Real-time Analytics and Connected Data Drive Retail

THE DAWN OF RETAIL & CONSUMER GOODS RENAISSANCE

17/20

17 of the world's top 20 global retailers rely on Cloudera

10/20

10 of the global top 20 CPGs rely on Cloudera

Industry Dynamics

- **90%** of consumers say personalization positively affects their purchase behavior, drives return visits. (Data Candy)

- Digital supply chains respond **25%** faster due to real-time information. (BCG)

- **91%** of organizations struggle to reach data maturity (Gartner)

Data is transforming retail and consumer goods, as the potential impact to the retail environment is projected to exceed $1.2T by 2025. This extraordinary accomplishment can only be realized by harnessing data and the digital interconnection by more effectively empowering shoppers and converting them into engaged, loyal customers; delivering timely, personalized customer experiences and informed decisions—at the "moment of truth"; delivering relevant content, knowledge and communications in-store and to consumers anytime, anywhere; and delivering the brand promise with responsive fulfillment, supply chain, customer service, and sales visibility. Data provides capabilities, but the challenge retailers now face today is preventing vendor technology lock-in, managing the volume of data growth, new and diverse data sources, and an increasing reliance on real-time and streaming data.

Cloudera offers an end-to-end data management and analytics platform that enables Retail and Consumer Packaged Goods (CPG) to ingest, process, store, analyze, and model any type of data (structured, unstructured, or semi-structured data), anywhere—at the edge, on-premise at the brick and mortar store, or in any public, private, or hybrid cloud. Cloudera Data Platform offers an integrated suite of proven and open data management tools and analytics engines to drive insights and action in real-time to enable some of the most compelling retail use cases and drive measurable value for the business.

How Cloudera Enables Retailers

Today, 17 of the top 20 leading retailers around the globe rely on Cloudera to enable data-driven use cases that are transforming the retail industry. Here is a summary of some of the key data-driven use cases in retail:

Personalized Interactions	Customer Centric Merchandising	Supply Chain Agility	Reimagining Stores
• Customer profiles	• Dynamic pricing	• Inventory visibility	• Frictionless commerce (payment & pick-up)
• Next best offers	• Localized assortment	• Network optimization	• Customer behavior analytics
• Social listening, engagement	• Distinctive product development	• Labor optimization	• Real-time stock response
• Relevant contextual content	• Demand forecast accuracy	• Fulfillment route optimization	• Loss prevention

Walgreens

Walgreens uses Cloudera data processing capabilities to rapidly process customer segmentation models **(from days to minutes)** enabling relevant engagement and campaign effectiveness.

Tesco

Tesco uses Cloudera to stream data around customer delivery capacity, **reducing the number of vehicles by 140 resulting in a $21m ROI.**

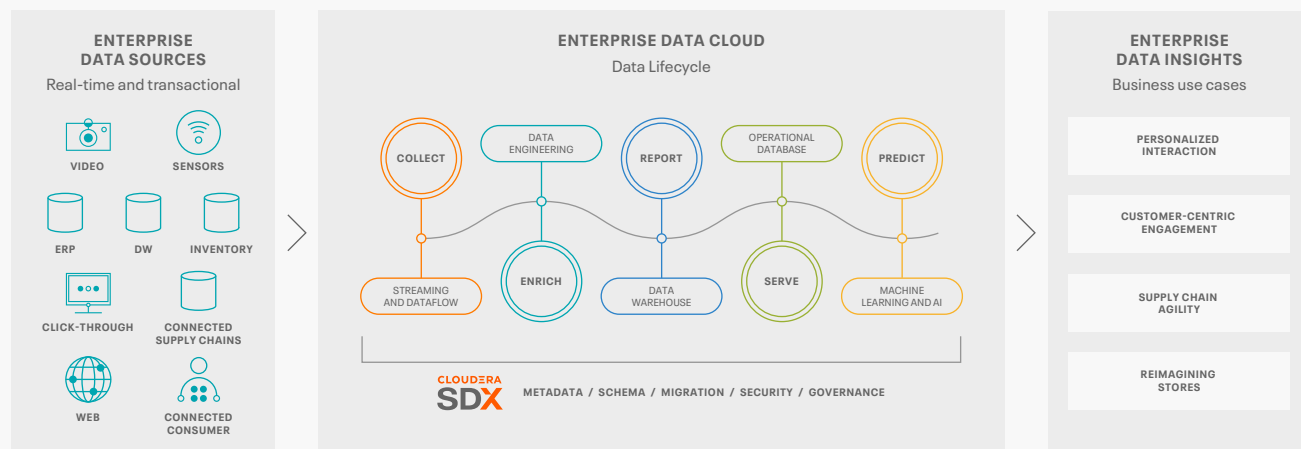## What Cloudera Offers Retail & CPG Organizations

Cloudera offers an end-to-end data management and analytics platform that can help retailers and CPG organizations drive insights and action from any data, anywhere, in real-time.

- Ability to **ingest**, **process** and **analyze** high volumes of **real-time** data from any source— beacons, RFID tags, robotics, computer vision, historians, ERP and SCM systems, historical archives, master data management databases, fleet vehicles, or associate wearables.

- Offer massively distributed storage and processing engines for large data sets to execute a wide range of data processing workloads.

- Enable **predictive analytics** or apply **machine learning algorithms** to petabytes of data, while maintaining strict enterprise data security, governance, and compliance, audit trails across on-premise and cloud hybrid environments.

- Provide multiple analytical options to drive insights, intelligence, and action from data at the edge, on premise, or in any public, private, or hybrid cloud.

100% Open

A platform that is 100 percent open source, supporting your objectives to avoid vendor lock-in and accelerates enterprise innovation.

- Open source prevents vendor lock-in

- Open compute enables efficient server, storage, and infrastructure designs for scalable computing

- Open architecture mitigates interoperability concerns

- Open APIs with visualization-agnostic tools

- Open cloud enables a cloud-agnostic approach

**MULTI-FUNCTION PLATFORM TO DRIVE OUTCOMES FOR RETAIL**

ENTERPRISE DATA SOURCES
Real-time and transactional

VIDEO   SENSORS
ERP   DW   INVENTORY
CLICK-THROUGH   CONNECTED SUPPLY CHAINS
WEB   CONNECTED CONSUMER

ENTERPRISE DATA CLOUD
Data Lifecycle

COLLECT
DATA ENGINEERING
REPORT
OPERATIONAL DATABASE
PREDICT
STREAMING AND DATAFLOW
ENRICH
DATA WAREHOUSE
SERVE
MACHINE LEARNING AND AI

CLOUDERA SDX
METADATA / SCHEMA / MIGRATION / SECURITY / GOVERNANCE

ENTERPRISE DATA INSIGHTS
Business use cases

PERSONALIZED INTERACTION

CUSTOMER-CENTRIC ENGAGEMENT

SUPPLY CHAIN AGILITY

REIMAGINING STORES

Cloudera Data Platform (CDP)

Cloudera Data Platform is the industry's first enterprise data cloud, offering a full range of analytic capabilities from the Edge to AI. CDP delivers powerful self-service analytics across hybrid and multi-cloud environments, CDP delivers a powerful platform that can collect, process, manage, analyze, and model any data, anywhere to drive actionable insights and predictive analytics. And it's built 100% on open source.
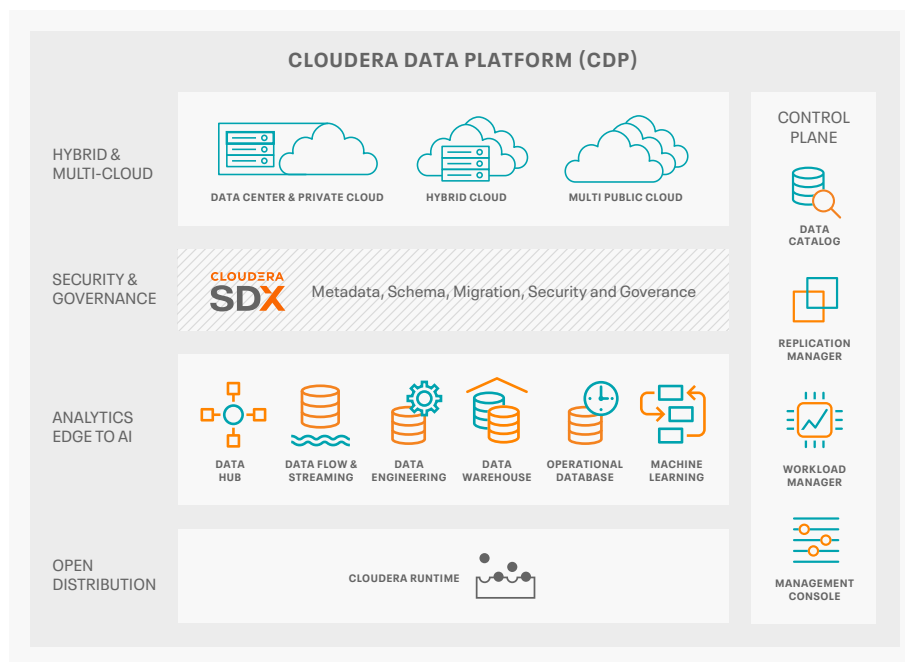
Cloudera SDX provides enterprise-grade security and governance on all data including metadata, with dedicated, integrated interfaces to manage it. Data security, governance, and control policies can be set once and consistently enforced everywhere, reducing operational costs and business risks while also enabling complete infrastructure choice and flexibility.

To learn more about how Cloudera drives outcomes for retail, visit https://www.cloudera.com/solutions/retail.html.

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