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The Secure Enterprise Data Cloud: from Edge to AI

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Cloudera's Journey

ML, ANALYTICS
& CLOUD

DATA
PLATFORM

BIG DATA
TECH

2016

2012

2008

LOB
& Data Scientists

CIO
& Data Admins

IT early adopters
& Developers

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Hortonworks' Journey

IOT, ANALYTICS
& CLOUD

DATA
PLATFORM

BIG DATA
TECH

2016

2013

2010

IT early adopters
& Developers

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& Data Admins

LOB
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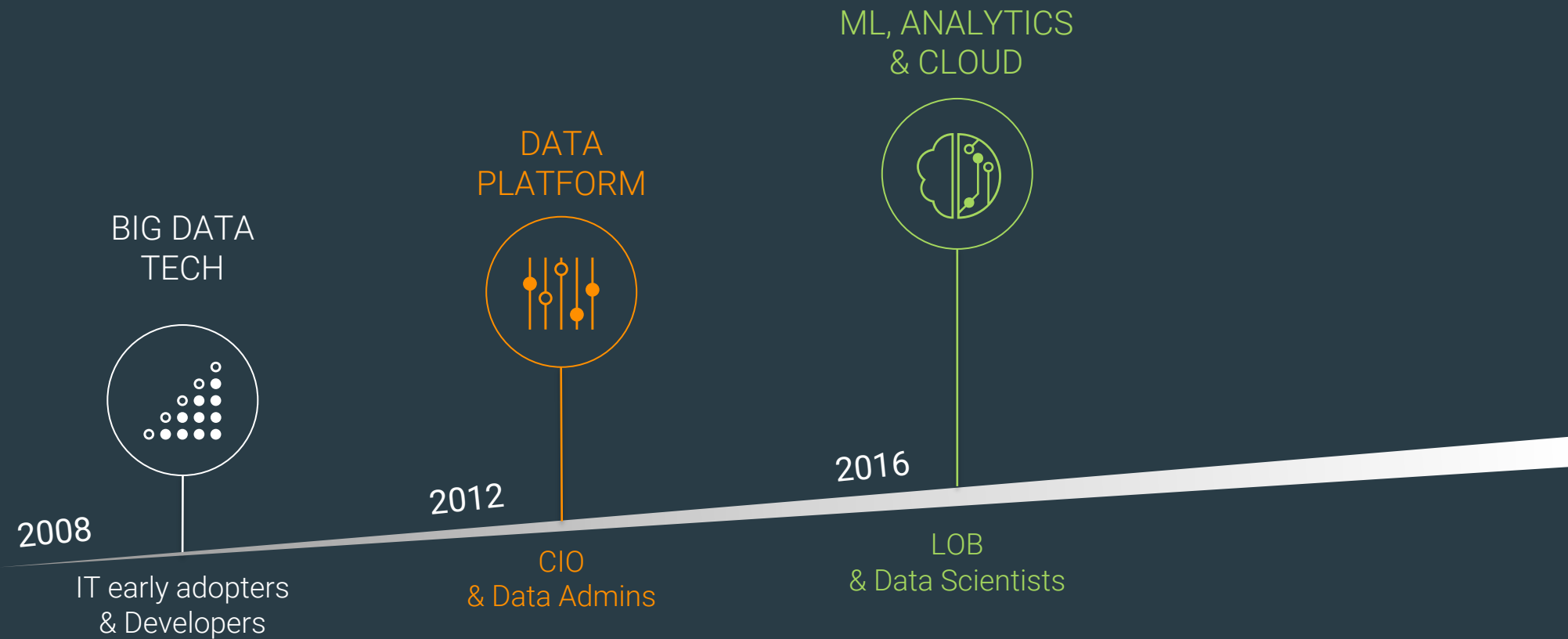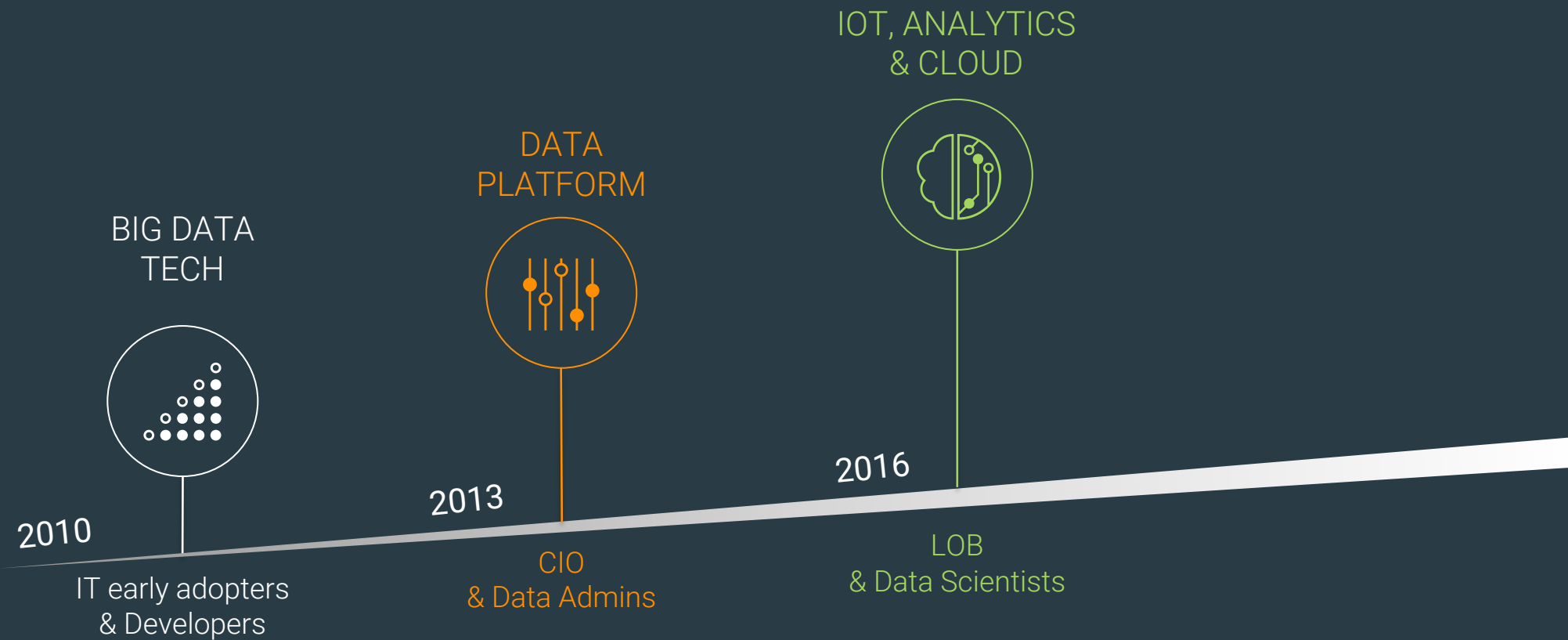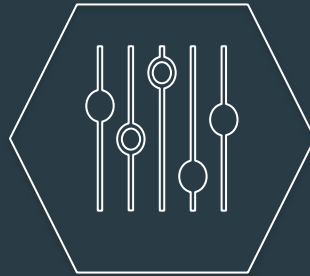
Why We Merged

IoT, Ingest & Streaming

Data Engineering

Data Warehouse

Operational Database

AI, ML & Data Science

Edge | Private | Public | Multi | Hybrid

What's Next in the Journey

ENTERPRISE DATA CLOUD
Data Transformation

IOT, ML, ANALYTICS & CLOUD

DATA PLATFORM

BIG DATA TECH

2020

2016

2012

2008

IT early adopters & Developers

CIO & Data Admins

LOB & Data Scientists

C-Suite & Boards
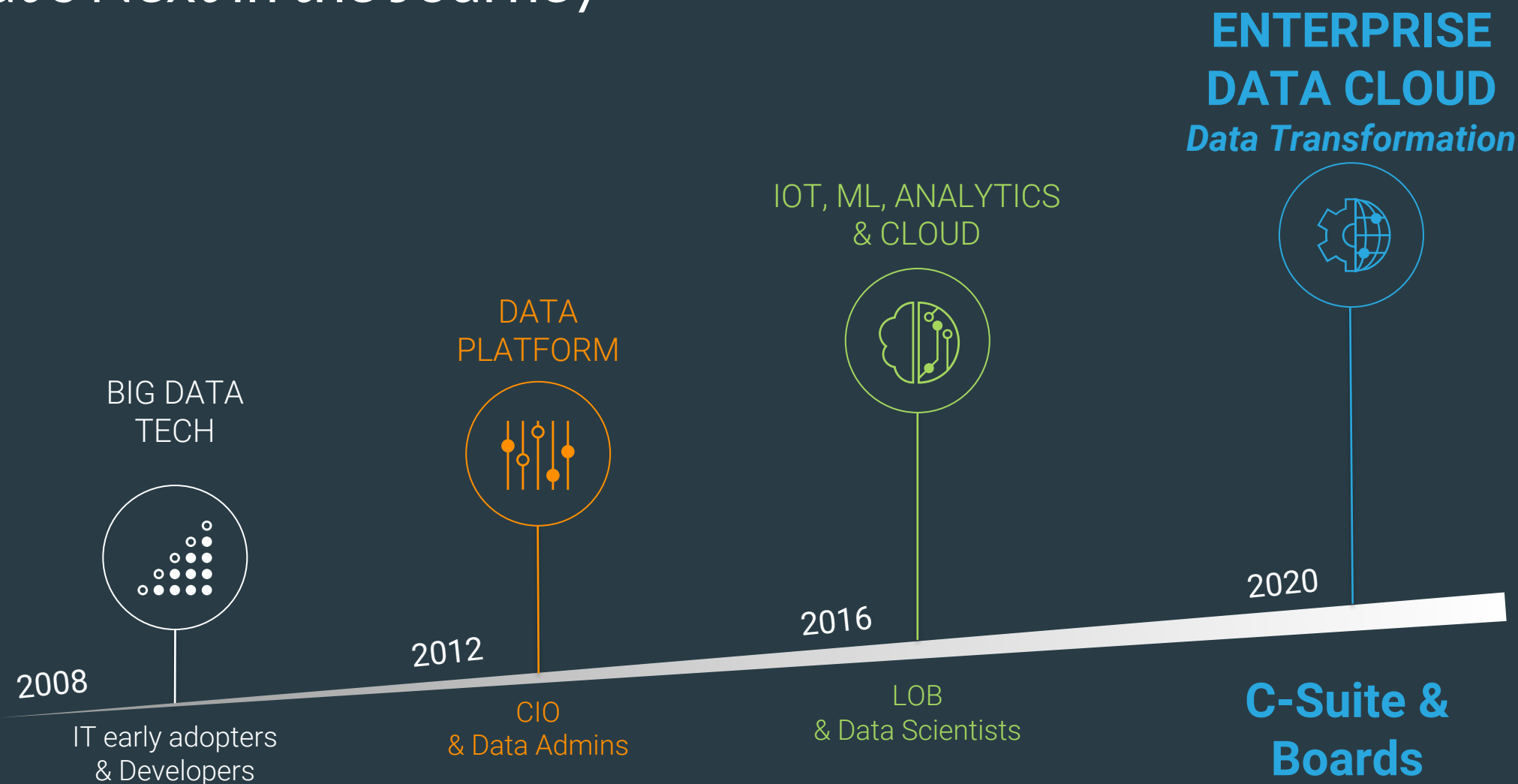
What is Required of an Enterprise Data Cloud Platform?

Unified Control Plane

Altus DataPlane

Identity | Orchestration | Management | Operations

Analytic Experiences

Data Flow & Streaming
DF-X

Data Engineering
DE-X

Data Warehouse
DW-X

Operational Database
OD-X

Machine Learning
ML-X

Open source distribution   DISTRO-X

Data Anywhere

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sdx
shared data experience

Catalog | Schema | Migration | Security | Governance

Any Infrastructure

Edge

Private Cloud

Public Multi-Cloud

Hybrid Cloud

Security and Governance Considerations

Data Flow & Streaming

- **Encryption** of data **in transit** from the edge
- **Lineage** of all data from source to storage
- Apply **authentication and authorization of kafka** topics
- **Encryption of kafka log files**

Data Warehouse

- Fine grained **role-based and attribute-based access control**
- Logical and physical **tenant isolation**
- Implement strong, comprehensive **security controls to enable safe self-service**

Machine Learning

- **Bring data scientists to the data** to shrink threat surface area
- **Isolated environments** for model development and serving
- Guidance to help you design ML strategy and applications with **ethics and security** in mind

General Platform

- **Encryption** of data **at rest**
- Compliant **key management**
- **Single** security model, audit trail, metadata store, key management, etc for entire platform
- Apply **data stewardship** practices from the start
- Storage and compute **wherever is most secure**, performant, and cost effective

What does an Enterprise Data Cloud Let you Do?

An Enterprise Data Cloud Empowers People to Harness all of their Data and Apply the Insights to Business Outcomes

GROW BUSINESS

Marketing automation

Personalized marketing

Customer experience

Churn prevention

Customer retention

CONNECT BUSINESS (IoT)

Predictive maintenance

Connected vehicles

Smart cities

Healthcare analytics

Industrial IoT

PROTECT BUSINESS

Regulatory compliance

Risk modeling & analysis

Financial crime prevention

Fraud detection

Cybersecurity

Improving Healthcare with SMART data

CHALLENGES

Clinicians required access to real-time patient data

Lack of access results in detection delays and **catastrophic consequences**

SOLUTIONS

Clearsense' Inception product delivers SMART real-time streaming data

HDP and CDF enable **faster decision making**

OUTCOMES

Mission critical data is now available for doctors to make vital decisions - **20x faster**

Patients' **lives are being saved** by early detection

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MAJOR ELECTRONICS MANUFACTURER

7
New Sources

2M
Users

<1S
Query Responses

>100 M
Data Sets

OUTCOMES

- $10 M revenue uplift from better segmentation
- $30 M+ price optimization
- Better manage supply chain risk impacting $50M revenue

Military Veteran Suicide Prevention

Use real-time predictive modeling and ML to identify critical correlations between veterans' communications and mental health

OUTCOMES

- **Processing and storage of mobile and social activity (opt-in)**

- **Single platform to reduce complexity and cost**

- **65% predictive accuracy via use of ML across data sets**

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THANK YOU

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