

AWS State, Local, and Education Learning Days

Washington, DC



Building a Modern Data Strategy

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**“If we have data, let’s look
at the data.
If all we have are opinions,
let’s go with mine”**

Jim Barksdale
CEO of Netscape

Data is just the Building Blocks

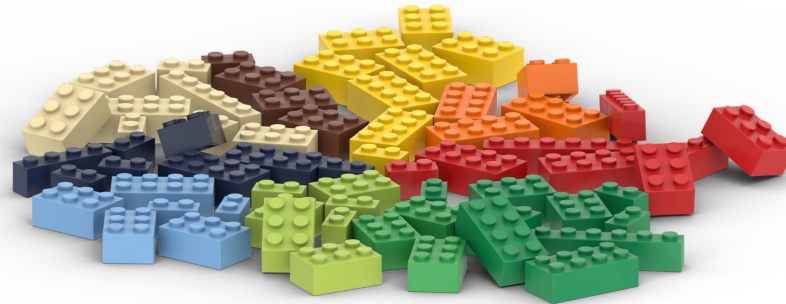
Data



Information



Insights

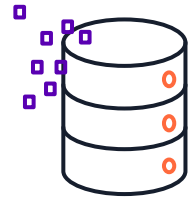


Without structure, tools and processes,
Data has very little value

The data challenge



Availability of
electronic data
is growing
exponentially



Data coming from
new, disconnected
sources



Increasingly
diverse in file type
and volume



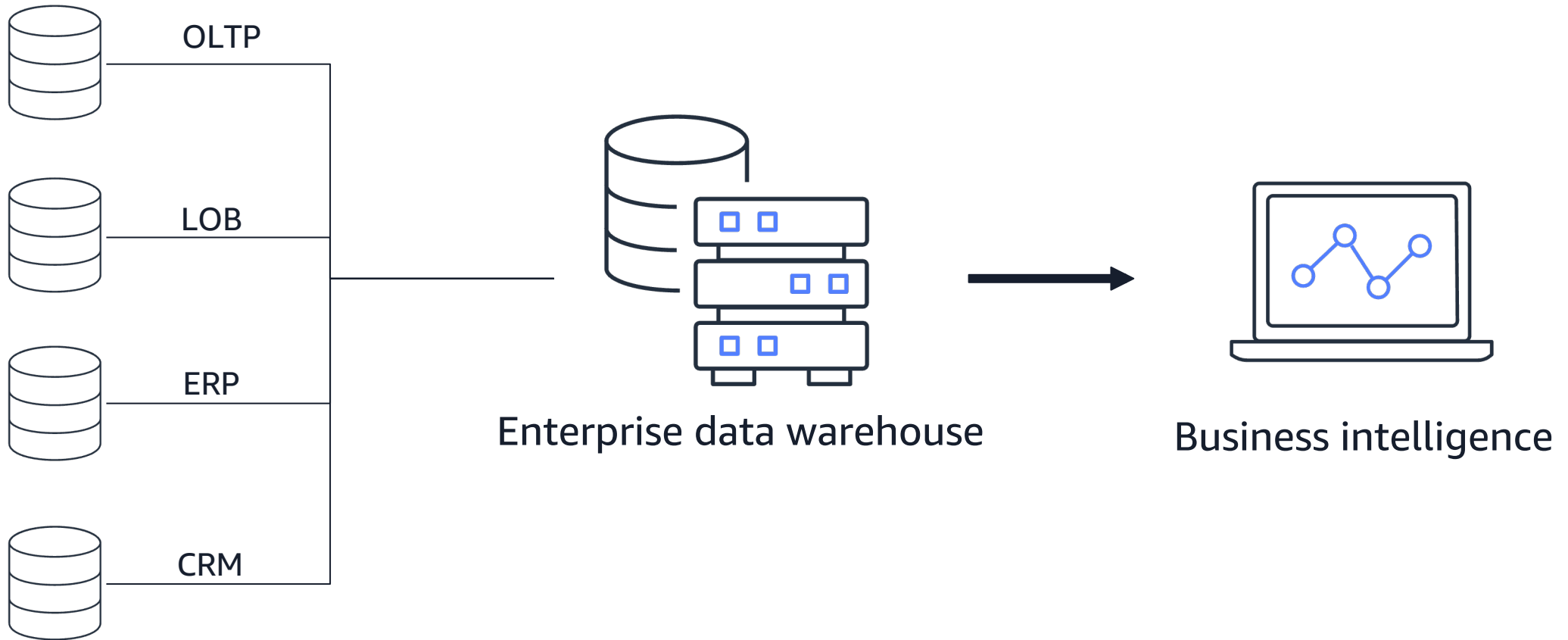
Used by
many people (e.g.
policy makers,
researchers, etc.)



Analyzed by
many applications

Current state

Currently, decision-making revolve around the **enterprise data warehouse**



Data no longer scales

There is more data and more diversity of data than people think

Data growth

>10x
every 5 years

Data
platforms need

To live for
15+
years

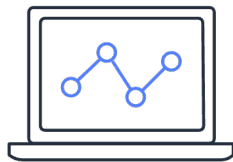
To scale
1,000x



Accessibility of data



Data scientists



Business users



Analysts



Applications



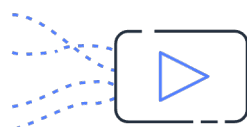
Machine learning



SQL analytics



Scientific

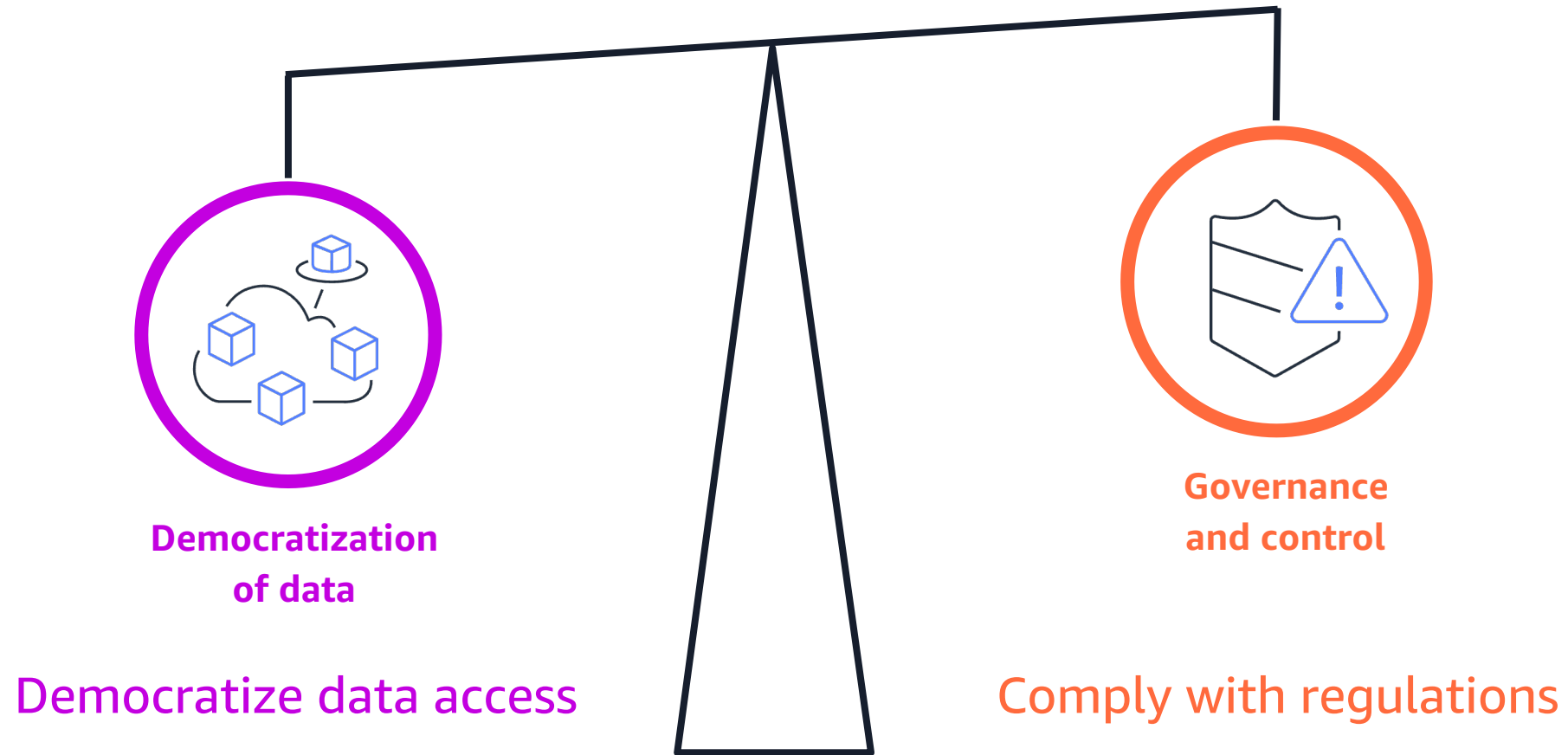


Real-time, streaming

There are **more people** accessing data

And in **different ways**

Striking the balance



What now? **Let's rethink everything**



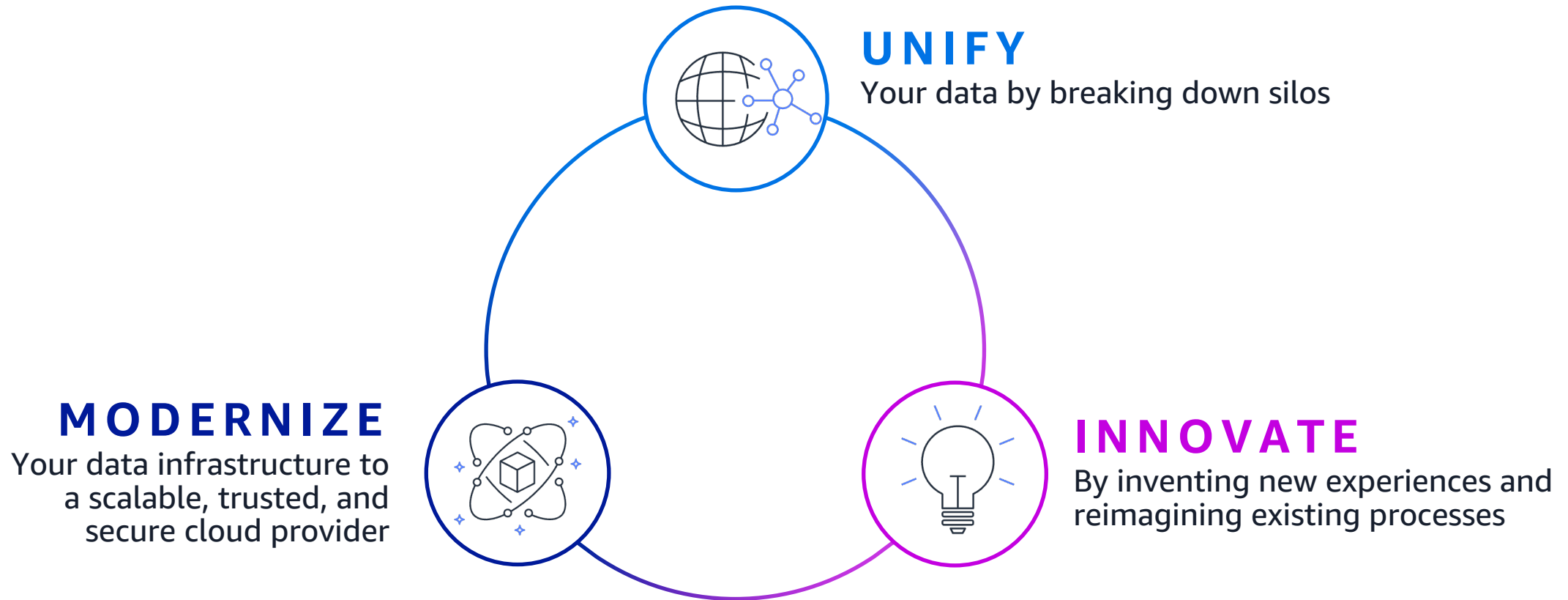
Raw Data



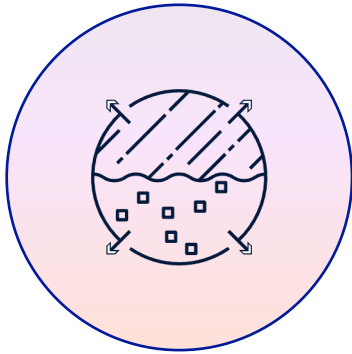
Insights

Modern Data Strategy

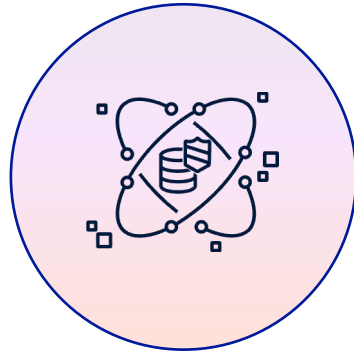
Modern data strategy for better mission outcomes



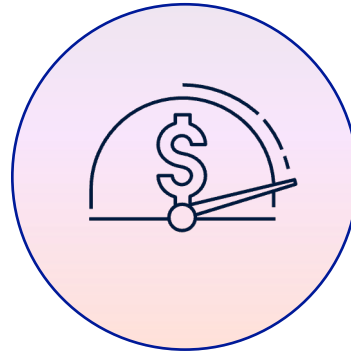
AWS modern data strategy components



Scalable
data lakes



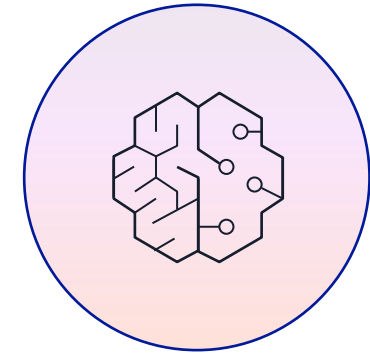
Unified data
access, security,
and governance



Purpose-built
data services for
performance
and cost



Serverless
and easy to
use



Built-in
machine
learning

Create better mission outcomes with data



Make better, faster decisions



Improve customer experience



Prepare for the future



Reduce costs and improve productivity

Examples



Create better citizen & student experiences & outcomes



Student success & community relevance



Respond to the unexpected



Support research in the swine industry



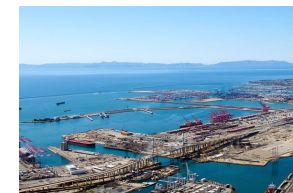
Unifying data to enable 360-degree views



Transform human services

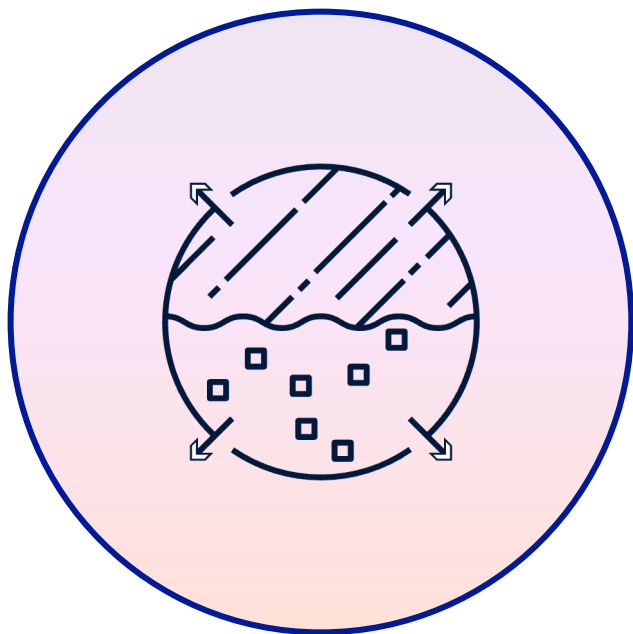


Enhancing efficiency



Create end-to-end visibility

Port of Long Beach



Unify Data with **Scalable** data lakes

Amazon S3: Data lakes on AWS

Store unlimited data in open file formats

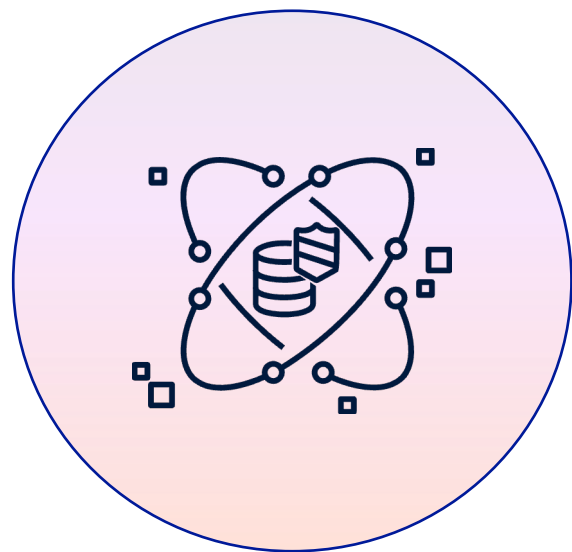
Unmatched durability, availability, and scalability

Decouple storage from compute

Choice of analytical and ML engines

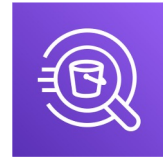
Pay as you go





Unified data access, security, and governance

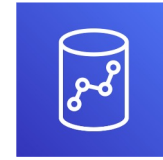
AWS Lake Formation: unified data governance



Amazon
Athena



Amazon
QuickSight



Amazon
Redshift

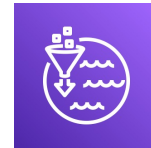
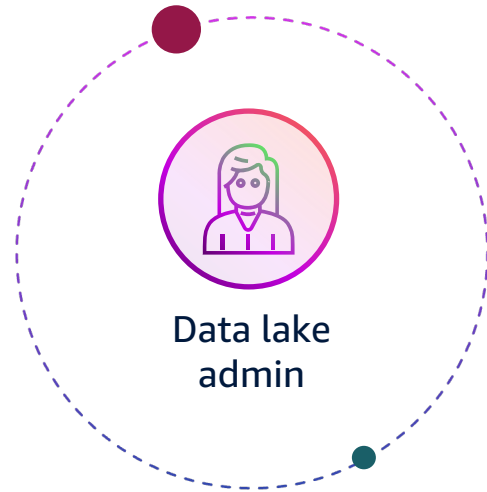


Amazon
SageMaker



Amazon
EMR

Simplified and unified
security management



AWS Lake
Formation



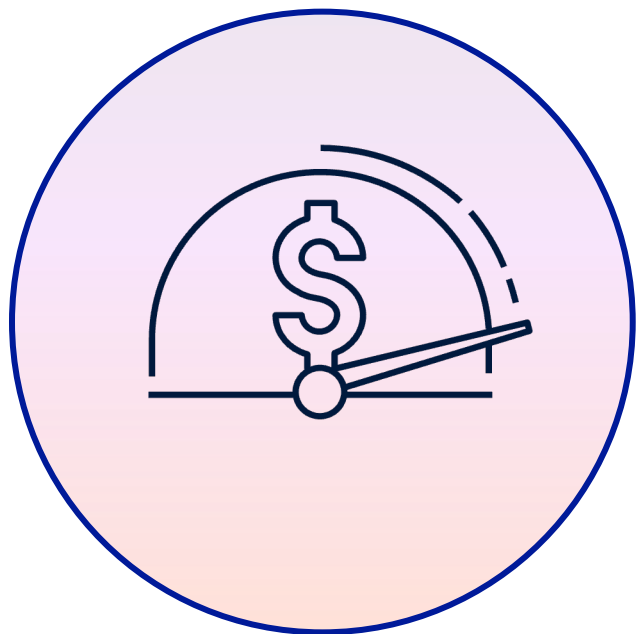
Access
control



AWS Glue
Data Catalog

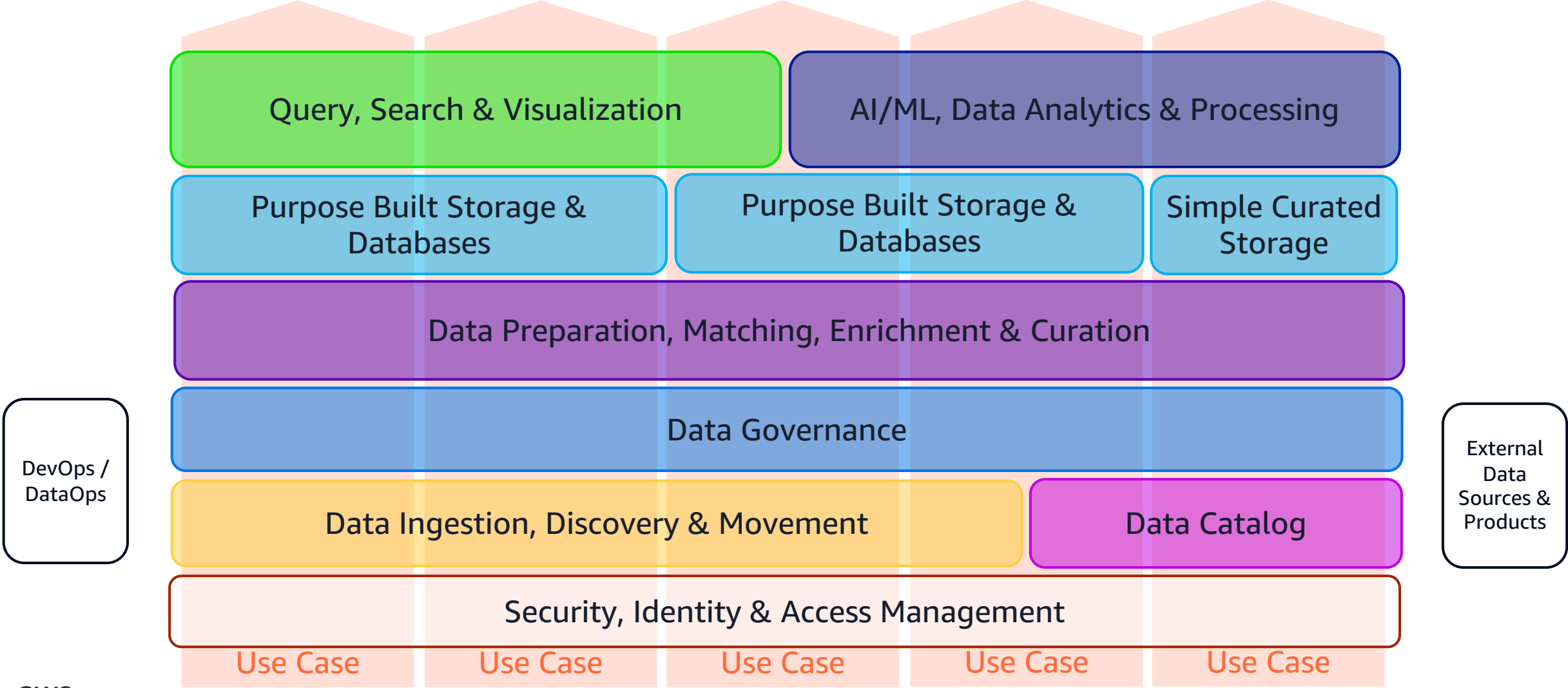


Amazon S3 data lake storage



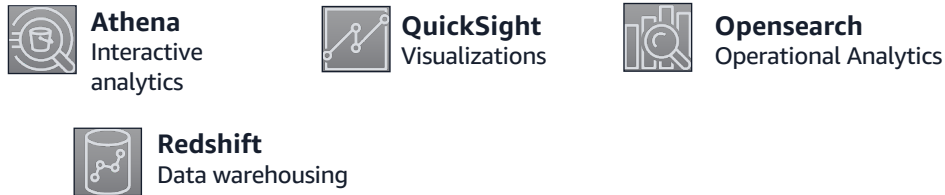
Modernize with Purpose-built data services

Build a Modern, Foundational Data Architecture

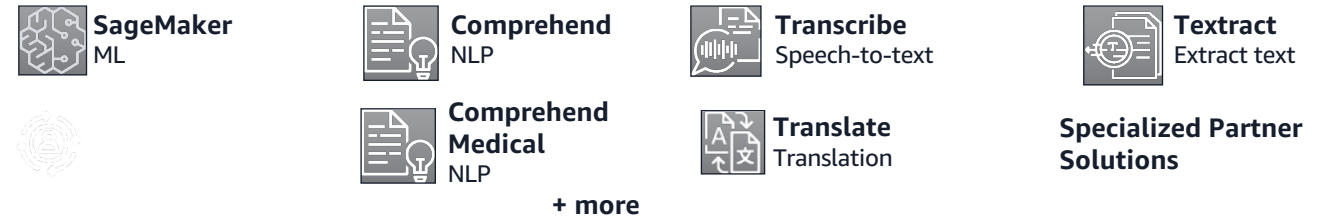


Build a Modern, Foundational Data Architecture

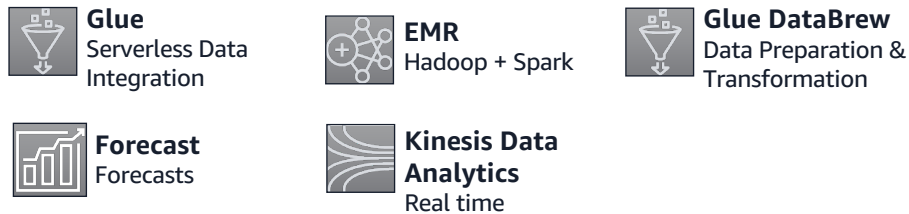
Query, Search & Visualization



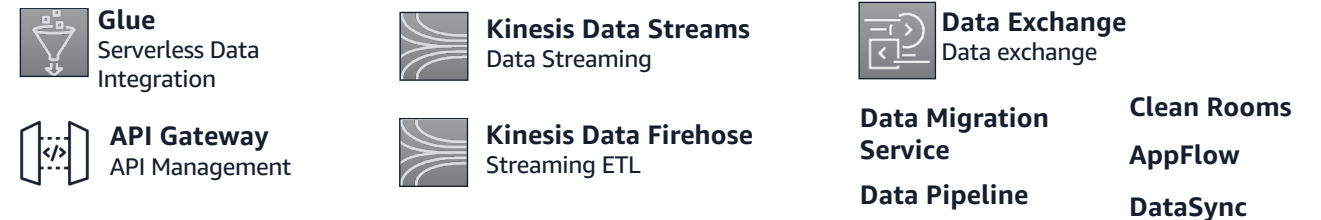
AI/ML, Data Matching & Processing



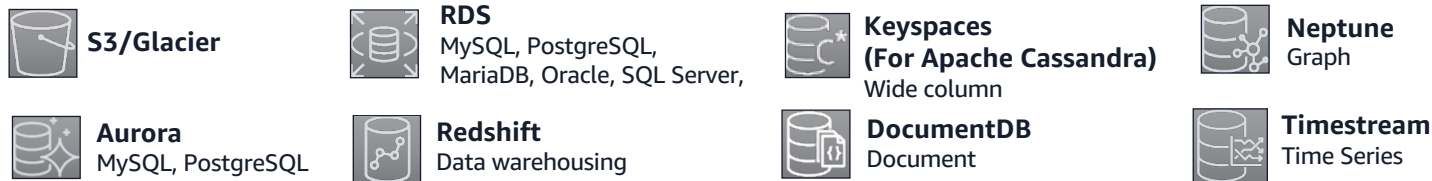
Data Preparation, Enrichment & Analysis



Data Ingestion, Integration & Movement



Data Storage & Databases



Data Catalog



Data Governance



Build a Modern, Foundational Data Architecture

Partner Solutions

Query, Search & Visualization

Qlik Tableau Cloudera SAS

AI/ML, Data Matching, Mastering & Processing

Tamr Verato Informatica Databricks +Many more
Cloudera

Data Preparation, Enrichment & Analysis

Informatica Cloudera Matillion Databricks

Data Ingestion, Integration & Movement

Informatica Cloudera Matillion Qlik Snowflake

Data Storage & Databases

Snowflake Databricks MongoDB Teradata Cloudera

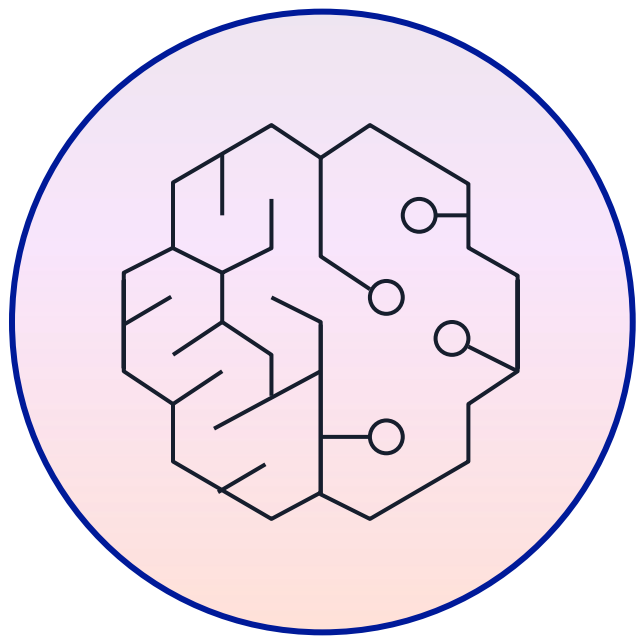
Data Catalog

Immuta Collibra
Alation Informatica
Snowflake

Data Governance

Informatica Collibra
Alation Immuta





Innovate with AI & machine learning

Build new experiences and reimagine old processes with AI/ML



- Make accurate predictions, get deeper insights from your data, and improve customer experience
- Create ML predictions without any ML experience or writing any code
- Build applications with our pre-trained models
- Train and apply your own models
- Use your own algorithms by working directly with ML-optimized AWS infrastructure
- 100,000+ customers use AWS AI and ML services to make predictions from their data

Reference Architectures

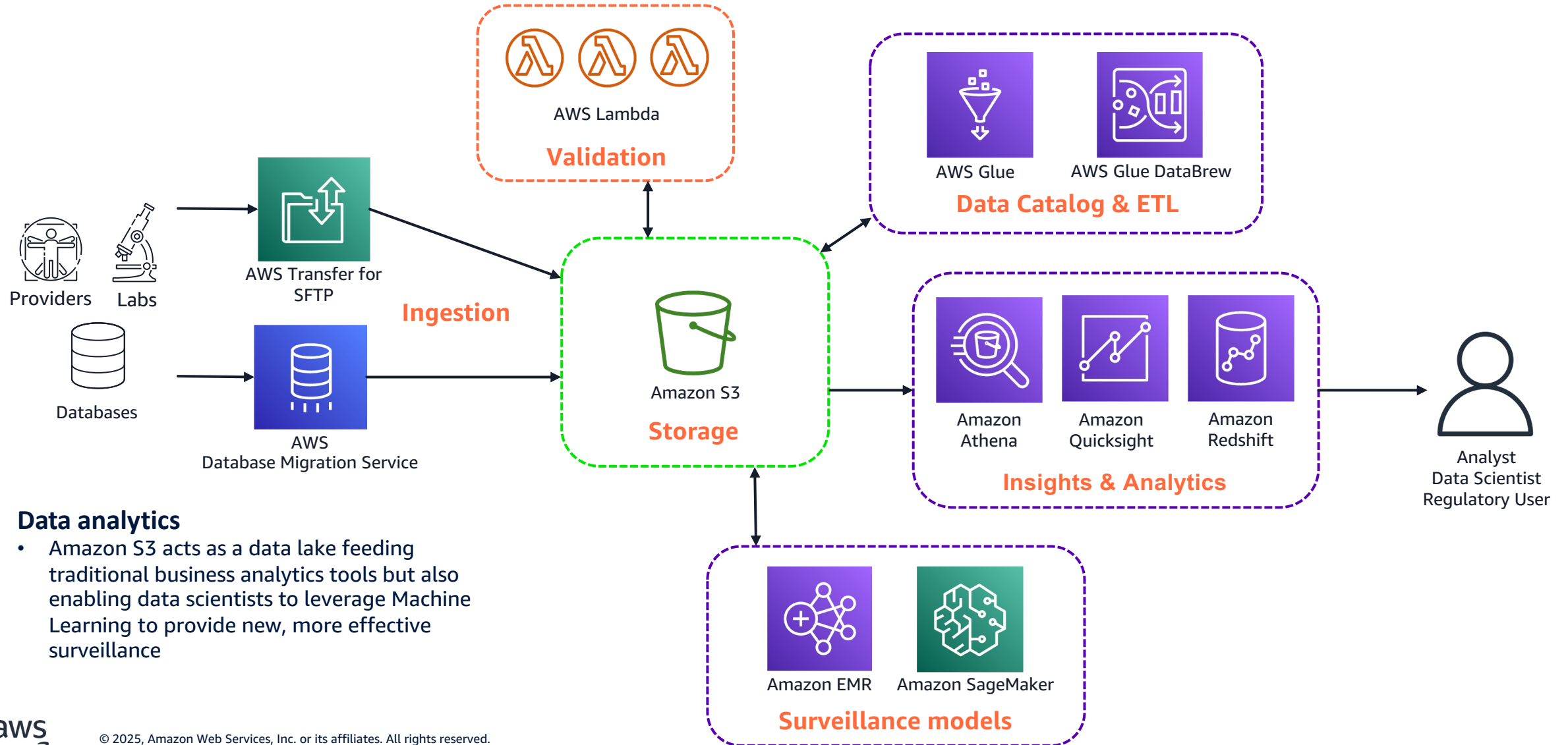


Public Health Organization

- 1 Pandemic brings 1000% increase in disease surveillance data
- 2 Legacy management systems
- 3 Limited capabilities to consolidate data sets from multiple systems
- 4 Difficulty mandating data formats from various partner organizations



Sample reference architecture for disease surveillance

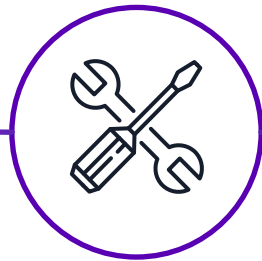


Data analytics

- Amazon S3 acts as a data lake feeding traditional business analytics tools but also enabling data scientists to leverage Machine Learning to provide new, more effective surveillance

Get started

BUILD WITH US



ML Solutions Lab
AWS Professional Services
AWS Immersion Day
Data-Driven Everything
Migration Assistance Program

BUILD WITH PARTNERS



AWS Partner Network—
100,000+ partners
AWS Marketplace (ISVs)

UPSKILL YOUR TEAMS



AWS Training and Certification
ML Embark Program



Thank you!

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Please complete the survey
for this session



Data & Analytics

Building a Modern
Data Strategy