

cloudera

Cloudera Altus

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Amazon.com



Why onboard Altus on AWS today?

- Upto \$2000 Free AWS Credits
- 90 Day Free Altus Trial

Ready to get started?*

awsoffer@cloudera.com

*Must work with AWS and Cloudera account managers on POC to be eligible for offer

CLOUDERA ALTUS

Machine learning
and analytics
Platform-as-a-Service
with Shared Data
Experience

MULTI
FUNCTION



DATA ENGINEERING



ANALYTIC DB



DATA SCIENCE



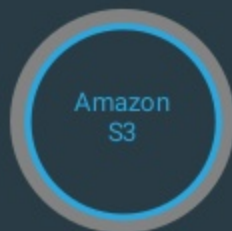
SECURITY

GOVERNANCE

WORKLOAD
MANAGEMENT

INGEST &
REPLICATION

DATA CATALOG



Amazon
S3



Amazon
EBS

Altus Data Engineering (DE)

What is it?

- Short-lived
- Single tenant
- Hive, Spark, or MapReduce Cluster

Used for things like

- ETL jobs
- batch processing
- with data living in S3
- Provides fast and easy job submission without cluster management



Available on AWS

cloudera

Altus Analytic Database (ADB)

What is it?

- Long-lived
- Multi tenant
- Impala Cluster

Used for things like

- data warehousing
- analytics
- with data living in S3
- Provides fast and easy analytics without cluster management



Available on AWS

cloudera

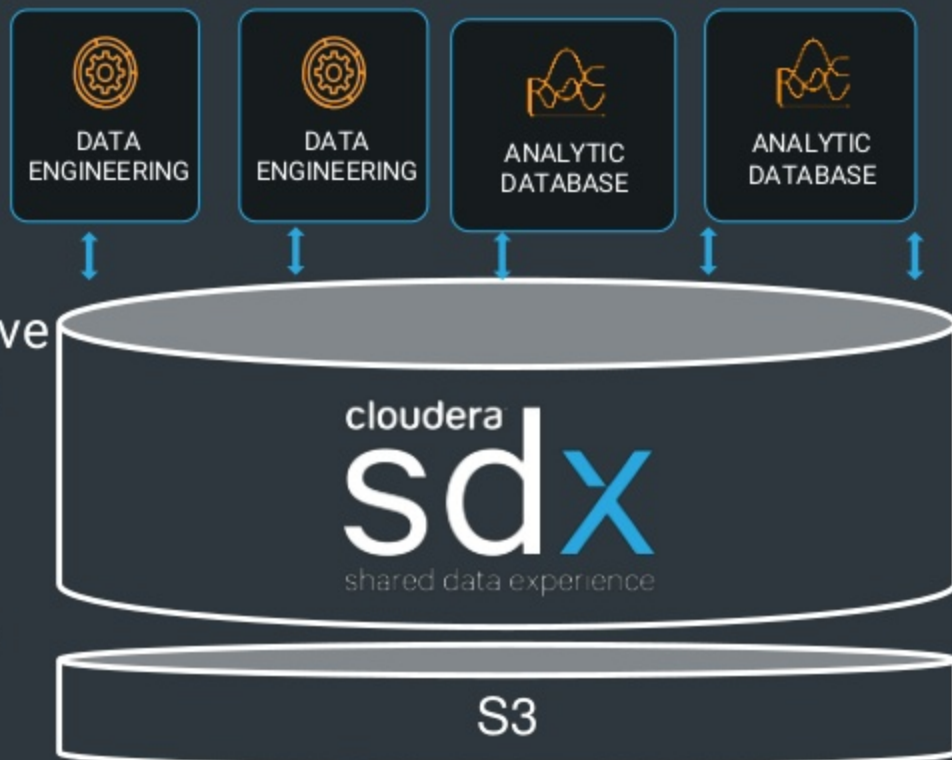
Cloudera Shared Data Experience (SDX)

What is it?

- **Cloud native shared metadata store** with metadata living in **S3**

Used for things like

- **Shared cataloging** to define and preserve structure and business context of data
- Provides **unified security** across transient and recurring workloads
- Enables **consistent governance** across all data to increase compliance

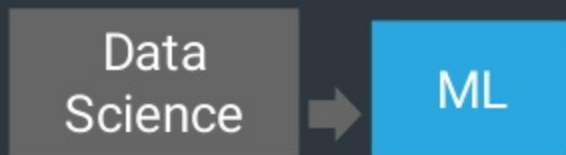


Three Immediate Use Cases for Altus

ELASTIC WORKLOADS

DATA MART EXPANSION

PEAK SHAVING

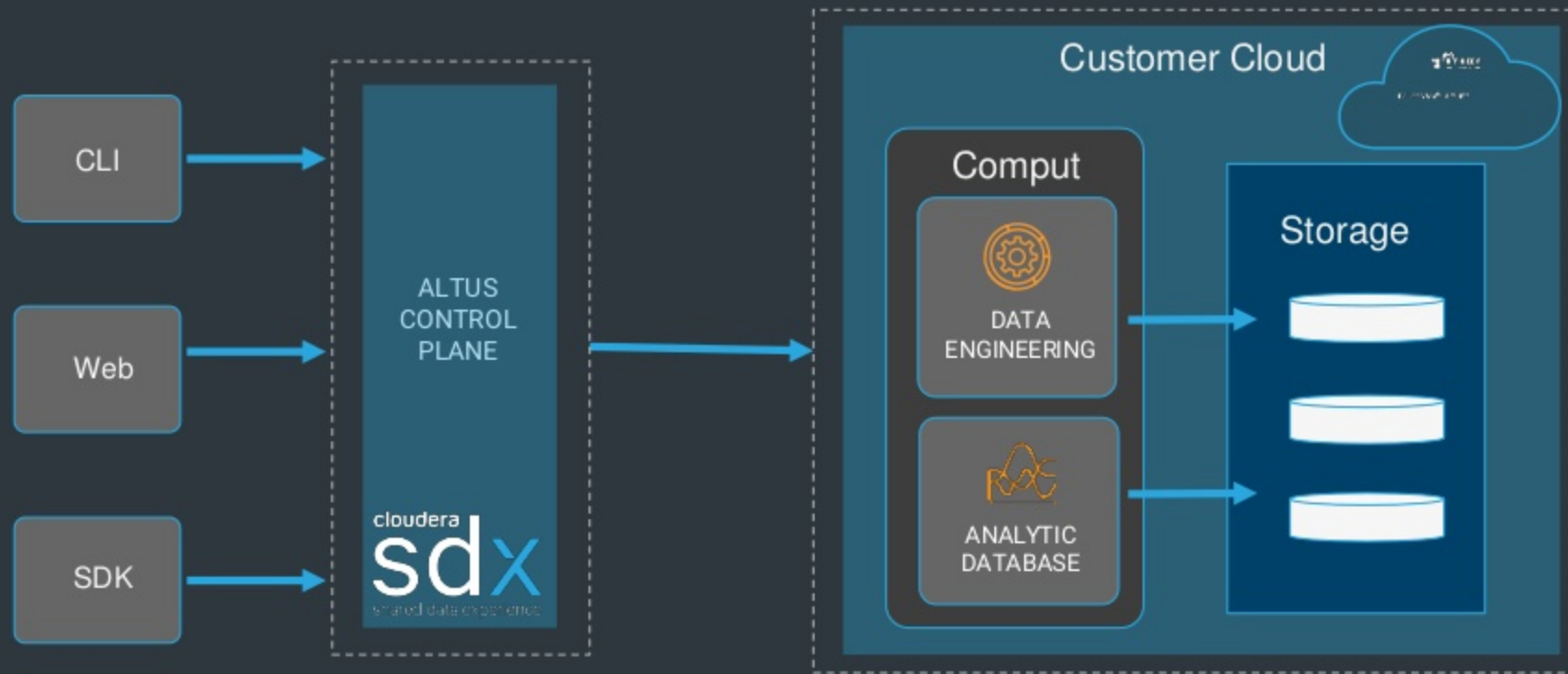


If customers move from persistent analytic clusters to elastic clusters, they can save money and bring agility.

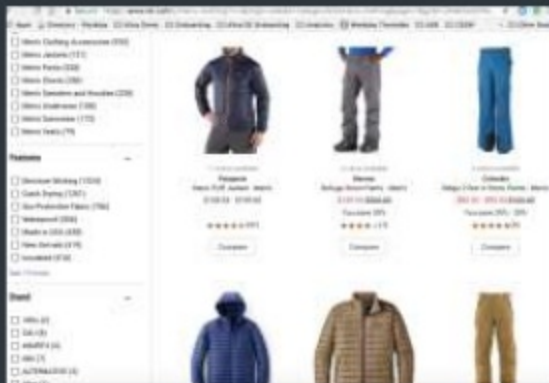
Save labor and/ upfront expense required to accommodate new teams & environments

Save hardware/software costs by using transient nodes for peak workloads as opposed to always-on nodes.

Cloudera Altus Architecture



Retail Demo



The Problem

- Website sales is struggling
- How to figure whether sales orders correlate with website visits?

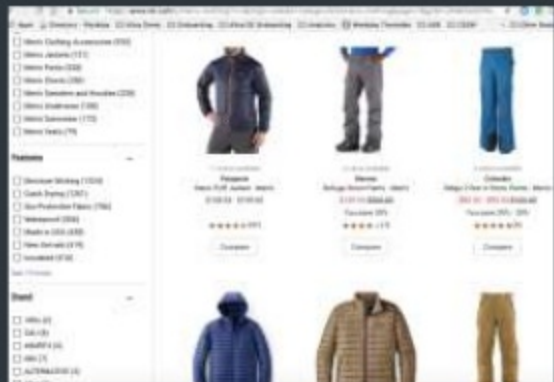
Business Analyst/Data Scientist

- Analysis
- Develop insights
- Build models
- Solve business problem

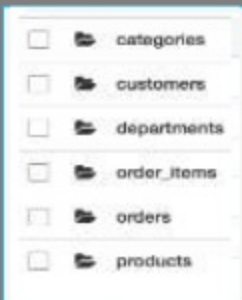
Retail Demo



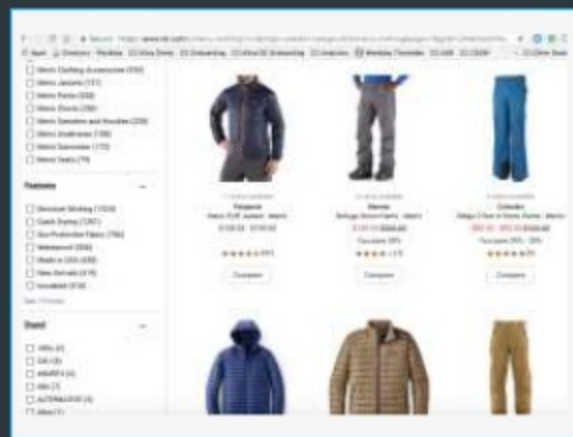
Data Engineer
Develops, tests, maintains large
scale data processing systems



Sales Order



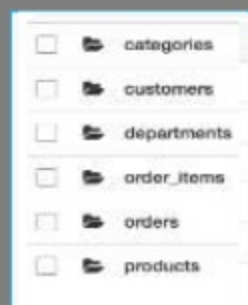
Retail Demo



Sales Order

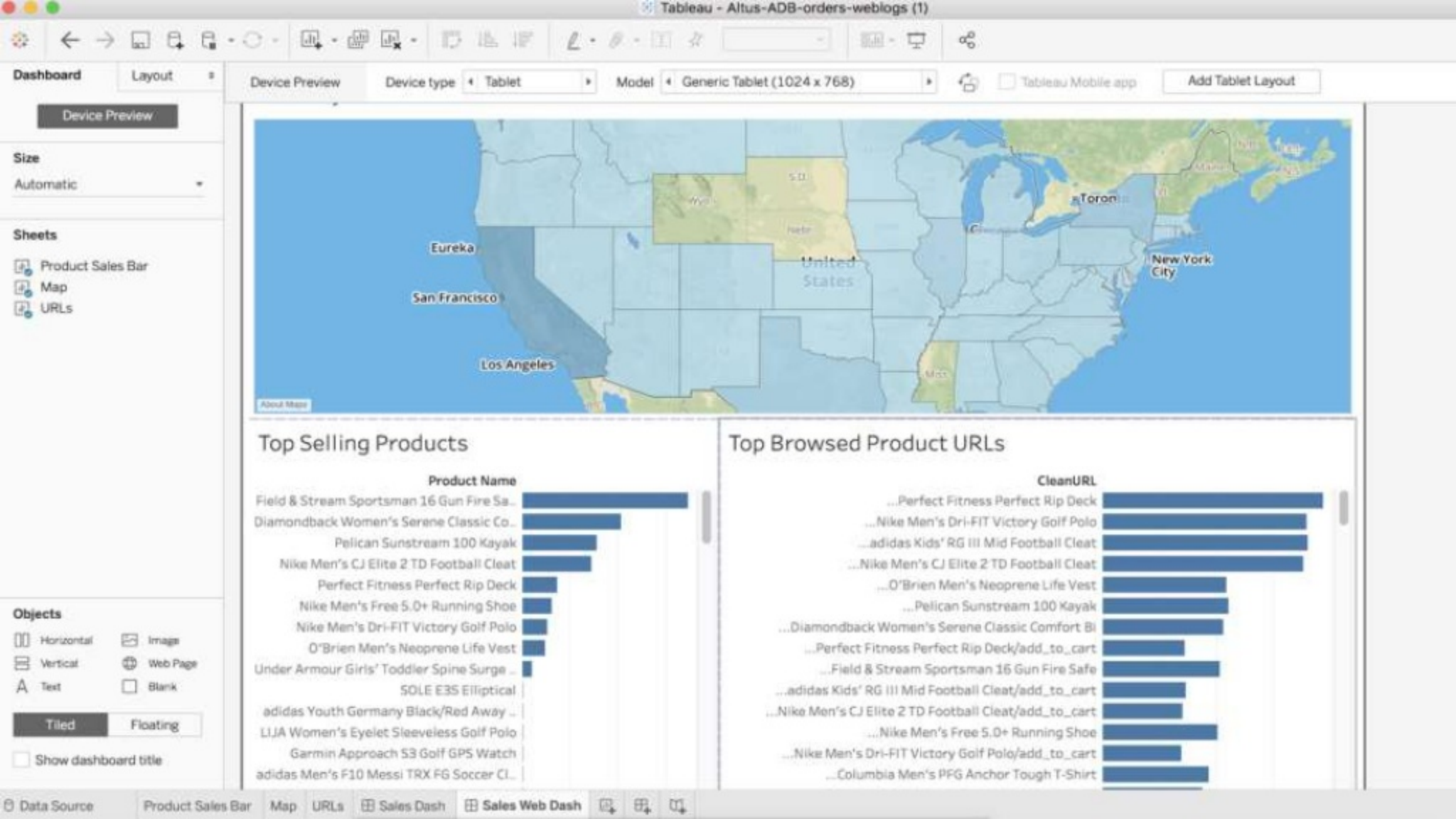
Clickstream Weblogs

Tokenized Logs



IP Address	Timestamp	Department	Product
79.130.215.123	14/Jun/2014:10:30:13 -0400	Water sports	Sunscreen
162.235.161.200	14/Jun/2014:10:30:13 -0400	Footwear	Football cleat
39.244.91.153	14/Jun/2014:10:30:13 -0400	Kids	Shorts
160.47.54.136	14/Jun/2014:10:30:13 -0400	Apparel	Jacket
217.89.36.129	14/Jun/2014:10:30:13 -0400	Outdoors	Umbrella
36.44.59.115	14/Jun/2014:10:30:13 -0400	Bedding	Pillow cases
79.130.215.123	14/Jun/2014:10:30:13 -0400	Water sports	Sunscreen
162.235.161.200	14/Jun/2014:10:30:13 -0400	Footwear	Football cleat
39.244.91.153	14/Jun/2014:10:30:13 -0400	Kids	Shorts
160.47.54.136	14/Jun/2014:10:30:13 -0400	Apparel	Jacket
217.89.36.129	14/Jun/2014:10:30:13 -0400	Outdoors	Umbrella
36.44.59.115	14/Jun/2014:10:30:13 -0400	Bedding	Pillow cases





Primary analytic workloads in the cloud

scale, agility, and cost-efficiency

Only pay for what you need, when you need it

- Transient workloads
- Contention-free
- Cloud-native integration



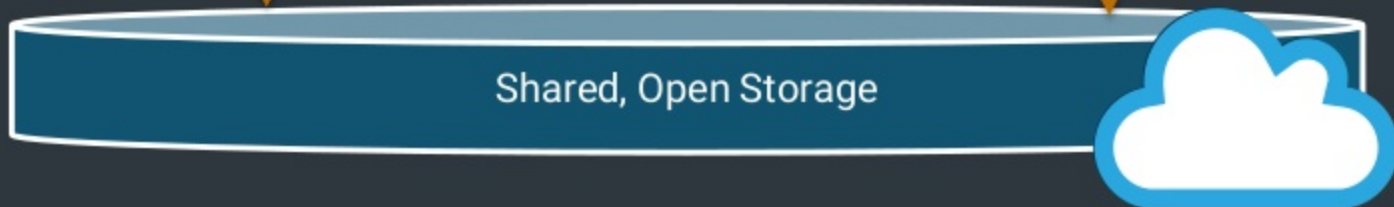
DATA ENGINEERING



ANALYTIC DATABASE

Self-service flexibility at any scale

- Elastic scale
- Multi-tenant isolation
- Cloud-native or local



AWS Security & Compliance

Rohit Pujari, Solutions Architect

Why is security traditionally so hard?



**Lack of
visibility**



**Low degree
of automation**

Before...

Move fast  Stay secure

Making life easier



Choosing **security** does not mean
giving up on **convenience** or
introducing complexity

The most sensitive workloads run on AWS



"We can be even more secure in the AWS cloud than in our own datacenters."

—Tom Soderstrom, CTO, NASA JPL



"We determined that security in AWS is superior to our on-premises data center across several dimensions, including patching, encryption, auditing and logging, entitlements, and compliance."

—John Brady, CISO, FINRA (Financial Industry Regulatory Authority)



"We knew the cloud was the only way to get the scalability, speed, and security our customers expect from 3M."

—Rick Austin, 3M Health Information Systems

Inherit global security and compliance controls



“CIOs and CISOs need to stop obsessing over unsubstantiated cloud security worries, and instead apply their imagination and energy to developing new approaches to cloud control, allowing them to securely, compliantly, and reliably leverage the benefits of this increasingly ubiquitous computing model.”

Source: [Clouds Are Secure: Are You Using Them Securely?](#)

Move to AWS

Strengthen your security posture



Inherit
global
security and
compliance
controls



Automate
with deeply integrated
security tools
and services



Scale
with superior
visibility and control
that satisfies the
most risk-sensitive
orgs



**Largest
network**
of security
partners and solutions



**Highest
standards**
for privacy
and data
security

Highest standards for privacy



Meet data residency requirements

Choose an AWS Region and AWS will not replicate it elsewhere unless you choose to do so



Encrypt data in transit and at rest

with keys managed by our AWS Key Management System (KMS) or managing your own encryption keys with Cloud HSM using FIPS 140-2 Level 3 validated HSMs



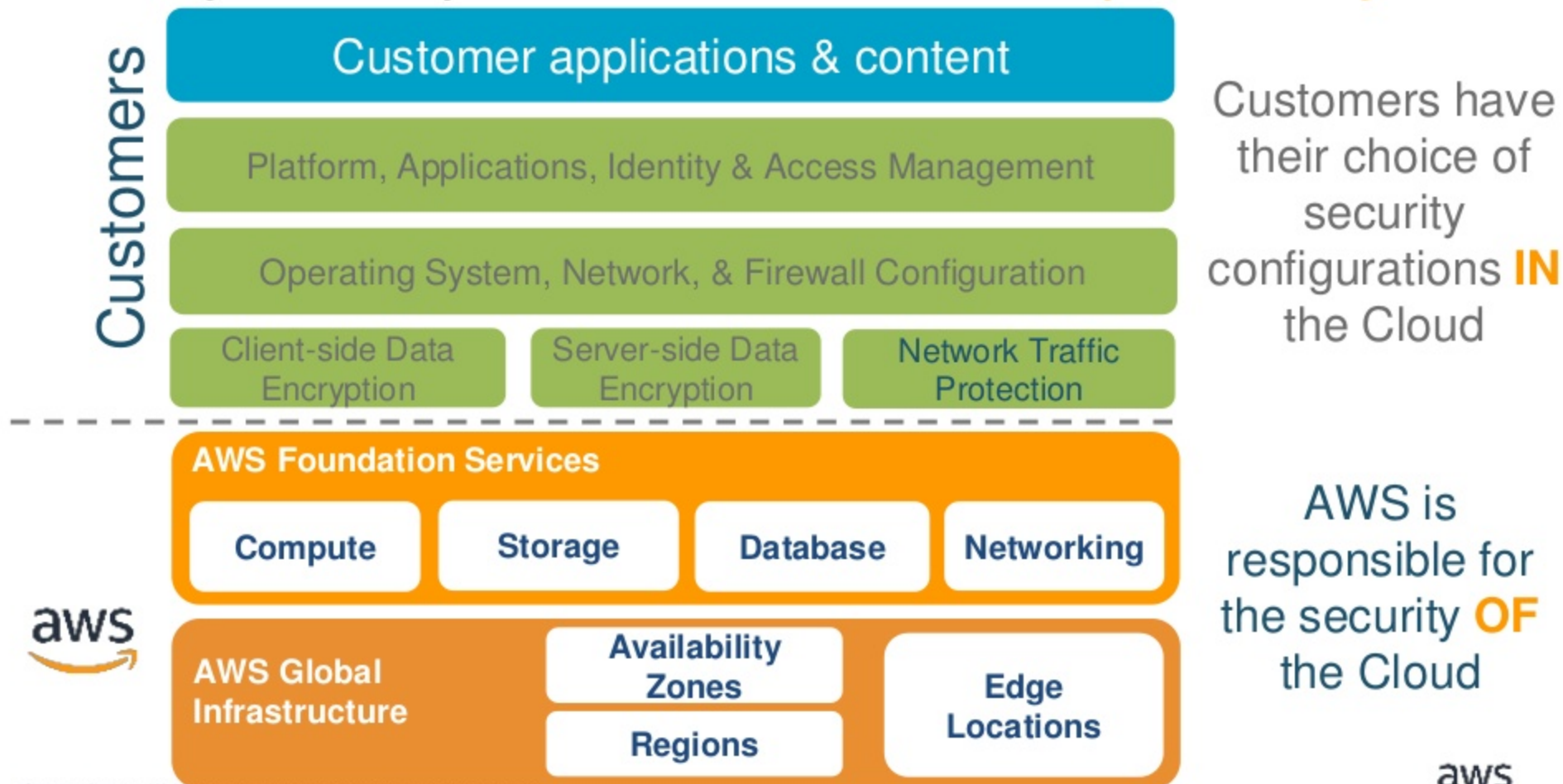
Comply with local data privacy laws

by controlling who can access content, its lifecycle and disposal



Access services and tools that enable you to **build GDPR-compliant infrastructure** on top of AWS

Security & compliance is a **shared responsibility**



Security is a shared responsibility

Security expertise is a scarce resource; AWS oversees the big picture, letting your security team focus on a subset of overall security needs.



AWS

- Facilities
- Physical security
- Compute infrastructure
- Storage infrastructure
- Network infrastructure
- Virtualization layer (EC2)
- Hardened service endpoints
- Rich IAM capabilities



- Network configuration
- Security groups
- OS firewalls
- Operating systems
- Application security
- Proper service configuration
- AuthN and account management
- Authorization policies



More secure and compliant systems than any single entity could normally achieve on its own

Segmented AWS Account Structure

Applications

Dev

Prod

Data & Analytics

Altus

BI/Machine
Learning

Operations & Monitoring

Log Analytics

ITOA/ITSM

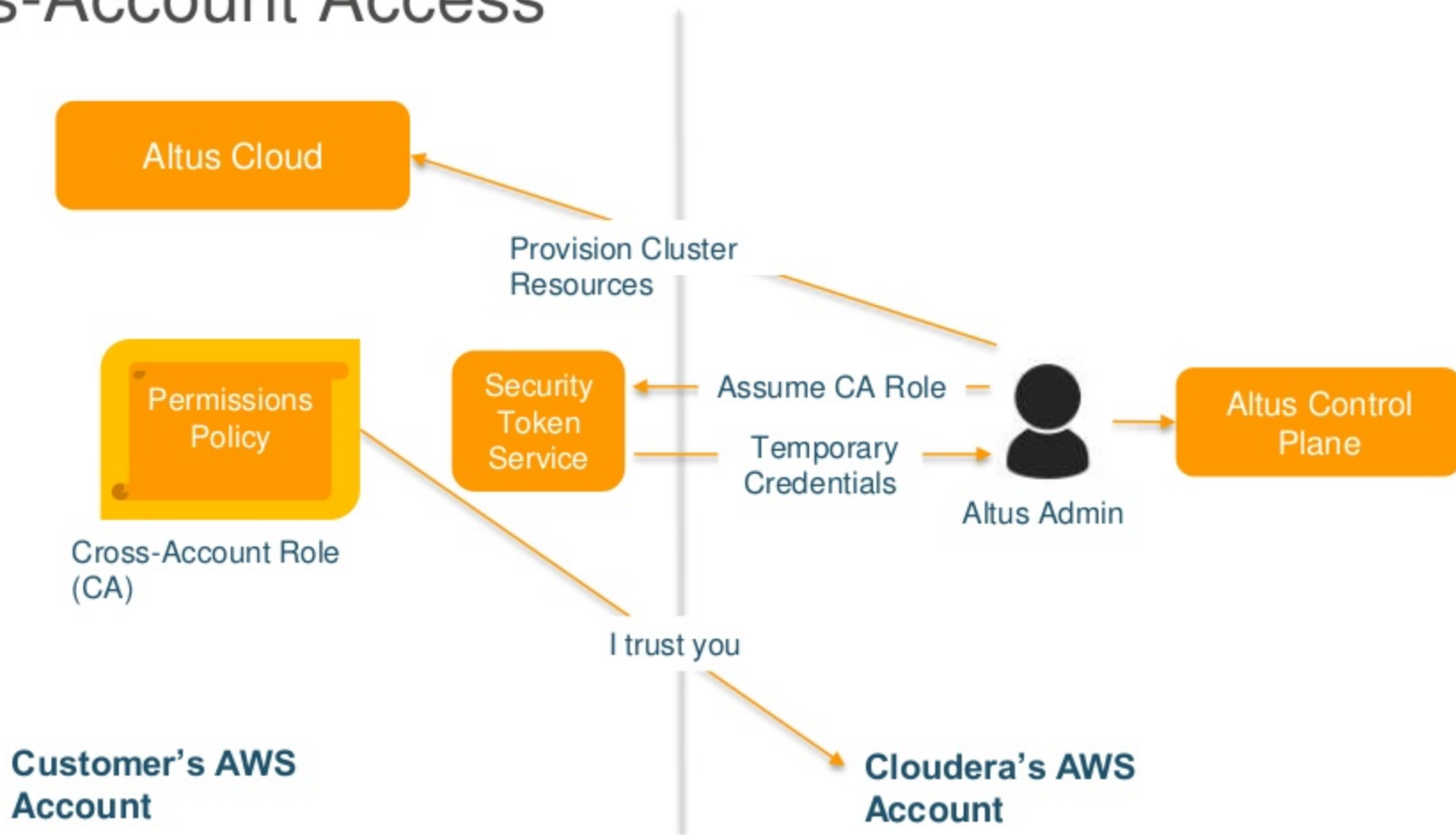
Billing Account

Shared Services

Security / Audit

Foundation Accounts

Cross-Account Access



AWS Security Solutions



Identity

AWS Identity & Access
Management (IAM)

AWS Organizations

AWS Cognito

AWS Directory Service

AWS Single Sign-On



Detective control

AWS CloudTrail

AWS Config

Amazon
CloudWatch

Amazon GuardDuty

VPC Flow Logs



Infrastructure security

Amazon EC2
Systems Manager

AWS Certificate Manager

AWS Shield

AWS Web Application
Firewall (WAF)

Amazon Inspector

Amazon Virtual Private
Cloud (VPC)



Data protection

AWS Key Management
Service (KMS)

AWS CloudHSM

Amazon Macie

Certificate Manager

Server Side Encryption



Incident response

AWS Config Rules

AWS Lambda

Improving your security with AWS...

“And of course, security is critical for us. The financial services industry attracts some of the worst cyber criminals. So we worked closely with the AWS team to develop a security model which, we believe, **allows us to operate more securely** in the public cloud than we can even in our own data centers.” – *Rob Alexander CIO Capital One*



<https://youtu.be/0E90-ExySb8>

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Summary

- Security is job zero for AWS
- AWS takes care of the security **OF** the Cloud
- You define your controls **IN** the Cloud
- Compliance is more cost effective in AWS
- AWS can be more secure than on-premises datacenters

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Thank you

cloudera.com/altus

aws.amazon.com/security

Main resources

AWS Cloud Security <https://aws.amazon.com/security/>

AWS Cloud Compliance <https://aws.amazon.com/compliance/>

AWS Quick Starts <https://aws.amazon.com/quickstart/>

Cloud Security Resources <https://aws.amazon.com/security/security-resources/>

AWS Security Blog <https://aws.amazon.com/blogs/security/>

Whitepapers

Introduction to AWS Security [https://d0.awsstatic.com/whitepapers/Security/Intro to AWS Security.pdf](https://d0.awsstatic.com/whitepapers/Security/Intro%20to%20AWS%20Security.pdf)

Introduction to AWS Security Processes [https://d0.awsstatic.com/whitepapers/Security/Intro Security Practices.pdf](https://d0.awsstatic.com/whitepapers/Security/Intro%20Security%20Practices.pdf)

Overview of Security Processes [https://d0.awsstatic.com/whitepapers/Security/AWS Security Whitepaper.pdf](https://d0.awsstatic.com/whitepapers/Security/AWS%20Security%20Whitepaper.pdf)

AWS Security Best practices [https://d0.awsstatic.com/whitepapers/Security/AWS Security Best Practices.pdf](https://d0.awsstatic.com/whitepapers/Security/AWS%20Security%20Best%20Practices.pdf)

AWS Security Checklist [https://d0.awsstatic.com/whitepapers/Security/AWS Security Checklist.pdf](https://d0.awsstatic.com/whitepapers/Security/AWS%20Security%20Checklist.pdf)

Introduction to Auditing the Use of AWS

[https://d0.awsstatic.com/whitepapers/compliance/AWS Auditing Security Checklist.pdf](https://d0.awsstatic.com/whitepapers/compliance/AWS%20Auditing%20Security%20Checklist.pdf)

Operational Checklist for AWS [http://media.amazonwebservices.com/AWS Operational Checklists.pdf](http://media.amazonwebservices.com/AWS%20Operational%20Checklists.pdf)

Risk and Compliance [https://d0.awsstatic.com/whitepapers/compliance/AWS Risk and Compliance Whitepaper.pdf](https://d0.awsstatic.com/whitepapers/compliance/AWS%20Risk%20and%20Compliance%20Whitepaper.pdf)

Encryption data at Rest [https://d0.awsstatic.com/whitepapers/AWS Securing Data at Rest with Encryption.pdf](https://d0.awsstatic.com/whitepapers/AWS%20Securing%20Data%20at%20Rest%20with%20Encryption.pdf)

Use AWS WAF to Mitigate OWASP's top Web Application Vulnerabilities

<https://d0.awsstatic.com/whitepapers/Security/aws-waf-owasp.pdf>

AWS Best Practices for DDoS Resiliency [https://d0.awsstatic.com/whitepapers/Security/DDoS White Paper.pdf](https://d0.awsstatic.com/whitepapers/Security/DDoS%20White%20Paper.pdf)

AWS Well-Architected Framework [https://d0.awsstatic.com/whitepapers/architecture/AWS Well-](https://d0.awsstatic.com/whitepapers/architecture/AWS%20Well-Architected%20Framework.pdf)

[Architected Framework.pdf](https://d0.awsstatic.com/whitepapers/architecture/AWS%20Well-Architected%20Framework.pdf)

Security at Scale: Logging in AWS

[http://d0.awsstatic.com/whitepapers/compliance/AWS Security at Scale Logging in AWS Whitepaper.pdf](http://d0.awsstatic.com/whitepapers/compliance/AWS%20Security%20at%20Scale%20Logging%20in%20AWS%20Whitepaper.pdf)