Red Hat Summit

Connect

Cloudera e OpenShift: democratizzare e modernizzare l'analitica di scala dei dati col piu' avanzato Data Lakehouse del mercato

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CLOUDERA | Red Hat

Red Hat and Cloudera Stronger Together

CLOUDERA

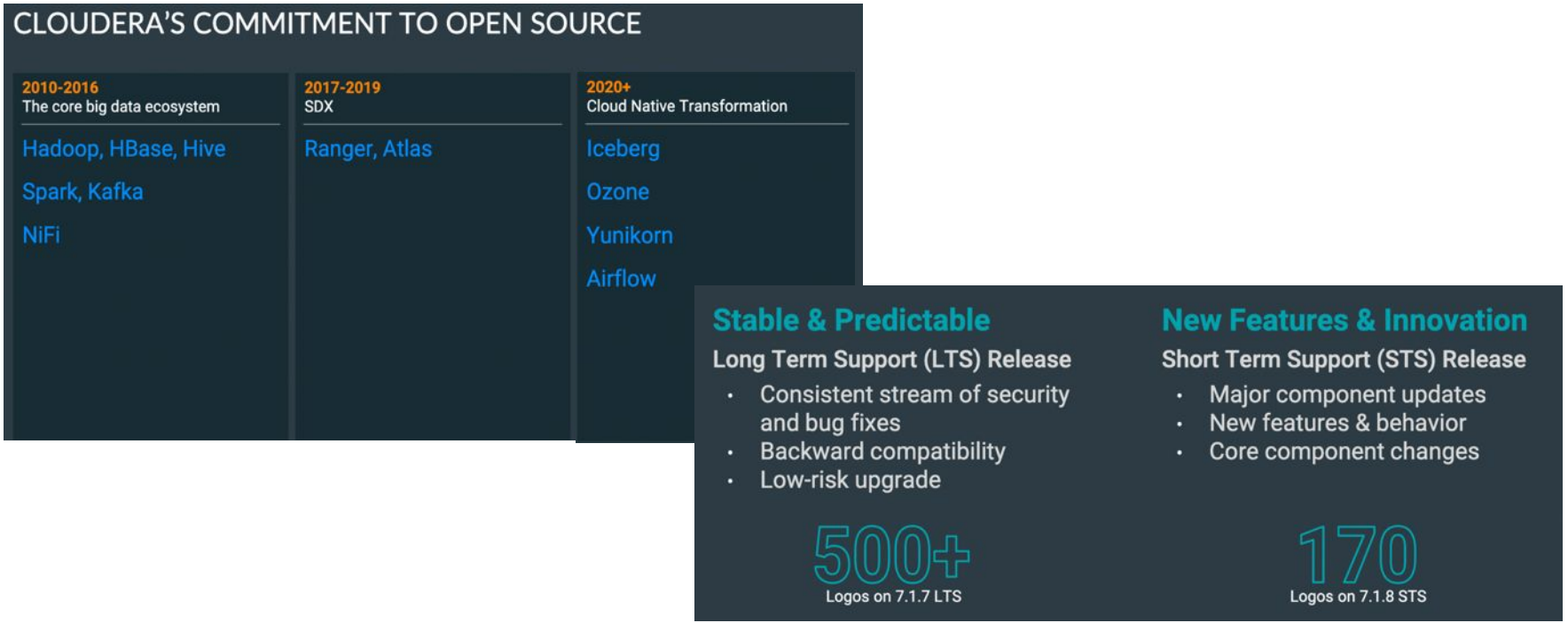
- Cloudera is committed to Open Source
- CDP allows you to streamline and simplify data management with a single pane of glass.
- Cloudera serves 9 of the 10 top customers in financial services, retail, manufacturing, and telco.

Red Hat

- Leader in open source enterprise IT solutions
- Open source driven developer community
- Trusted enterprise IT partner to the Fortune 500

CLOUDERA COMMITS TO OPEN DATALAKE INNOVATION

Driving Community OSS Innovation, not just “using” it



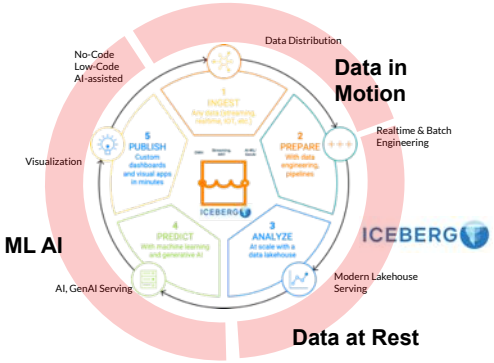
CLOUDERA CDP is a Modern Data Platform, ready for Data-Driven Innovation

Right Technology

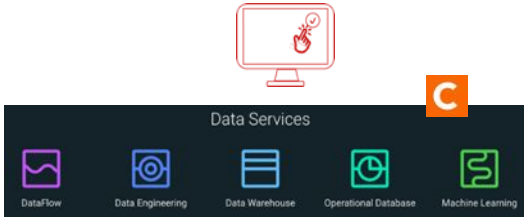
Right Enablers

Right Architecture

Open DataLakehouse



Self Service Data Fabric



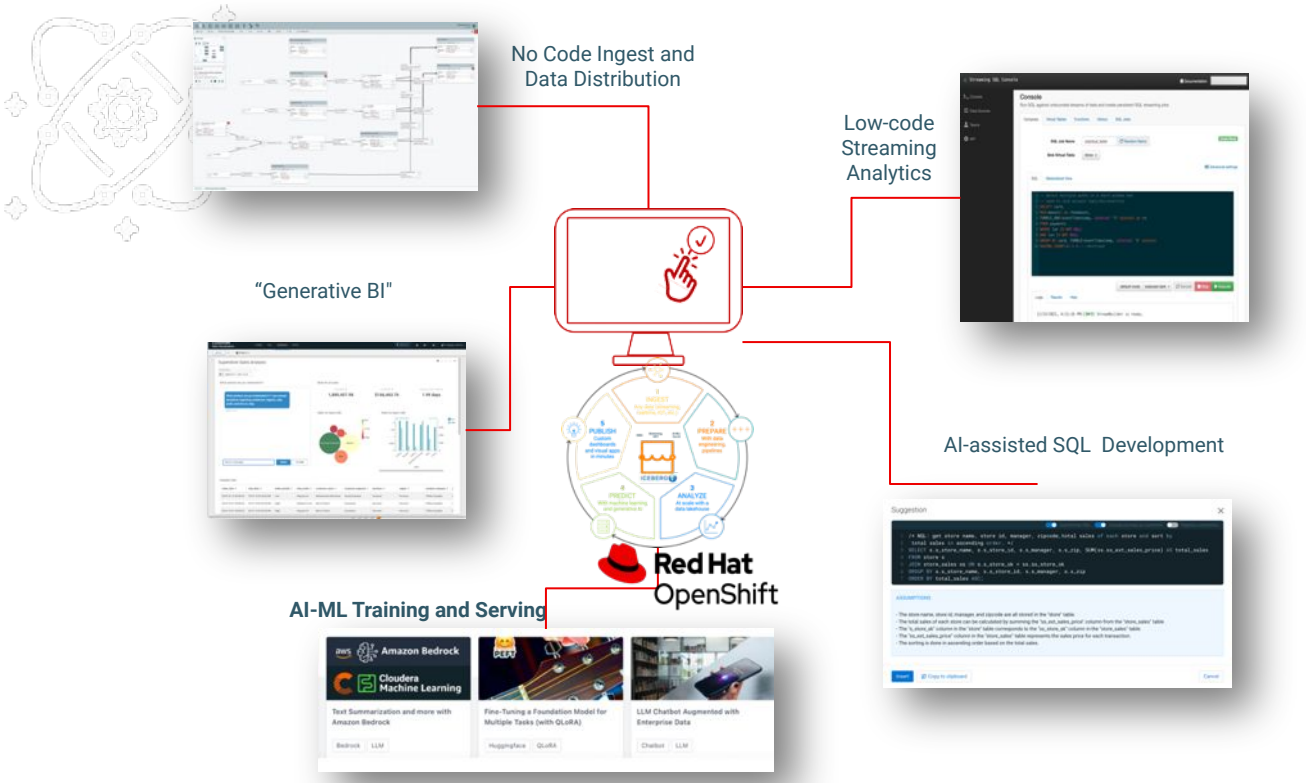
Native Data Mesh

Red Hat OpenShift aws Azure

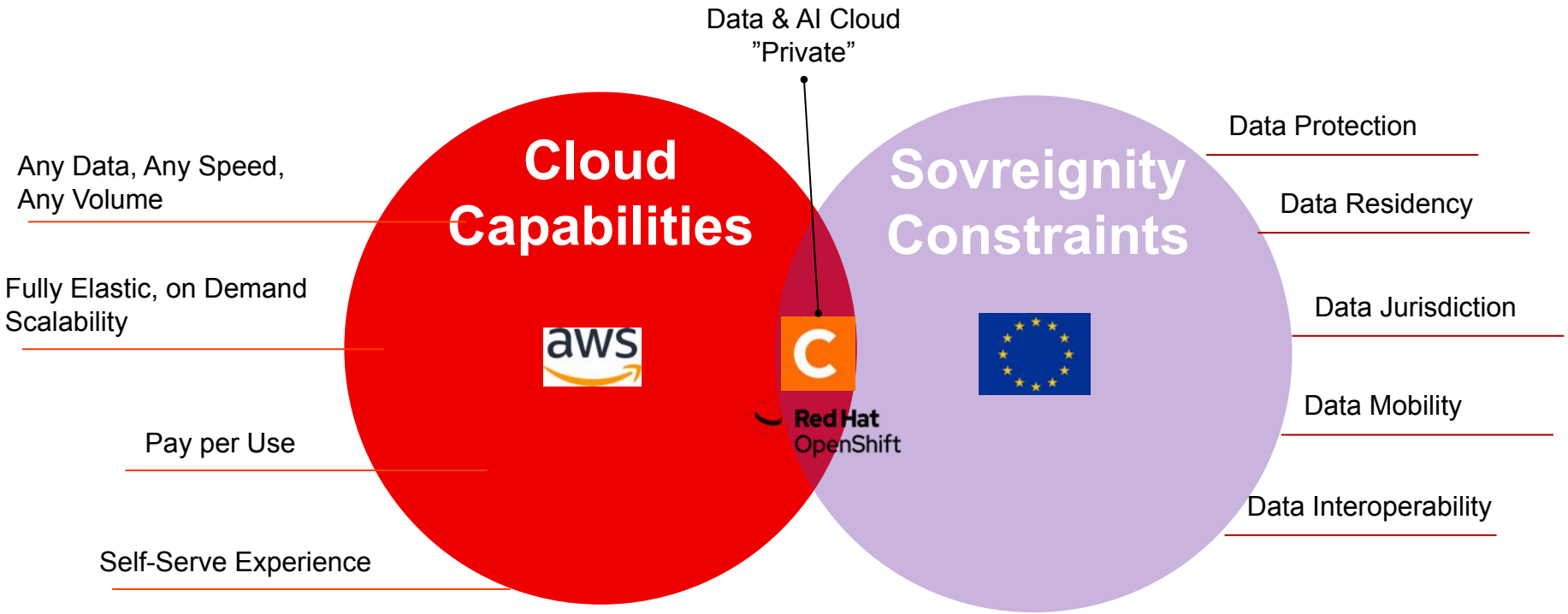
Same PaaS across multiple Infra Providers

Right Posture

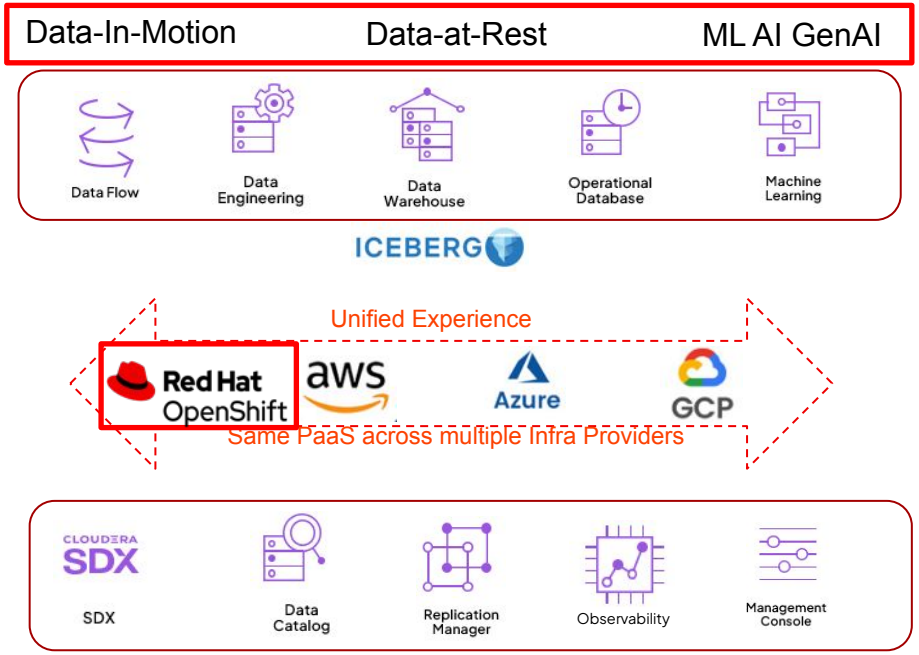
Cloudera on-prem Data Services powered by Openshift: the most advanced data platform on customer premises



Sovereignty and Innovation: a play of capabilities & constraints



Cloudera and OpenShift – Uniquely positioned for Strictest Sovereign Needs



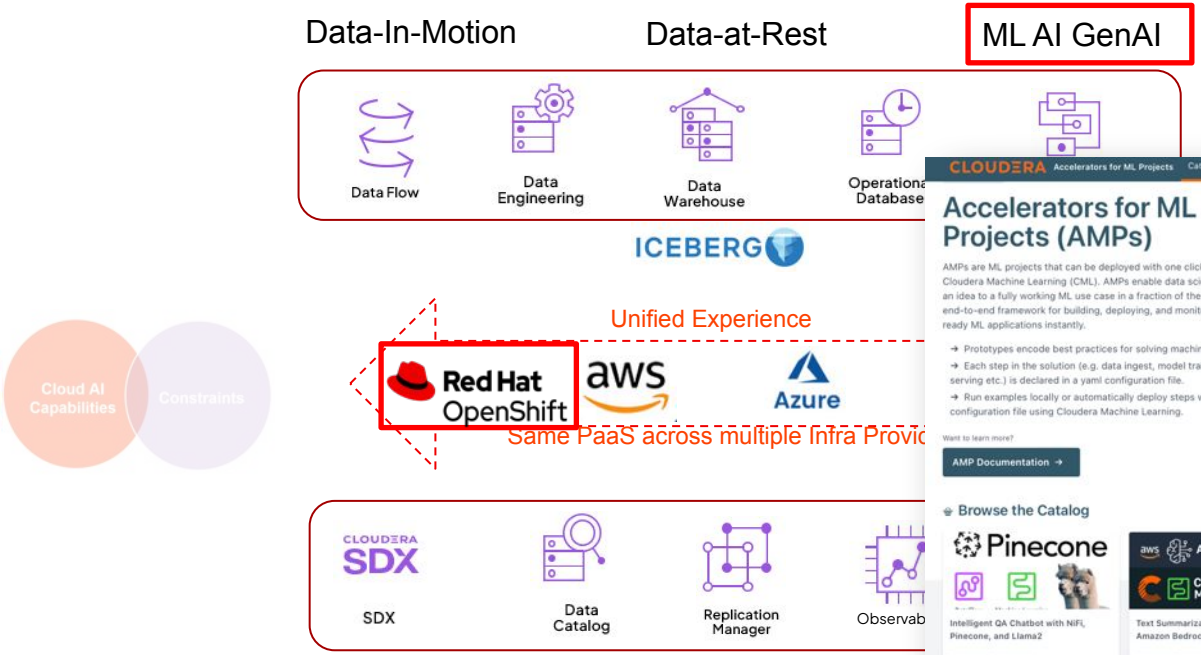
Develop most advanced near real-time AI services, GenAI plays

… Under your strict jurisdiction and residency control

… without missing a self-service, PaaS elastic development experience

… with open, interoperable standard language & data format which is reusable anywhere

Cloudera and OpenShift – Uniquely positioned for most advanced innovation under Strictest Sovereign Needs



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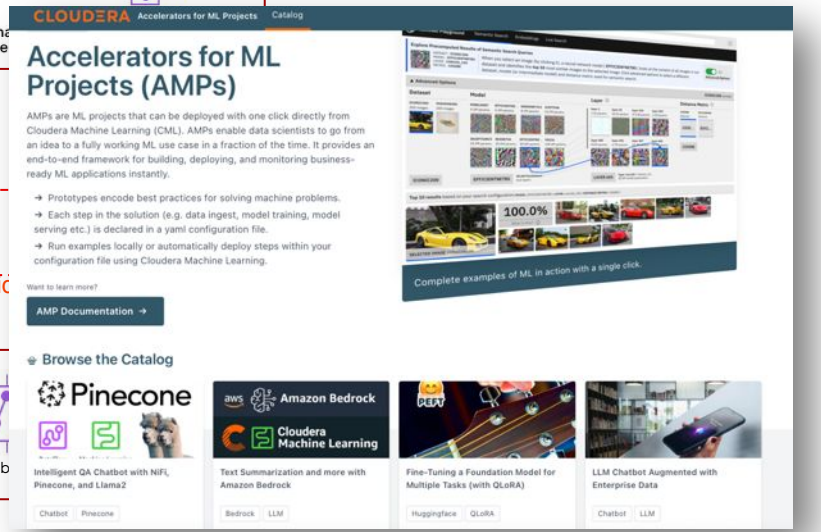

https://cloudera.github.io/Applied-ML-Prototypes/#/cloudera

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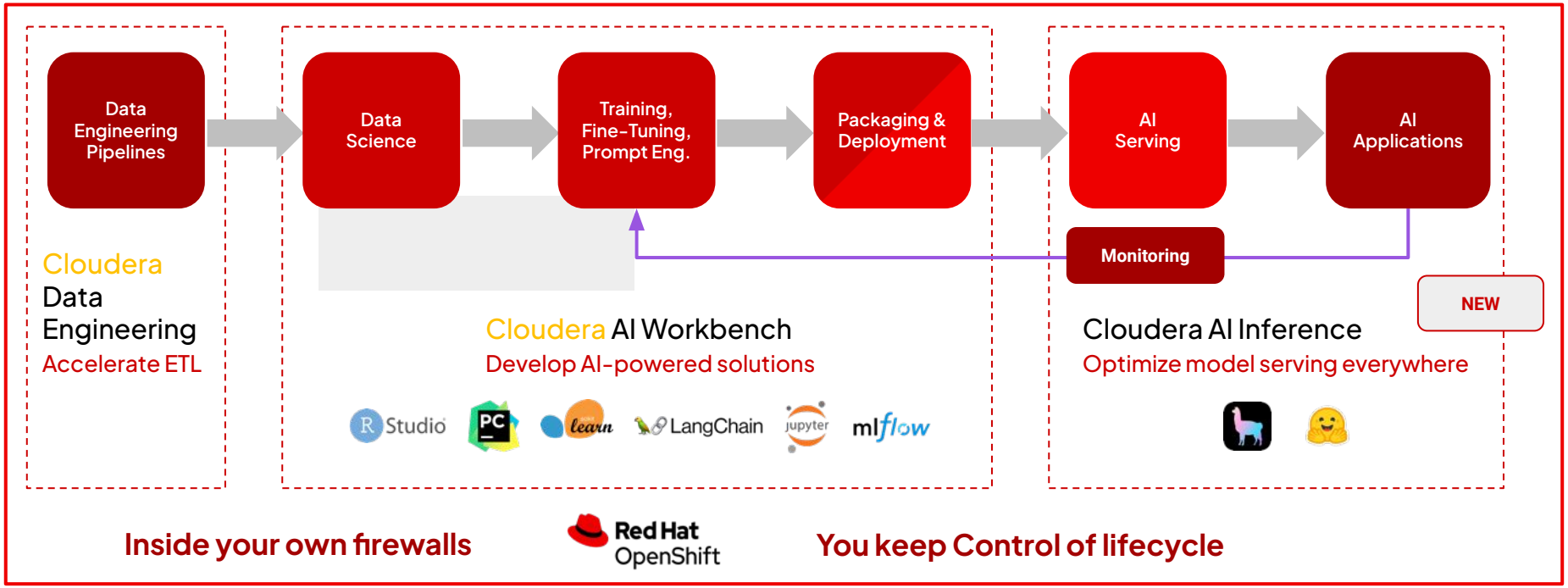
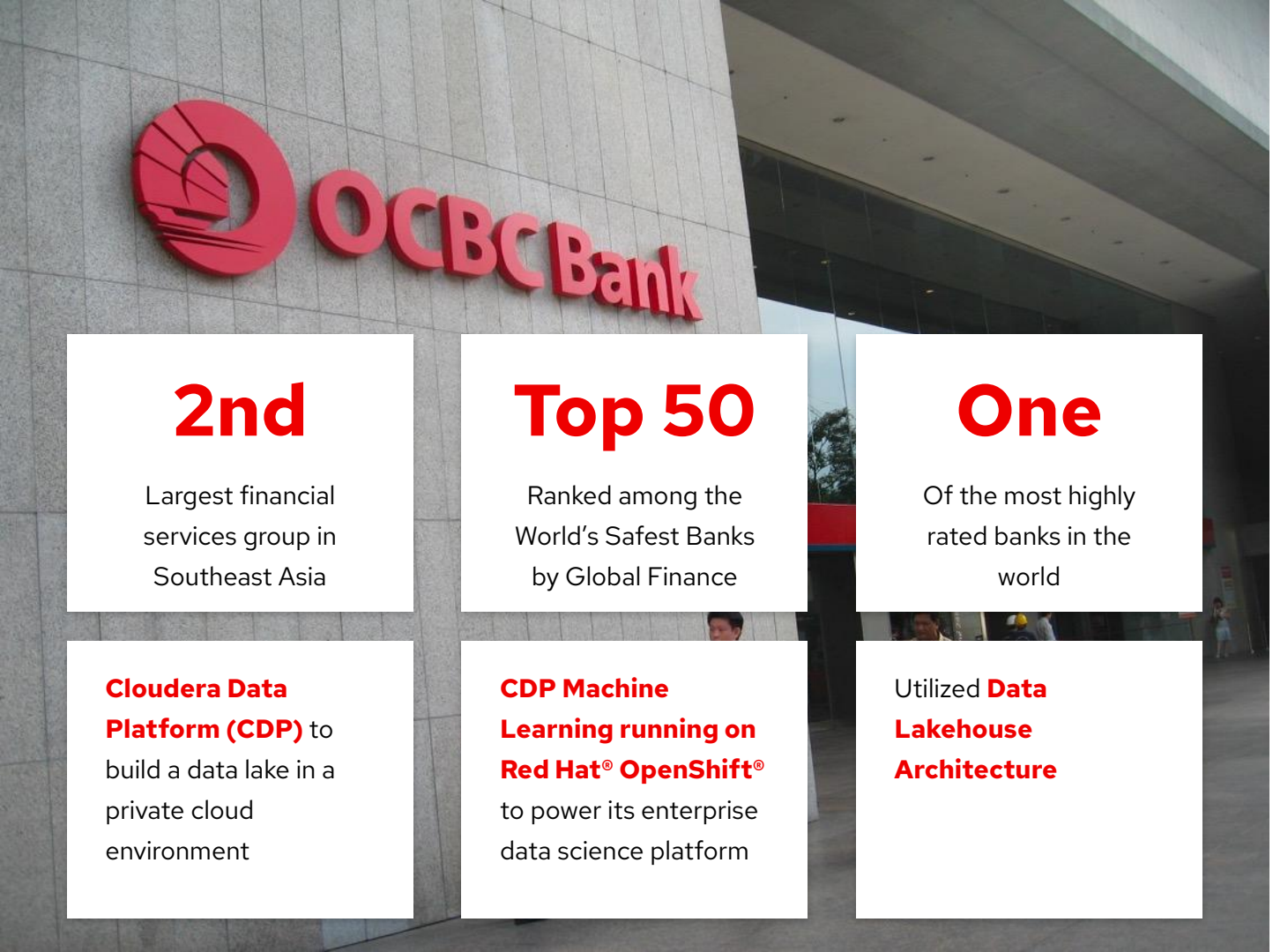




2nd

Largest financial services group in Southeast Asia

Top 50

Ranked among the World's Safest Banks by Global Finance

One

Of the most highly rated banks in the world

Cloudera Data Platform (CDP) to build a data lake in a private cloud environment

CDP Machine Learning running on Red Hat® OpenShift® to power its enterprise data science platform

Utilized **Data Lakehouse Architecture**

The Challenge

- Pressure from rivals to be more innovative
- Market in Southeast Asia becoming increasingly digitized
- Consumer looking for better experiences

The Goal

- Leverage private cloud for data platform
- Deliver secure, controlled, personal data experience.
- Use (AI/ML) to make data-driven decisions to improve customer experience

The Results

Using Red Hat OpenShift with Cloudera CDP

100

Million SGD

OCBC Bank's Next Best Conversation platform helped earn annually by using data to curate personalized experiences for customers.

2X

campaign conversion rates

Is how much Next Best Conversation increased campaign conversion rates with more relevant personalized offers.

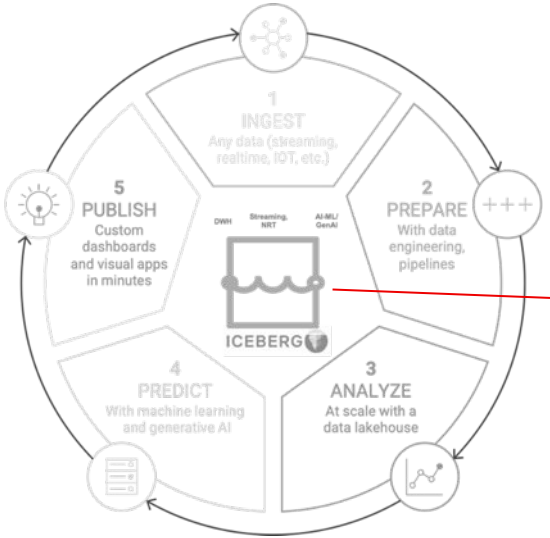
10%

Chatbot handles online transactions

Banking customers enjoy faster transactions with the aid of the bank's chatbots, which handles 10% of its customers interactions online

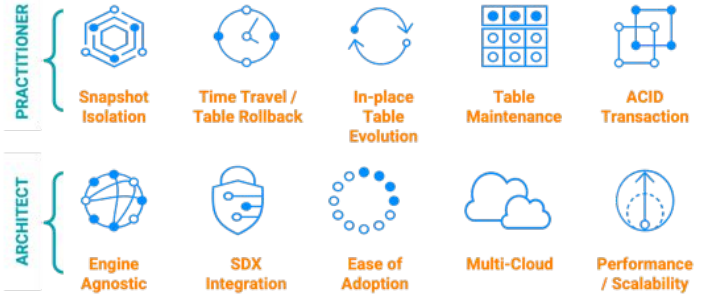
https://www.cloudera.com/about/customers/ocbc-bank.html

Cloudera and OpenShift – Uniquely positioned for most advanced innovation under Strictest Sovereign Needs



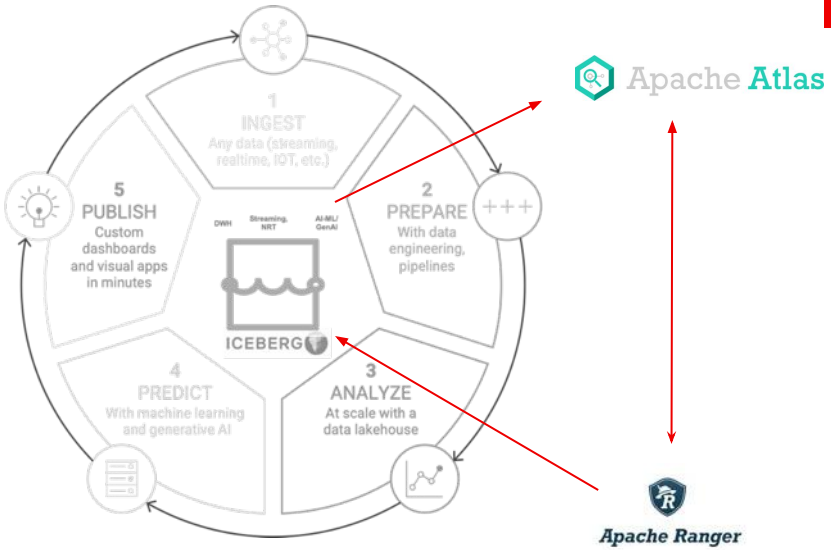
Consolidate proprietary DSS RDBMS into DLH with Iceberg

Modernize existing DL DWH with Iceberg



https://docs.cloudera.com/cdp-public-cloud/cloud/cdp-iceberg/topics/iceberg-in-cdp.html

Cloudera and OpenShift – Uniquely positioned for most advanced innovation under Strictest Sovereign Needs



Data Stewardship and Governance out of the box

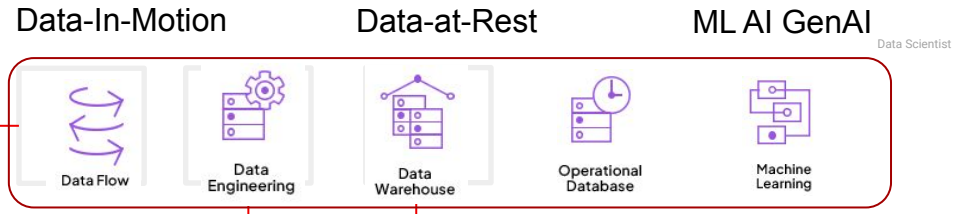
All Assets are **automatically harvested**
(with their **lineage)**
and **searchable**

out-of-the-box **Tag-based policy management**
(ABAC)

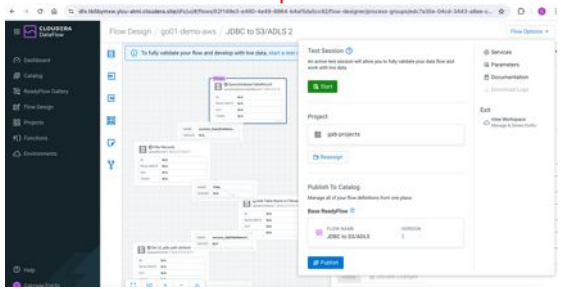
All Assets are **securable**
from a single Policy Engine

Cloudera and OpenShift – Uniquely positioned for most advanced innovation under Strictest Sovereign Needs

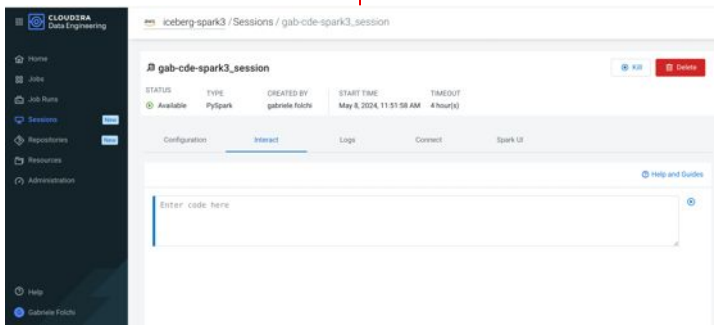
https://www.cloudera.com/products/cloudera-data-platform.html?tab=1



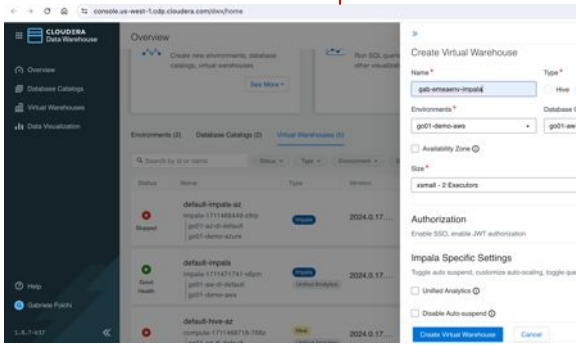
Self-Serve Dev & Deploy MPP SQL procs



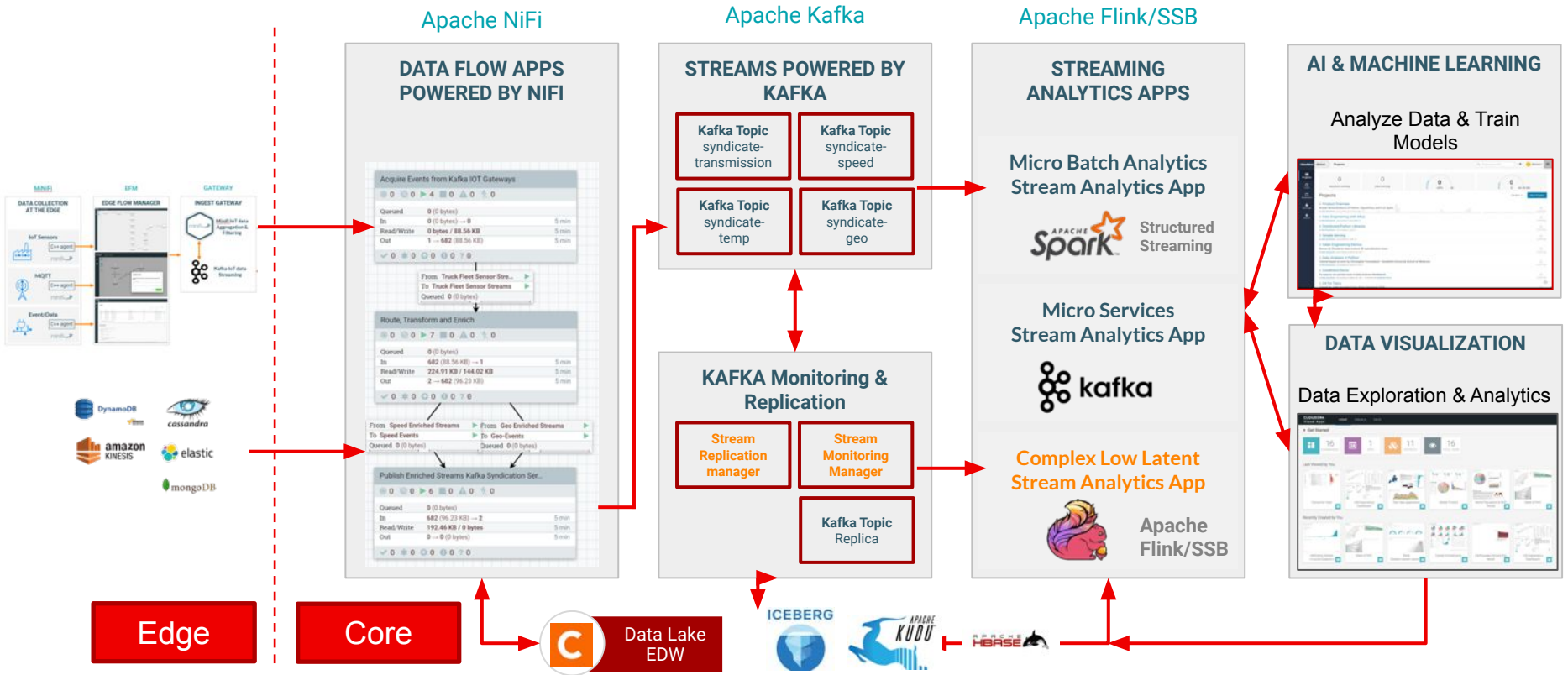
Self-Serve Dev & Deploy DataFlows



Self-Serve Dev & Deploy Spark and Airflow apps



Data in Motion: e2e enablers for most advanced streaming analytics



CSM Operator - Key Capabilities

Deploys & Manages Kafka

Create Kafka clusters in minutes in your Kubernetes infrastructure

```
NAME↑
demo-kafka-cruise-control-54cd6b6bfd-9ktmz
demo-kafka-demo-kafka-first-pool-0
demo-kafka-demo-kafka-first-pool-1
demo-kafka-demo-kafka-first-pool-2
demo-kafka-entity-operator-cbc9795f-n8c95
demo-kafka-zookeeper-0
demo-kafka-zookeeper-1
demo-kafka-zookeeper-2
kafka-admin
strimzi-cluster-operator-7676fdd8cc-kfq5f
```

Includes Cruise Control

Cruise Control takes care of Kafka health and cluster rebalances

```
Name:         my-rebalance
Namespace:    myproject
Labels:       strimzi.io/cluster=my-cluster
Annotations:  API Version:  kafka.strimzi.io/v1alpha1
Kind:         KafkaRebalance
Metadata:
# ...
Status:
  Conditions:
    Last Transition Time:  2020-06-04T14:36:11.900Z
    Status:                ProposalReady
    Type:                  State
  Observed Generation:     1
  Optimization Result:
    Data To Move MB:  0
    Excluded Brokers For Leadership:
    Excluded Brokers For Replica Move:
    Excluded Topics:
    Intra Broker Data To Move MB:         12
    Monitored Partitions Percentage:      100
    Num Intra Broker Replica Movements:   0
    Num Leader Movements:                 24
    Num Replica Movements:                55
    On Demand Balancedness Score After:   82.91290759174306
    On Demand Balancedness Score Before:  78.01176356230222
    Recent Windows:                       5
  Session Id:                             a4f833bd-2055-4213-bfdd-ad21f95bf184
```

Red Hat OpenShift

Easily Scale Up/Down

Manually scale up/down by adjusting # of brokers in Kafka node pools and applying the change:

```
kind: KafkaNodePool
spec:
  replicas: 3 4
```

```
> kubectl apply -f prod.yaml
```

Or use the kubectl scale command:

```
> kubectl scale \
    kafkanodepool prod-node-pool \
    --replicas=4
```

And let Cruise Control rebalance it:

```
kind: KafkaRebalance
spec:
  mode: add-brokers
  brokers: [3]
```

DEMO TIME

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Thank you

Partner logo here

Red Hat