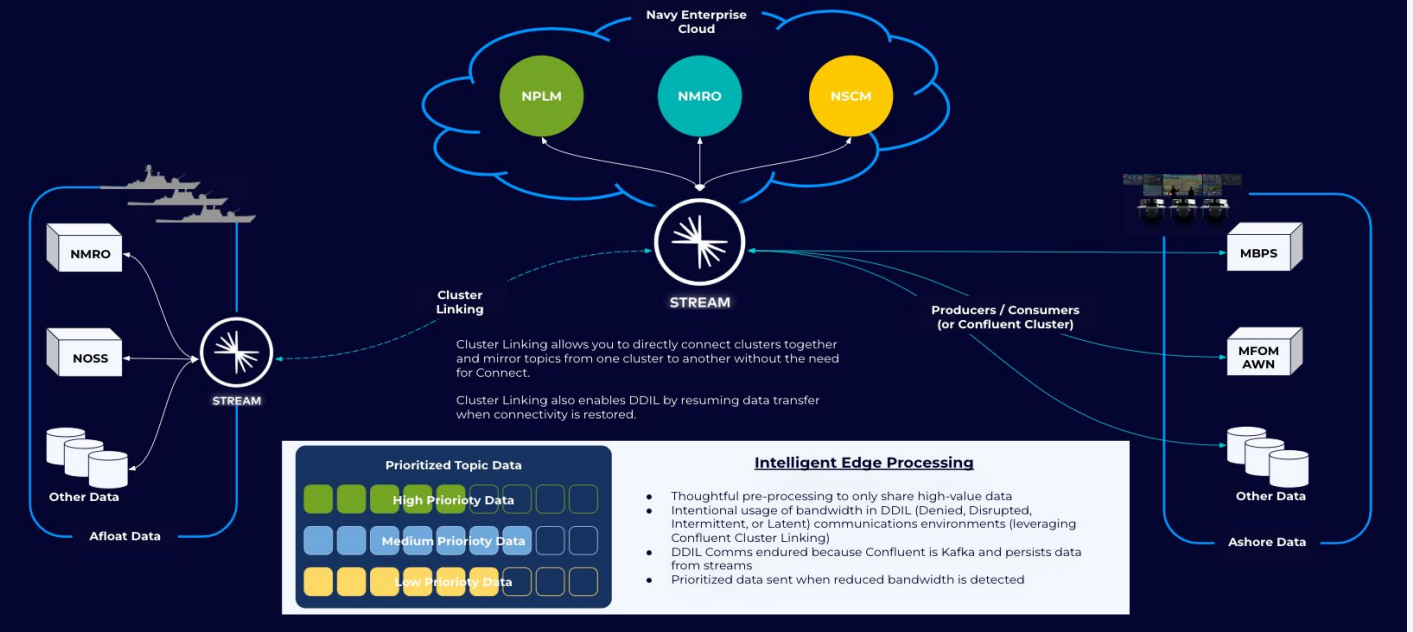
Joint Operations



Confluent: Empowering DDIL Environments

Providing Ship-to-Ship, Ship-to-Shore, Ship-to-Cloud Connectivity in DDIL Environments

Logistics



DoD Enterprise ERP Systems powered by Confluent

Connect data systems in real time

Confluent powers Army IPPS-A connecting over 50 disparate systems and supporting of 1.5 million soldiers

```
CREATE TABLE PAYROLL_ENRICHED AS SELECT
  p.SSN AS SSN,
  p.FIRST_NAME AS FIRST_NAME,
  p.LAST_NAME AS LAST_NAME,
  p.GENDER AS GENDER,
  p.HOME_STREET_ADDRESS AS HOME_STREET_ADDRESS,
  p.HOME_CITY AS HOME_CITY,
  p.HOME_STATE AS HOME_STATE,
  p.HOME_COUNTRY AS HOME_COUNTRY,
  p.RANK AS RANK,
  m.SALARY AS SALARY,
  m.WEEKLY_PAY AS WEEKLY_PAY
FROM PERSONNEL_TABLE p
JOIN PAYROLL_TABLE m ON p.SSN = m.SSN
EMI CHANGES;
```

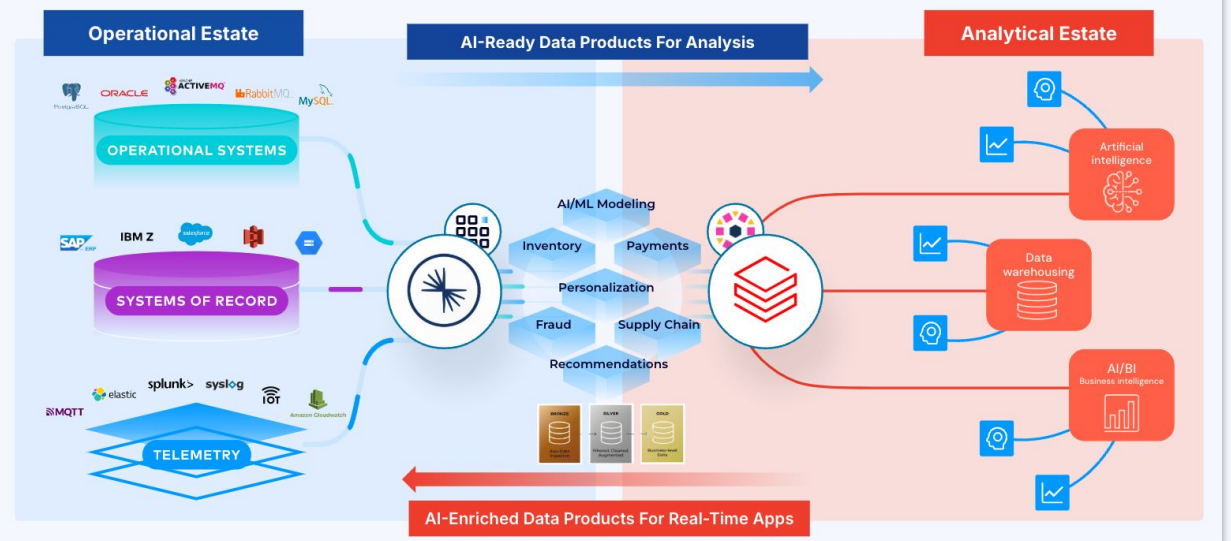
```
CREATE TABLE ALL_ENRICHED AS SELECT
  p.SSN AS SSN,
  p.FIRST_NAME AS FIRST_NAME,
  p.LAST_NAME AS LAST_NAME,
  p.GENDER AS GENDER,
  p.HOME_STREET_ADDRESS AS HOME_STREET_ADDRESS,
  p.HOME_CITY AS HOME_CITY,
  p.HOME_STATE AS HOME_STATE,
  p.HOME_COUNTRY AS HOME_COUNTRY,
  p.RANK AS RANK,
  m.SALARY AS SALARY,
  m.WEEKLY_PAY AS WEEKLY_PAY,
  p.HOME_STREET_ADDRESS AS HOME_STREET_ADDRESS,
  p.HOME_CITY AS HOME_CITY,
  p.HOME_STATE AS HOME_STATE,
  p.HOME_COUNTRY AS HOME_COUNTRY,
  p.RANK AS RANK,
  m.SALARY AS SALARY,
  m.WEEKLY_PAY AS WEEKLY_PAY
FROM PAYROLL_ENRICHED p
JOIN EQUIPMENT_TABLE e ON p.SSN = e.SSN
EMI CHANGES;
```



Enterprise ERP

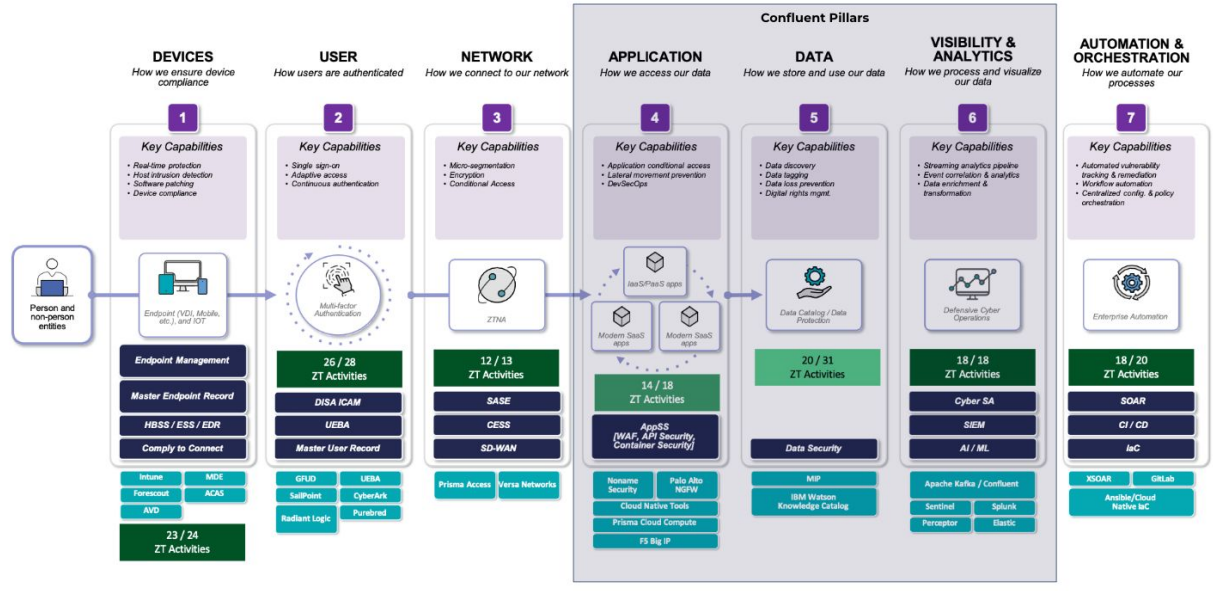
Bridge the Operational/Analytical Data Divide

with a scalable, decoupled and event-centric architecture as a single source of record for high-quality, self-service access to real-time and trustworthy data products



Trustworthy Data Products

DISA Thunderdome ZT Environment

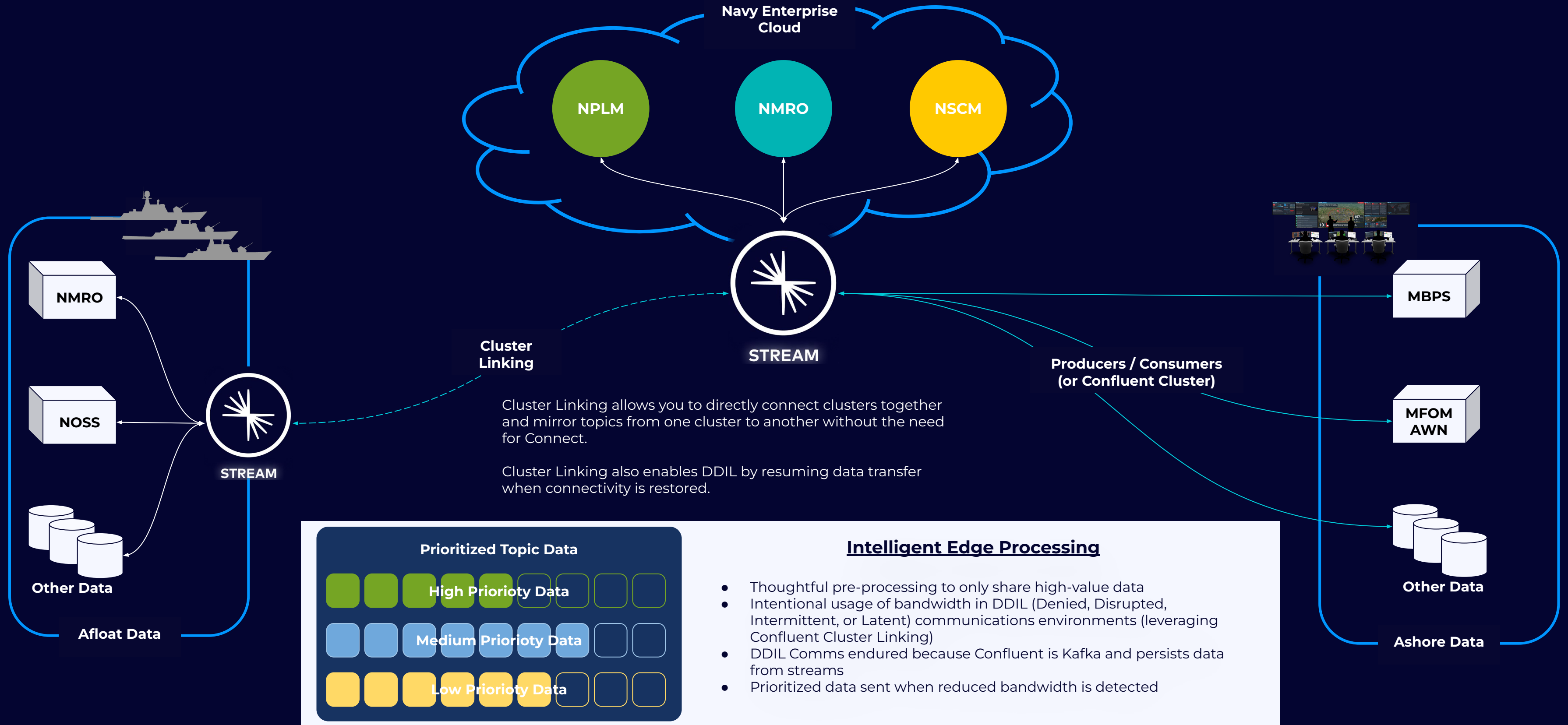


Defensive Cyber Operations and Zero Trust

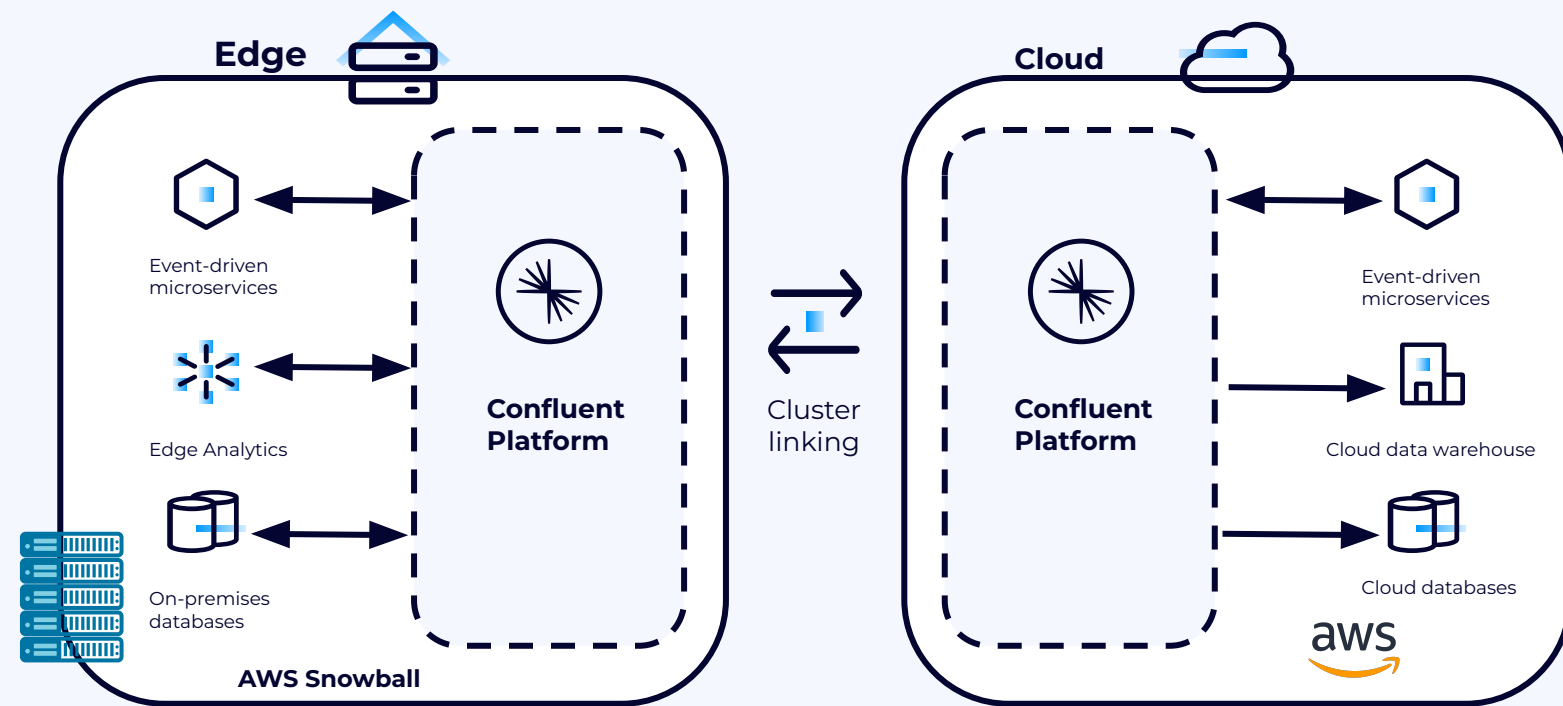
Data Streaming Solutions for Joint Operations, Logistics, ERP, Analytics, DCO, ZT...

Confluent: The Navy Data Streaming Platform

Providing Ship-to-Ship, Ship-to-Shore, Ship-to-Cloud Connectivity in DDIL Environments for PEO MLB

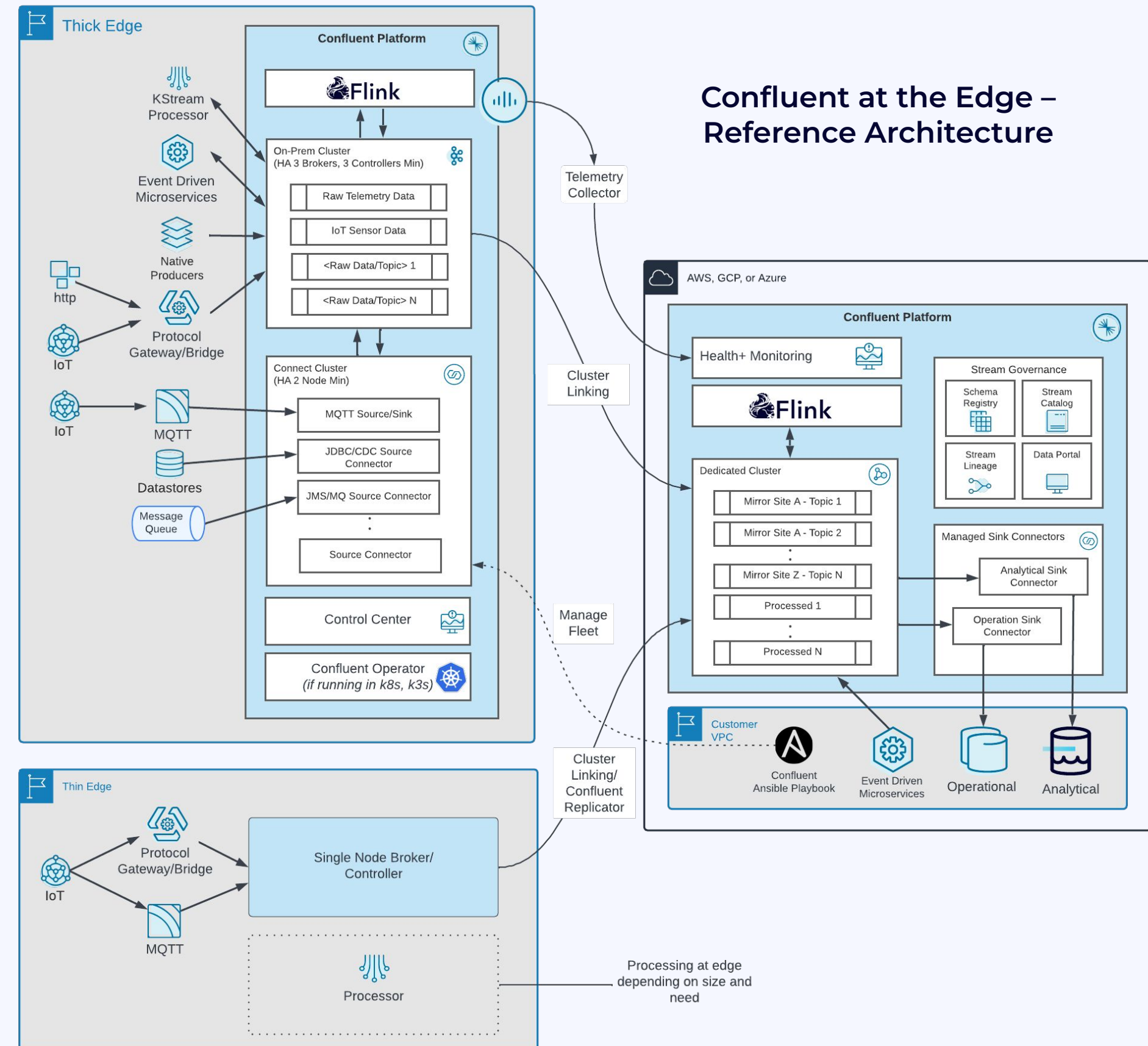


Connecting Edge to the Cloud



Autonomous Vehicle Use Case

- Confluent Platform deployed on an AWS Snowball
- Providing real-time data integration to support mission-critical applications and analytics
- Enables efficient handling of streaming data, for timely insights and operational decision making
- Handles intermittent connectivity at the tactical edge (DDIL)

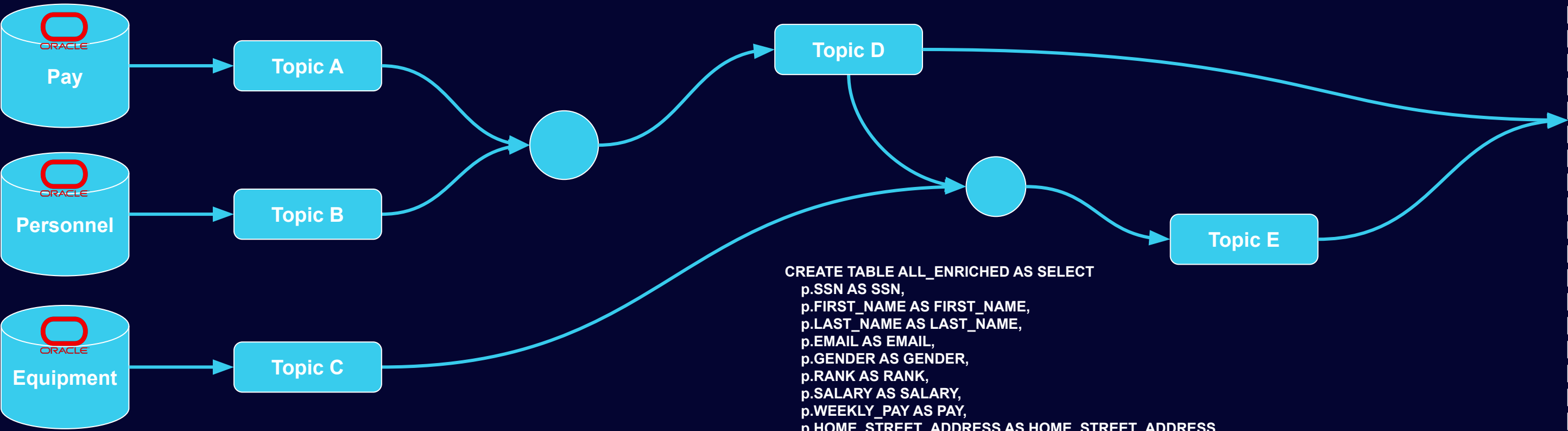


DoD Enterprise ERP Systems powered by Confluent

Connect data systems in real time



Confluent powers Army
IPPS-A connecting over 50
disparate systems and
supporting of 1.5 million
soldiers



```
CREATE TABLE PAYROLL_ENRICHED AS SELECT
  p.SSN AS SSN,
  p.FIRST_NAME AS FIRST_NAME,
  p.LAST_NAME AS LAST_NAME,
  p.EMAIL AS EMAIL,
  p.GENDER AS GENDER,
  p.HOME_STREET_ADDRESS AS HOME_STREET_ADDRESS,
  p.HOME_CITY AS HOME_CITY,
  p.HOME_STATE AS HOME_STATE,
  p.HOME_COUNTRY AS HOME_COUNTRY,
  p.RANK AS RANK,
  m.SALARY AS SALARY,
  m.WEEKLY_PAY AS WEEKLY_PAY
FROM PERSONNEL_TABLE p
JOIN PAYROLL_TABLE m ON p.SSN = m.SSN
EMIT CHANGES;
```

```
CREATE TABLE PAYROLL_TABLE AS SELECT
  SSN,
  LATEST_BY_OFFSET(FIRST_NAME) AS FIRST_NAME,
  LATEST_BY_OFFSET(LAST_NAME) AS LAST_NAME,
  LATEST_BY_OFFSET(SALARY) AS SALARY,
  LATEST_BY_OFFSET(WEEKLY_PAY) AS WEEKLY_PAY
FROM PAYROLL_STREAM
GROUP BY SSN
EMIT CHANGES;
```

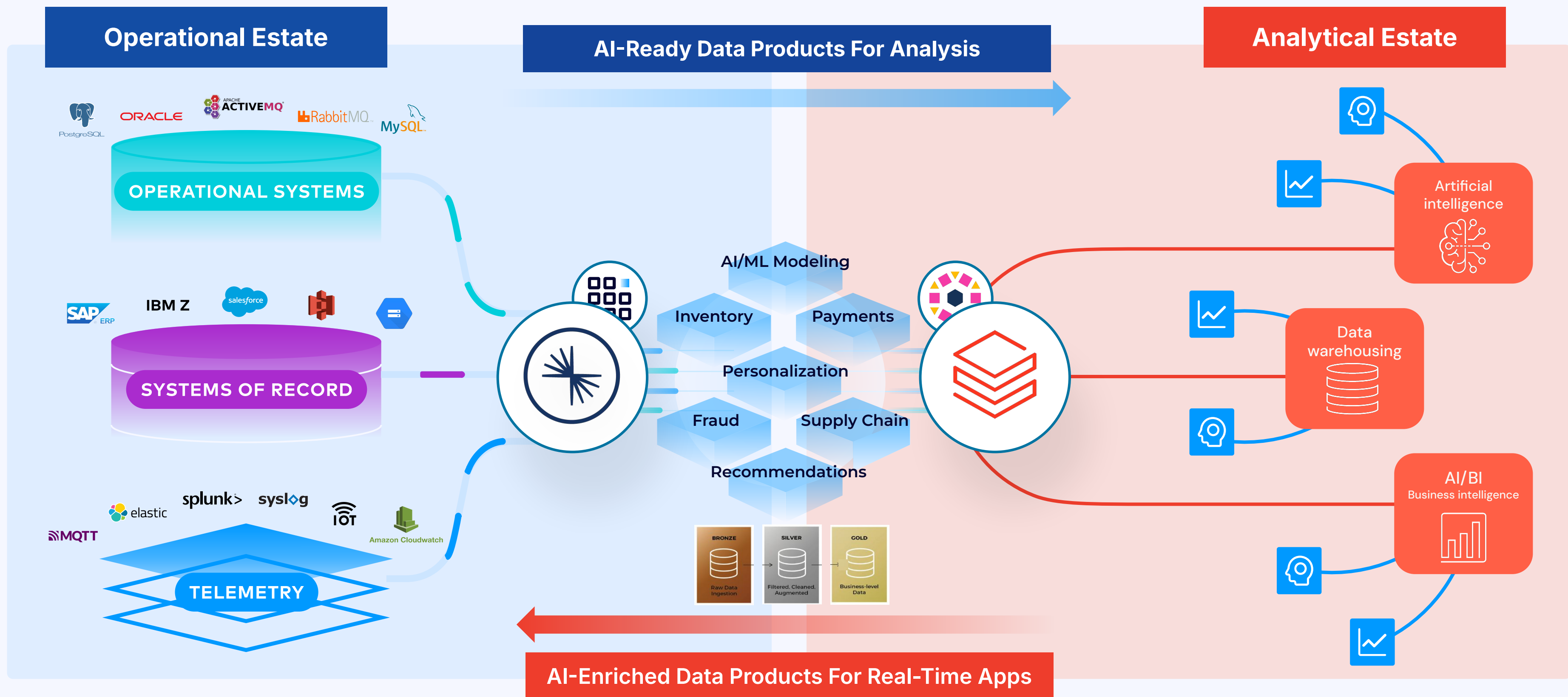
```
CREATE TABLE ALL_ENRICHED AS SELECT
  p.SSN AS SSN,
  p.FIRST_NAME AS FIRST_NAME,
  p.LAST_NAME AS LAST_NAME,
  p.EMAIL AS EMAIL,
  p.GENDER AS GENDER,
  p.RANK AS RANK,
  p.SALARY AS SALARY,
  p.WEEKLY_PAY AS PAY,
  p.HOME_STREET_ADDRESS AS HOME_STREET_ADDRESS,
  p.HOME_CITY AS HOME_CITY,
  p.HOME_STATE AS HOME_STATE,
  p.HOME_COUNTRY AS HOME_COUNTRY,
  d.CURRENT_STREET_ADDRESS AS CURRENT_STREET_ADDRESS,
  d.CURRENT_CITY AS CURRENT_CITY,
  d.CURRENT_STATE AS CURRENT_STATE,
  d.CURRENT_COUNTRY AS CURRENT_COUNTRY
FROM PAYROLL_ENRICHED p
JOIN EQUIPMENT_TABLE d ON d.SSN = p.SSN
EMIT CHANGES;
```

50+ Trading
Partners



Databricks and Confluent Partnership

with a **scalable, decoupled and event-centric** architecture as a **single source of record** for high-quality, self-service access to real-time and trustworthy data products

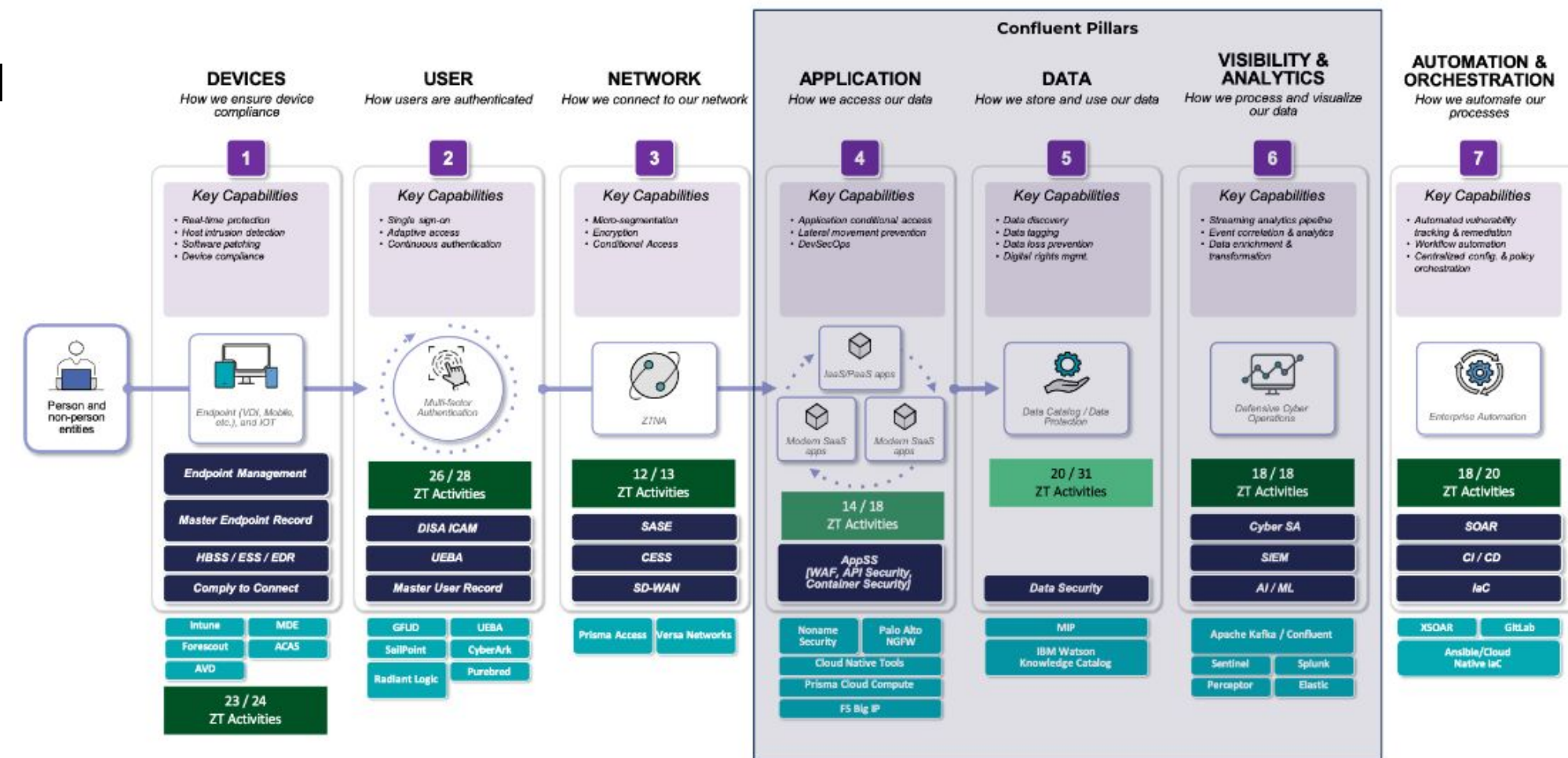


Observability, Cyber Defense & Zero Trust



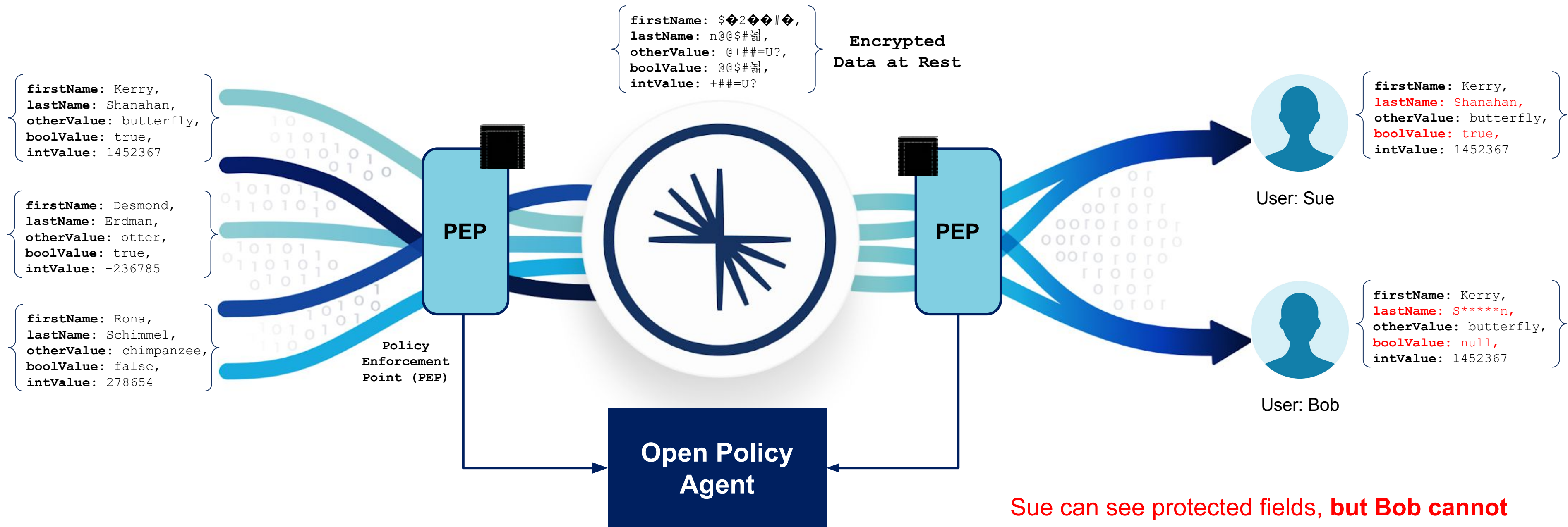
Confluent Capabilities Enable

- Reduced storage, network, and licensing costs
- Enables tiered and cold storage out of the box to support M-21-31 requirements
- Aggregation at the Component and Agency level through Confluent replication
- Enables agencies to leverage their individual cyber investments via connectors
- Makes data available across agencies in realtime
- Provides real time threat detection abilities at edge
- Enables open ecosystem and prevents vendor lock-in
- Built in auditing to support requirements on tracking usage of data
- Provides RBAC and PBAC to lock down data to only those who have a need
- Provides Schema Registry with APIs for sharing of data schemas with consumers



DISA Zero Trust Pillars

Policy-Based Access Control for Data Streaming



Sue can see protected fields, but Bob cannot

lastName and boolValue attributes are marked as protected and are masked and nullified based on the defined policy

```
package classification

# user attributes
user_attributes = {
  "user": { "clearance": ["topsecret", "secret", "topsecret"] },
  "topic": { "clearance": ["topsecret", "secret"] }
}

# topic attributes
topic_attributes = {
  "topsecret": { "lastName": "topsecret", "boolValue": "topsecret" }
}

default allow = false

allow {
  not field_is_present
}

# users may access fields they have proper clearance for
allow {
  user := user_attributes[input.user]
  field_clearance := topic_attributes[input.topic][input.field]
  user_clearance[] == field_clearance
}

field_is_present {
  topic_attributes[input.topic][input.field]
}
```

Rules defined using OPA Rego format

Multitenancy and Monetization



Example Producer Metrics

record-send-total

The total number of records sent.

record-send-rate

The average number of records sent per second.

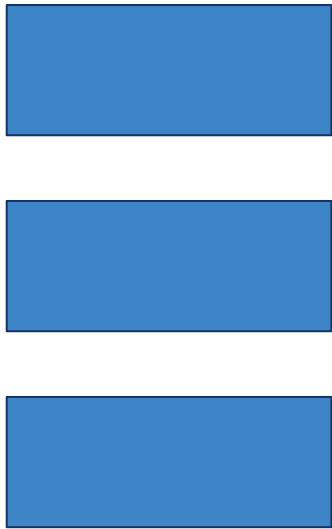
record-size-avg

The average record size.

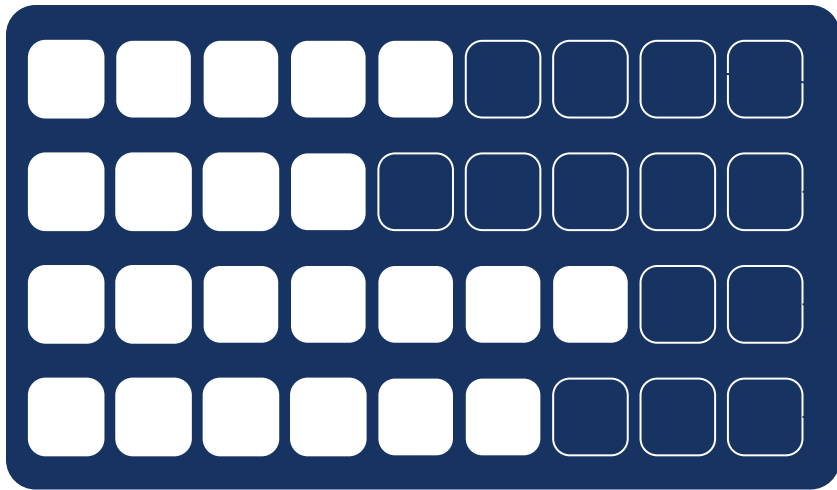
record-size-max

The maximum record size.

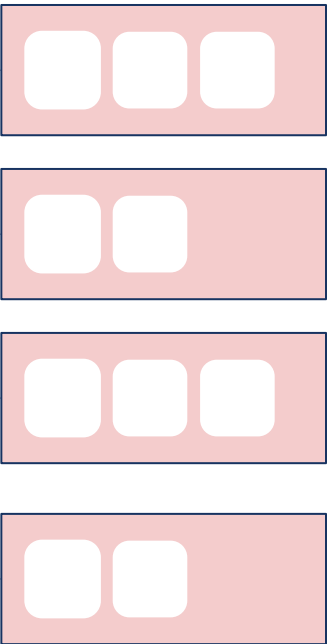
Producers



Brokers



Consumers



Example Consumer Metrics

bytes-consumed-rate

The average number of bytes consumed per second.

bytes-consumed-total

The total number of bytes consumed.

records-consumed-rate

The average number of records consumed per second for a specific topic.

records-consumed-total

The total number of records consumed for a specific topic.

Example Broker Metrics

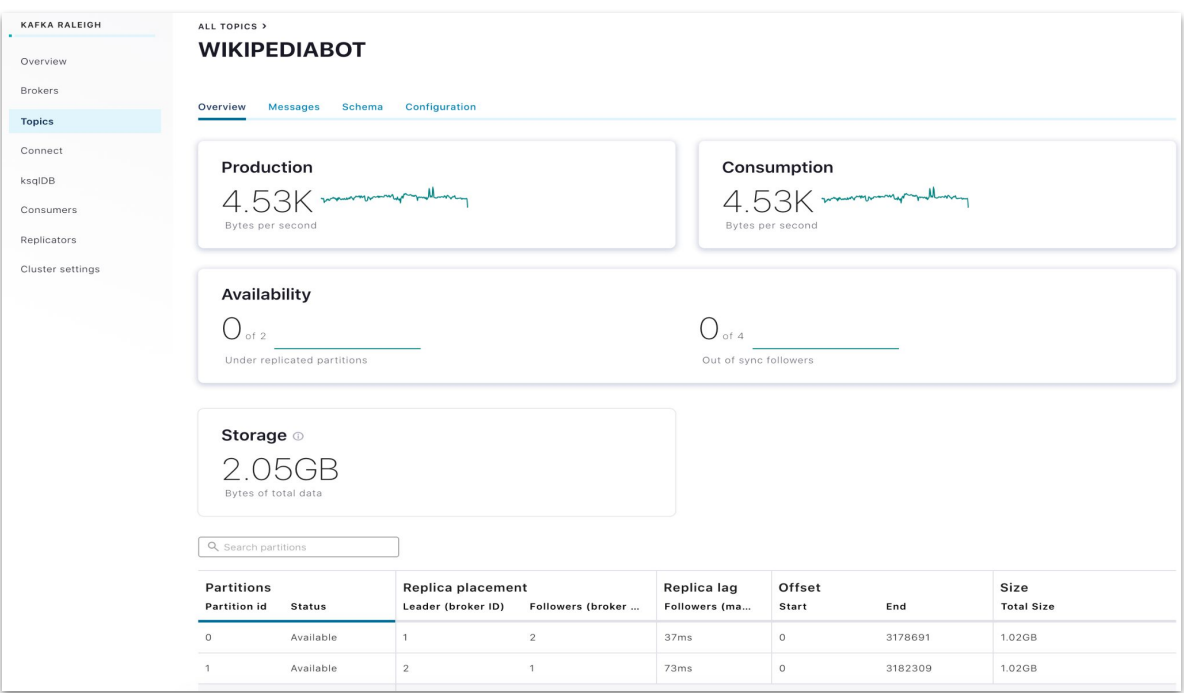
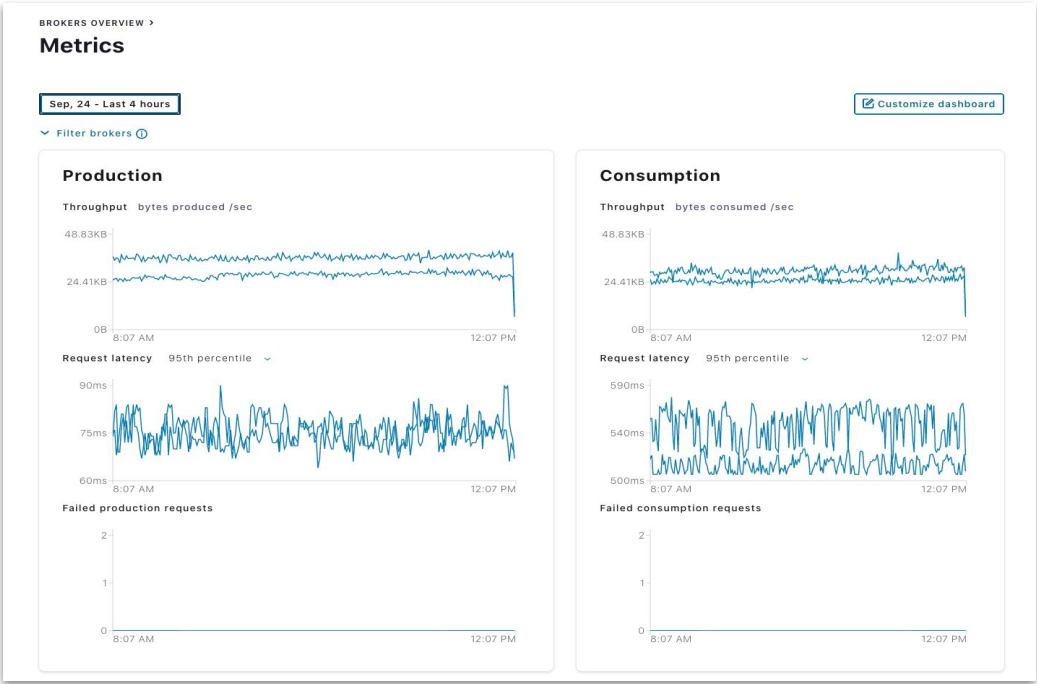
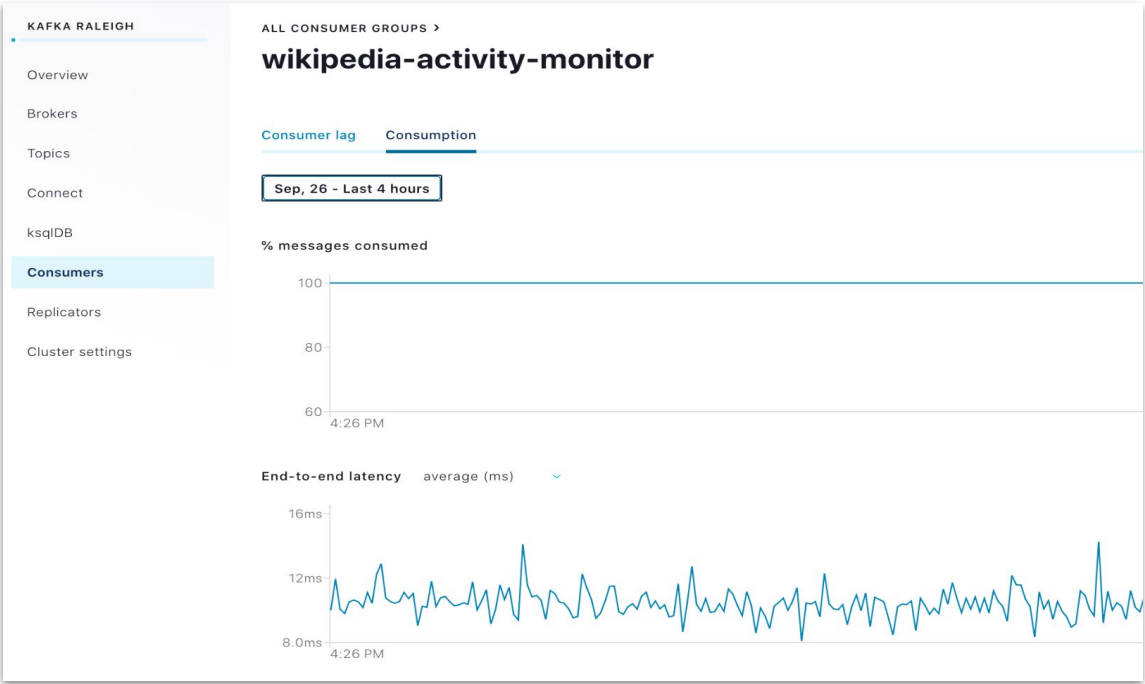
kafka.log:type=Log,name=Size,topic=([-.\w]+),partition=([0-9]+)

The size of a partition on disk (topic storage).

kafka.server:type=ReplicaManager,name=PartitionCount

The partition counts.

Confluent has the ability to enforce quotas on requests to control the broker resources used by clients. Client quotas include network bandwidth and request rates.



Full list of metrics: <https://docs.confluent.io/platform/current/kafka/monitoring.html>

Current | New Orleans

The Data Streaming Event

Registration is Now Open!

New Orleans

October 29-30, 2025

cnfl.io/current

ORGANIZED BY:  CONFLUENT



Current | Agenda at a Glance

Tuesday, October 28

Travel Day to New Orleans
Executive Summit
Executive Summit Reception
Speaker Welcome Reception
Customer Welcome Event
Customer Meetings

Wednesday, October 29

Main Keynote
Breakout Sessions
Lightning Talks
Training & Certification
Meetup Hub
Expo Hall
Networking
Customer Meetings
Current Party
Current Afterparty

Thursday, October 30

Developer Keynote
Expo Hall
Breakout Sessions
Lightning Talks
Training & Certification
Customer Meetings
Meetup Hub
Closing Session



Confluent Federal - Data Streaming Platform for Government & DoD Mission Readiness

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