



W E B I N A R

# Predictive Analytics for Oracle E-Business Suite

## Oracle Applications on AWS

Vishnu Vinnakota (he/him)

Specialist SA - Oracle on AWS  
Amazon Web Services

# Agenda

- AWS Machine Learning Services
- Introduction to ERP and ERP Data
- Predictive Analytics for Oracle E-Business Suite with a use case
- Redshift ML
- SageMaker Canvas
- Visualize Data: QuickSight
- Oracle E-Business Suite Modernization

# AWS Machine Learning Services

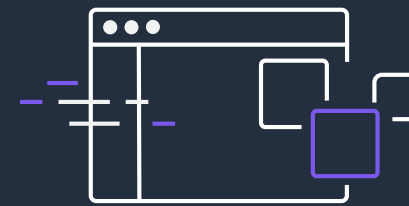
# Machine Learning for predictive analytics



Transform  
customer experience



Improve business  
operations



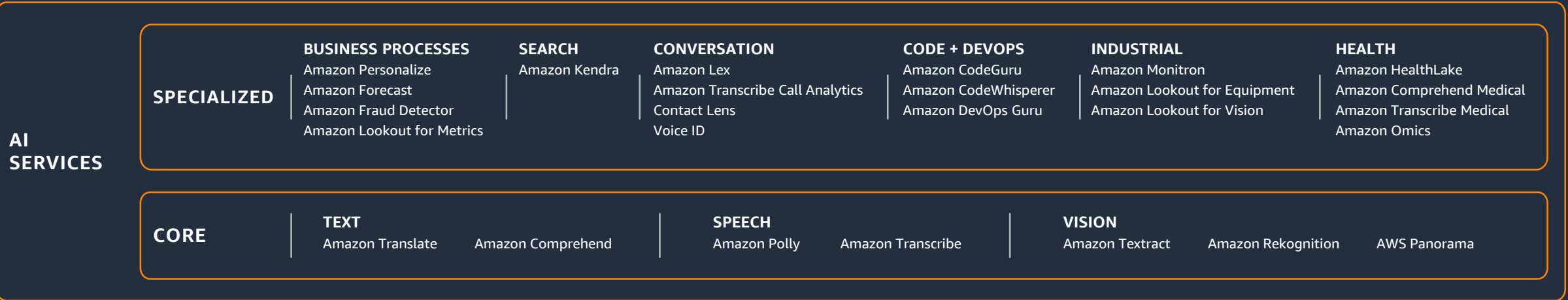
Better and faster  
decision-making



Innovate product  
or service

# The AWS AI/ML stack

BROADEST AND MOST COMPLETE SET OF MACHINE LEARNING CAPABILITIES



# Introduction ERP and ERP Data

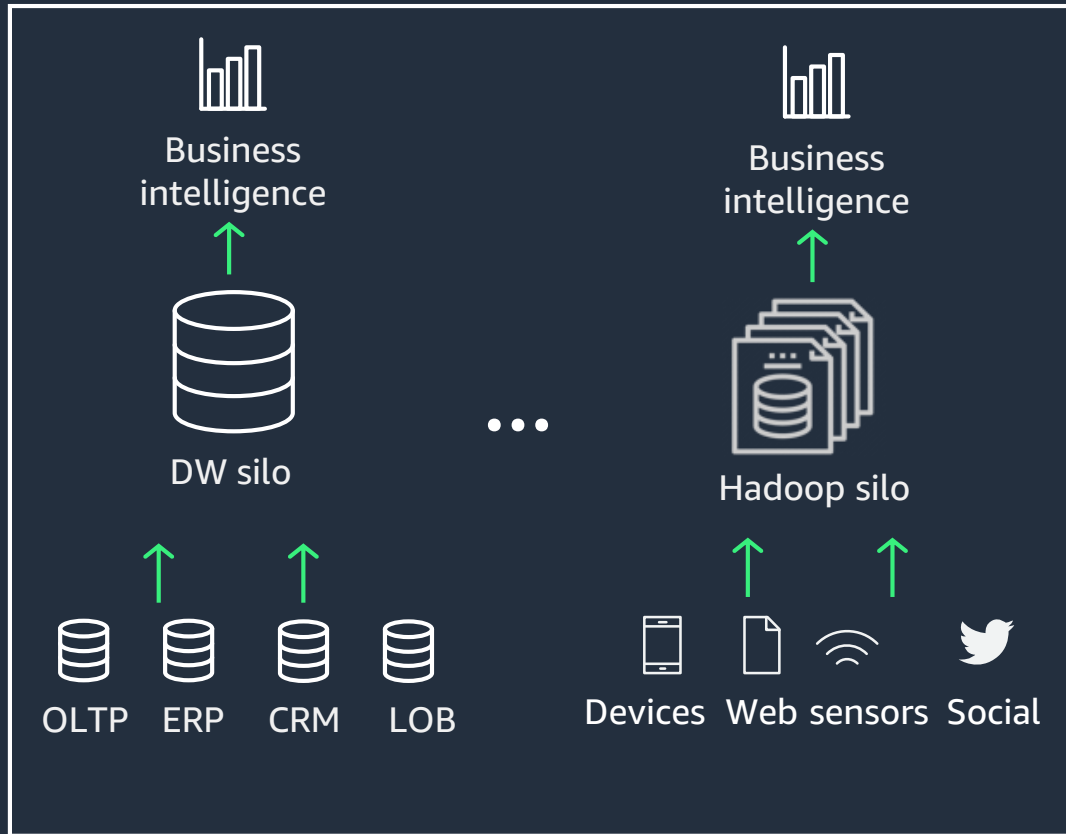
# Understanding ERP

- SAP
- Oracle E-Business Suite
- Peoplesoft
- JD Edwards
- Siebel

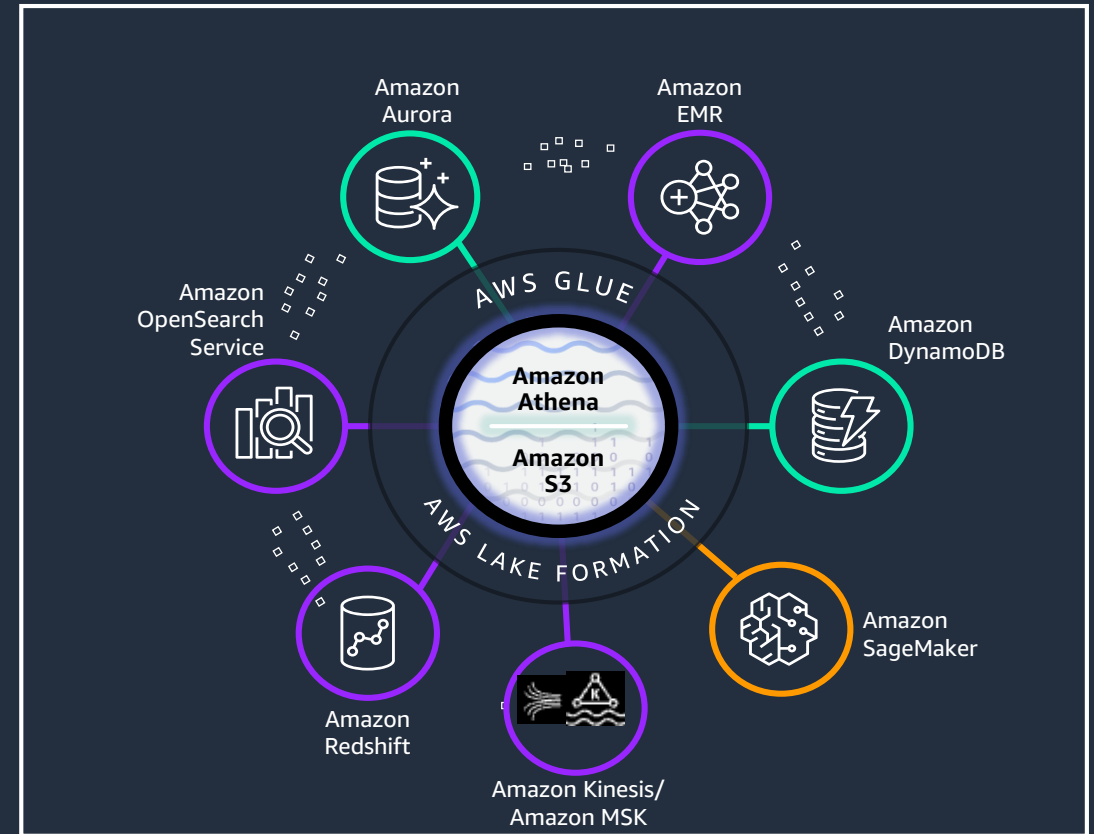


# Customers are moving from . . .

## Siloed data



## Modern data architectures

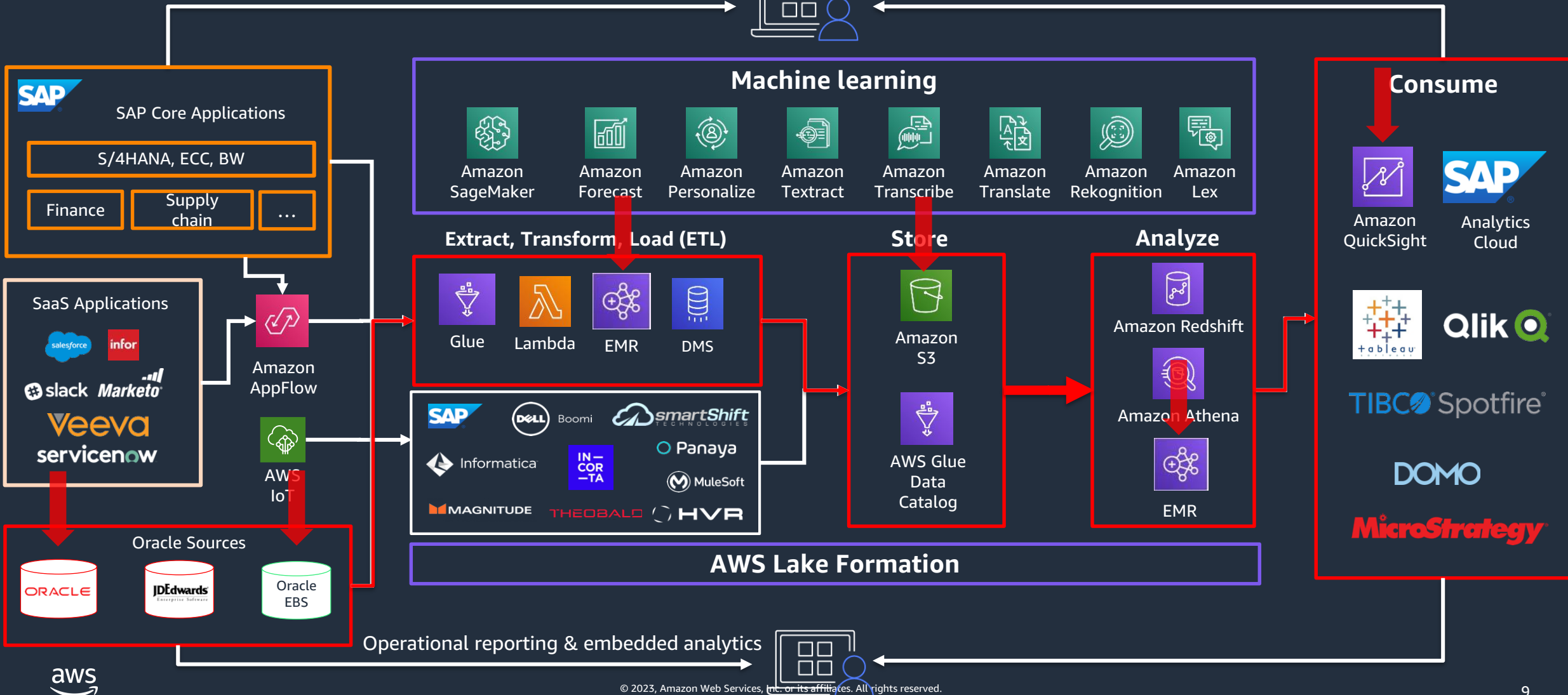




# End-to-end Enterprise ML and Analytics for ERP

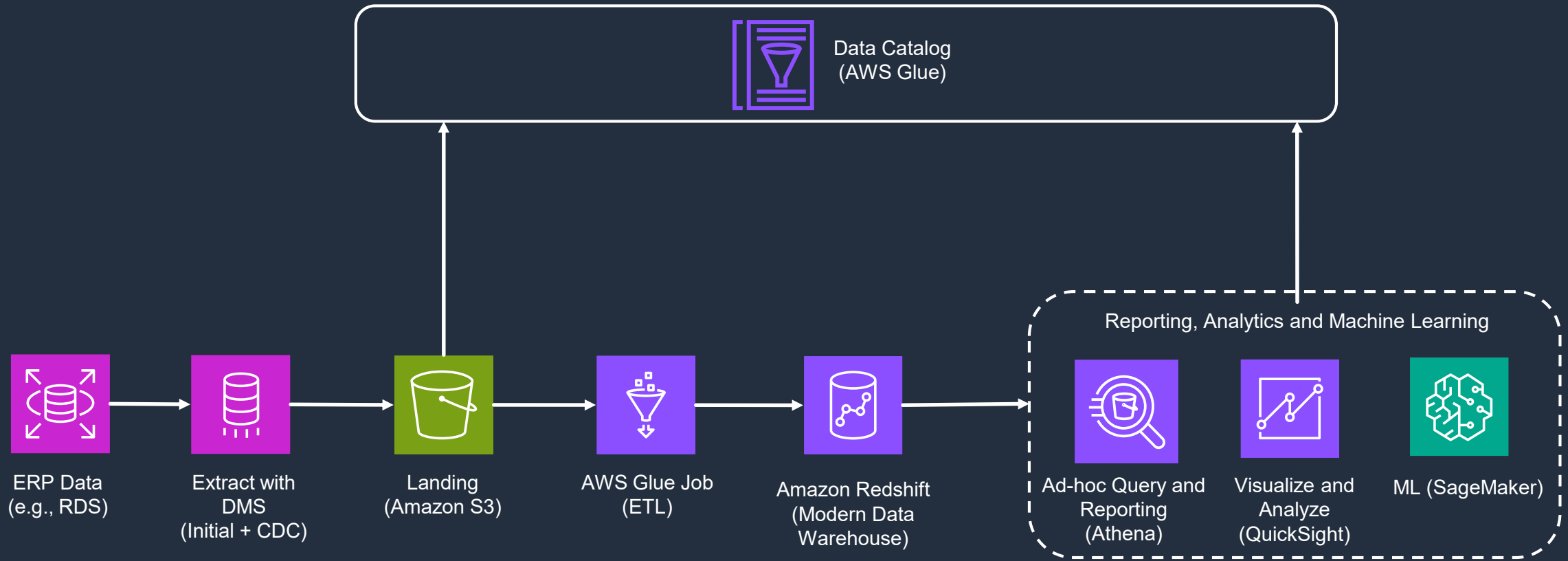
Operational reporting & embedded analytics

End-to-end enterprise analytics



# Predictive Analytics for Oracle E-Business Suite: Delivery Prediction

# Oracle E-Business Suite Predictive Analytics



# Create a Database Migration Task



## Migration project features

You can use migration projects in AWS DMS to convert source database schemas to a format that is compatible with the target database. You can also use migration projects to run homogeneous data migrations that use native database tools.

[View migration projects](#)



## Database migration tasks (1)

< 1 >

<input type="checkbox"/>	Identifier ▾	Status ▾	Progress ▾	Type ▾	Source ▾	Target ▾
<input type="checkbox"/>	<a href="#">ebstos3</a>	<span>✔</span> Load complete	<div style="width: 100%;"><div style="width: 100%;"></div></div> 100%	Full load	ebsendpoint	s3endpoint



# Create a Database Migration Task

- Workflows (orchestration)
- ▼ Data Catalog
  - Databases
  - Tables
  - Stream schema registries
  - Schemas
  - Connections
  - Crawlers**
  - Classifiers
  - Catalog settings
- ▼ Data Integration and ETL
  - ETL jobs
  - Visual ETL
  - Notebooks
  - Job run monitoring
  - Interactive Sessions

AWS Glue > Crawlers

## Crawlers

A crawler connects to a data store, progresses through a prioritized list of classifiers to determine the schema for your data, and then creates metadata tables in your data catalog.

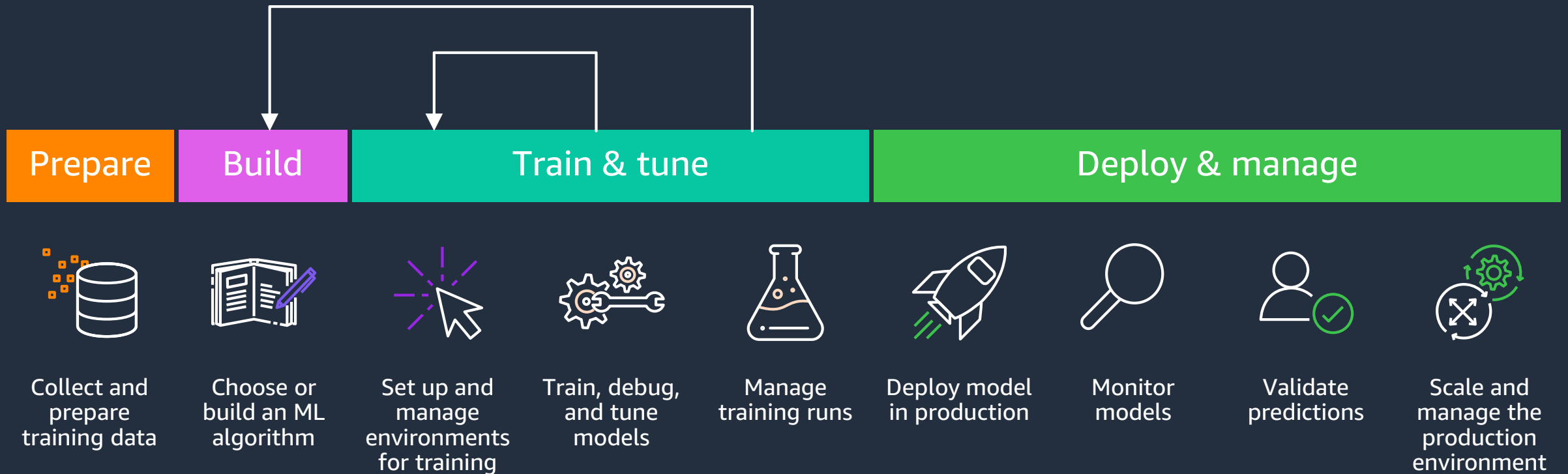
**Crawlers (1)** [Info](#) Last updated (UTC)  
October 2, 2023 at 06:37:28

View and manage all available crawlers.

< 1 >
⚙️

	Name	State	Schedule	Last run	Last run...	Log	Tabl
<input type="checkbox"/>	s3ebscrawler	✔️ Ready		✔️ Succeeded	June 22, 20...	<a href="#">View log</a> <span style="font-size: 0.8em;">🔗</span>	1 cre

# Typical steps in machine learning



# AWS Analytics and Machine Learning services used for use case

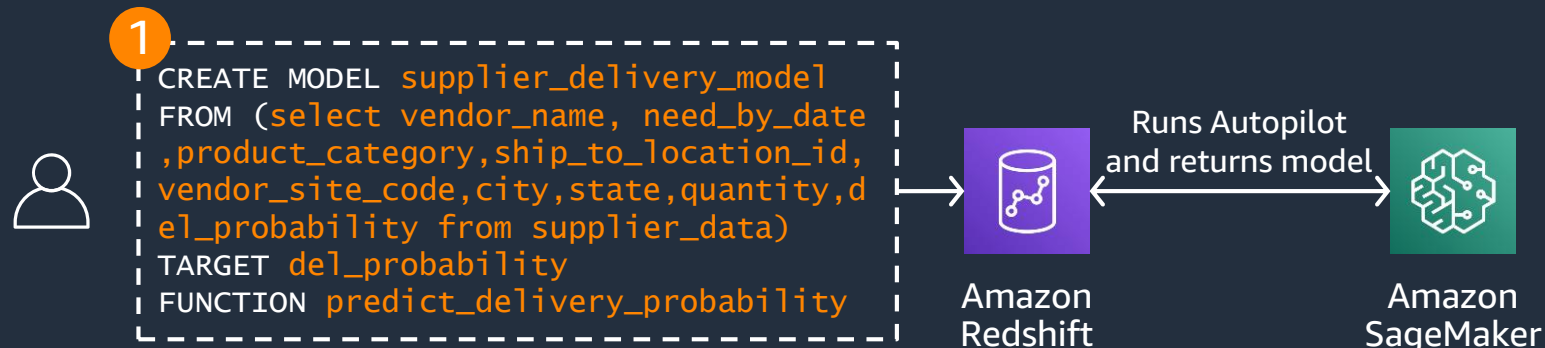
Service	Effort
Redshift ML	Low-Code ML with SQL
Sagemaker Canvas	No-code ML GUI Based
QuickSight	No-code visualization and forecasting

# Redshift ML : Low-Code ML with SQL



# How Amazon Redshift ML works

## Train



Create, train, and deploy model with a simple SQL command

Auto-selection of model, preprocessing, and training using SageMaker Autopilot

Trained model gets compiled by SageMaker Neo in Amazon Redshift data warehouse so that you can make predictions using SQL

## Predict



Uses previously built model to predict in place (inference executed entirely in Amazon Redshift)

# Demo: Order delivery prediction in Oracle E-Business Suite using Redshift ML

## Perform prerequisites: **IAM Roles and Policies**

Role	Description
S3ebsgluecrawler	<p>Create a policy with permissions to</p> <ul style="list-style-type: none"> <li>• Glue : Read, Write</li> <li>• S3 : Read, List, Write</li> </ul>
vishnu-redshift-iam-role	<p>Create a role with below policies:</p> <ul style="list-style-type: none"> <li>• AmazonAthenaFullAccess</li> <li>• AmazonRedshiftAllCommandsFullAccess</li> <li>• AmazonSageMakerFullAccess</li> <li>• AWSGlueConsoleFullAccess</li> <li>• AWSGlueServiceRole</li> <li>• AWSLambda_FullAccess</li> <li>• CloudWatchLogsFullAccess</li> <li>• s3ebsgluecrawler (Customer Managed)</li> </ul>

## Perform prerequisites: **Create S3 Buckets**

S3 Buckets	Description
Create S3 Buckets	Create required S3 buckets for below with necessary permissions: <ul style="list-style-type: none"><li>• DMS Endpoint</li><li>• Redshift / Sagemaker</li></ul>

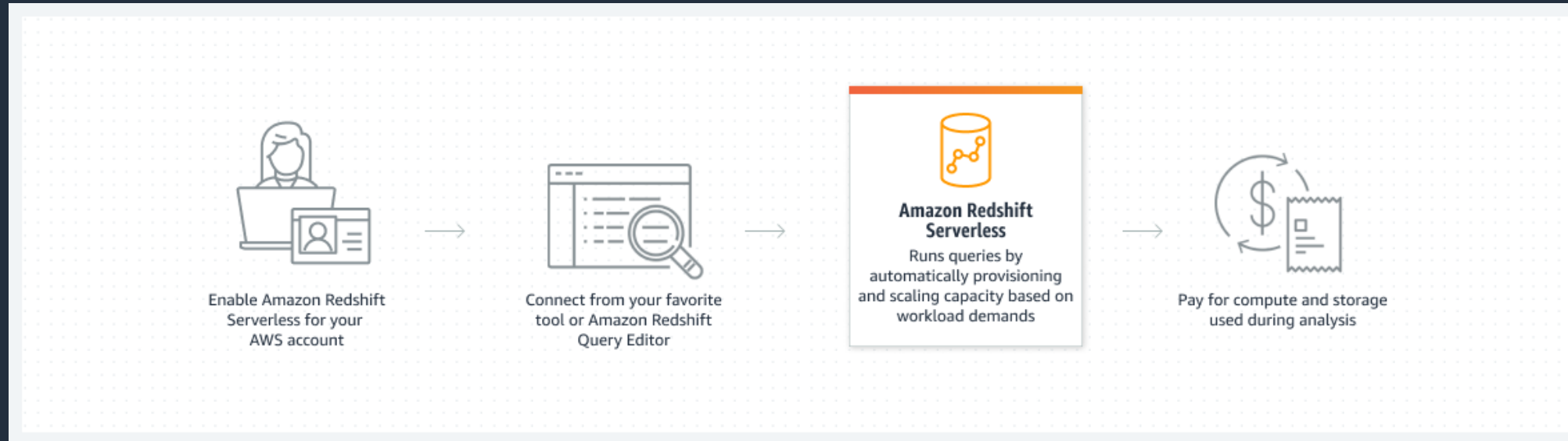
## Extract Data: **Create DMS Task**

- Create Replication Instance
- Create Source and Target End Points
- Create Database Migration Task

## Glue Data Catalog : **Store E-Business Data**

- Create crawler to extract data from S3
- Creates Glue Database with extracted data

## Redshift Serverless : **Create ML Model**



- Create Redshift Serverless Namespace
- Demo data preparation
- Create and query ML model using Redshift ML

## Redshift Serverless : **Run predictions using ML Model**

- Show Model
- Predict order delivery using the ML Model



# Predictive Analytics Use Case with Redshift ML : Delivery Prediction

1	VENDOR_NAME	NEED_BY_DATE	PRODUCT_CODE	SHIP_TO_LO	LINE_NUM	ITEM_DESCR	QUANTITY	PO_NUM	SHIP_TO_OR_VENDOR_S	CITY	STATE	COUNTRY	DELIVERY_PROBABILITY	
79	Consolidated Supplies	29/09/2004	PRODUCTN.S	207	3	Base Assembly		4120	207	DALLAS-ERS	Dallas	TX	US	OnTime
80	Consolidated Supplies	29/09/2004	PRODUCTN.S	207	1	Manual Set		4307	207	DALLAS-ERS	Dallas	TX	US	OnTime
81	Consolidated Supplies	29/09/2004	PRODUCTN.S	207	3	Base Assembly		4120	207	DALLAS-ERS	Dallas	TX	US	OnTime
82	Consolidated Supplies	29/09/2004	PRODUCTN.S	207	1	Cover Assembly		4120	207	DALLAS-ERS	Dallas	TX	US	OnTime
83	Advanced Network Devi	29/09/2004	PRODUCTN.I	207	1	Floppy Drive - 1.44 MB - 3		1584	207	SANTA CLAR	Santa Clara	CA	US	OnTime
84	Advanced Network Devi	29/09/2004	PRODUCTN.S	207	1	Software - Word Processi		1574	207	SANTA CLAR	Santa Clara	CA	US	OnTime
85	Advanced Network Devi	29/09/2004	PRODUCTN.S	207	1	Software - Web Browser		1575	207	SANTA CLAR	Santa Clara	CA	US	OnTime
86	Advanced Network Devi	29/09/2004	PRODUCTN.S	207	1	Software - Spreadsheet		1576	207	SANTA CLAR	Santa Clara	CA	US	OnTime
87	Advanced Network Devi	29/09/2004	PRODUCTN.M	207	1	10" Plasma Monitor		1585	207	SANTA CLAR	Santa Clara	CA	US	OnTime
88	Advanced Network Devi	29/09/2004	PRODUCTN.E	207	1	Modem - 56k		1596	207	SANTA CLAR	Santa Clara	CA	US	OnTime
89	Allied Manufacturing	03/05/2004	MISC.MISC	409	3	Hexagonal Si	1000	17812	603	SAN JOSE-PI	San Jose	CA	US	Delayed
90	Industrial Dressler	03/10/2004	MISC.MISC	204	1	DVD Burner	25	4642	204	US HEADQU	San Francisco	CA	US	Early
91	Industrial Dressler	03/10/2004	MISC.MISC	204	1	DVD Burner	25	4641	204	US HEADQU	San Francisco	CA	US	Early
92	Advanced Network Devi	17/08/2004	COMPUTER.I	207	1	DDR400 DIM	200	4625	207	FRESNO	Fresno	CA	US	OnTime
93	Advanced Network Devi	17/08/2004	COMPUTER.I	207	1	DDR400 DIM	100	4624	207	FRESNO	Fresno	CA	US	OnTime
94	Office Supplies, Inc.	28/07/2004	MISC.MISC	204	1	23.5" x 36.25	1	4616	204	OFFICESUPP	Shaker Height	OH	US	Delayed
95	Grainger	04/08/2004	SUPPLIES.OF	207	1	Business Car	2	4619	207	GRAINGER L	La Canada	CA	US	Delayed
96	Grainger	20/07/2004	SUPPLIES.OF	207	1	Business Car	2	4614	207	GRAINGER L	La Canada	CA	US	Delayed
97	Grainger	04/08/2004	SUPPLIES.OF	207	1	Business Car	1	4618	207	GRAINGER L	La Canada	CA	US	Delayed

# SageMaker Canvas : No-Code ML

# Amazon SageMaker Canvas

**Build ML models and generate accurate predictions — no code required**



**Quickly access and prepare data for Machine Learning**



**Built-in AutoML to build models and generate accurate predictions**



**Share ML models and collaborate with data science teams**

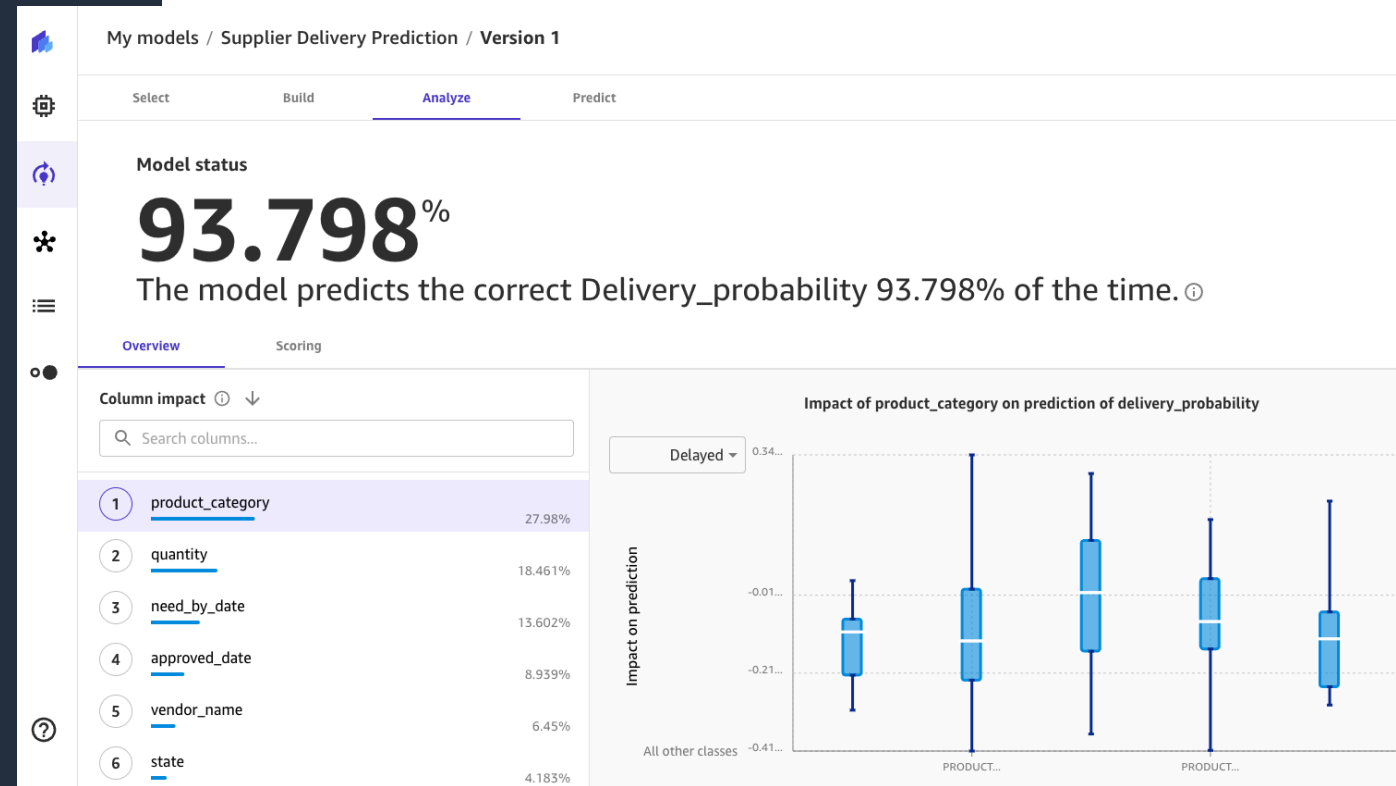


**Usage-based pricing to avoid licensing fees and reduce TCO**



**Import ML models from any tool within or outside Amazon SageMaker and generate predictions directly in SageMaker Canvas**

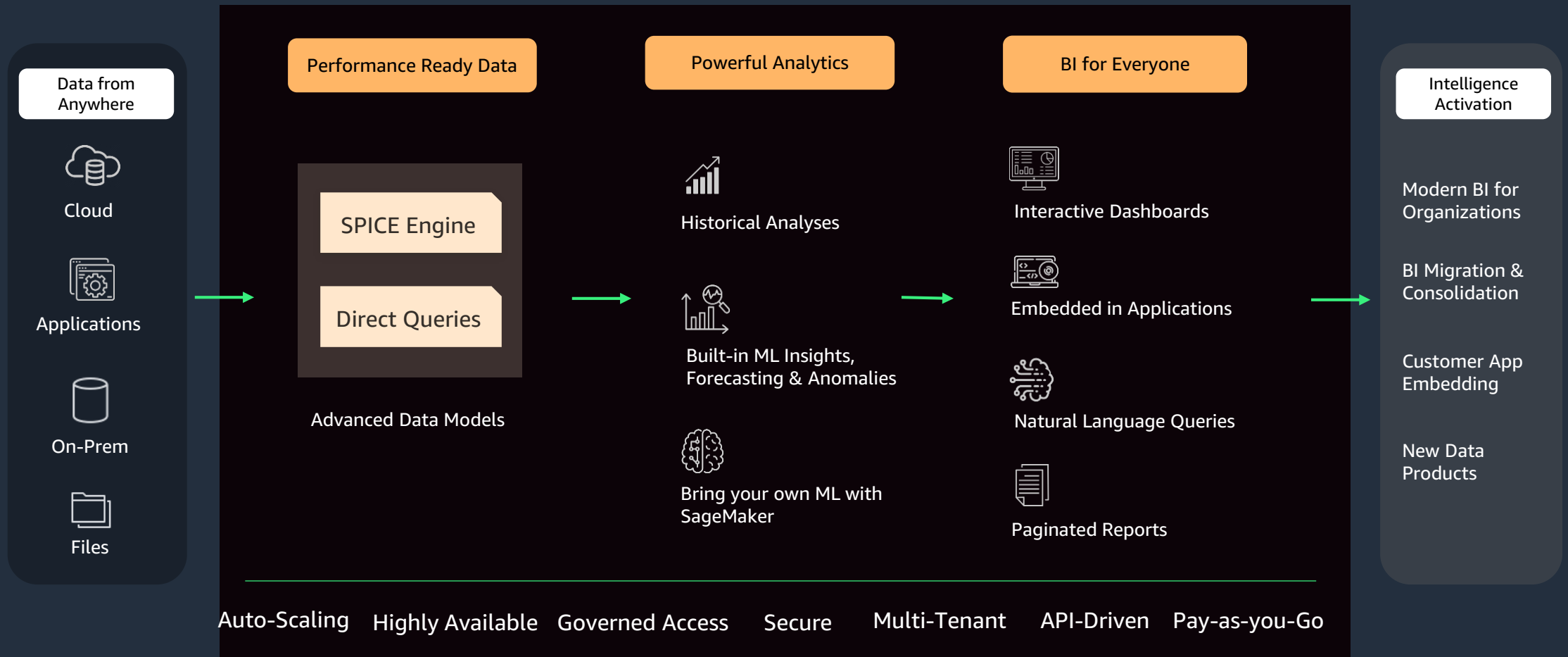
Get the first ML model in minutes. Review advanced metrics and feature importance to understand and explain predictions.



# Visualize Data: QuickSight

# Amazon QuickSight

COMPLETE, UNIFIED BUSINESS INTELLIGENCE SERVICE AT HYPERSCALE



# Creating Datasets

## Create a Dataset

FROM NEW DATA SOURCES



Upload a file

(.csv, .tsv, .clf, .elf, .xlsx, .json)



Salesforce

Connect to Salesforce



S3 Analytics



S3



Athena



RDS



Redshift



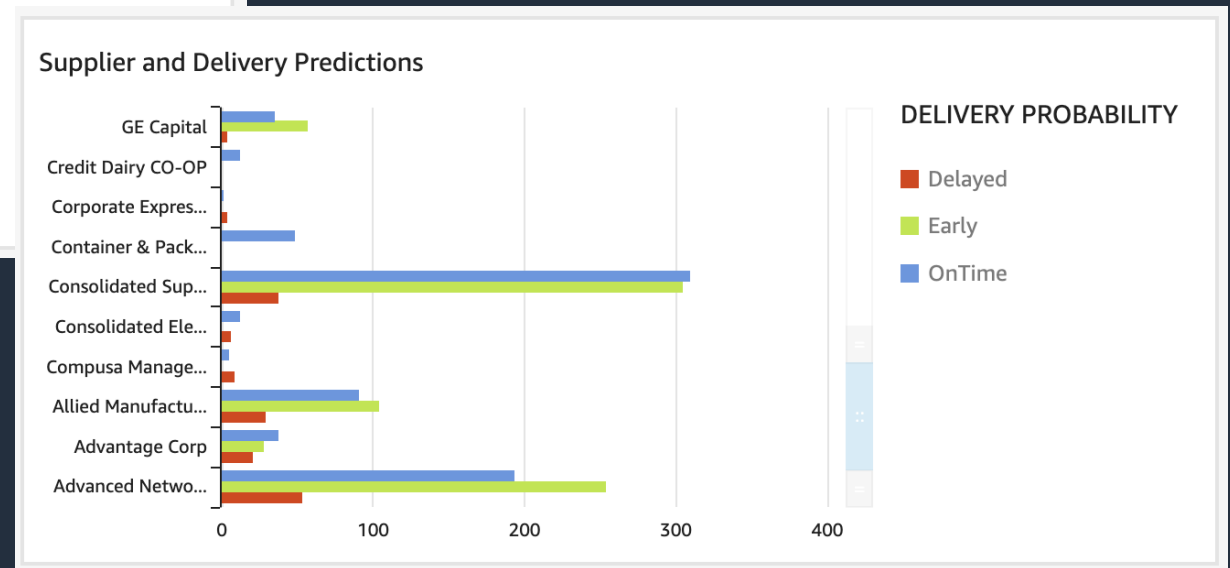
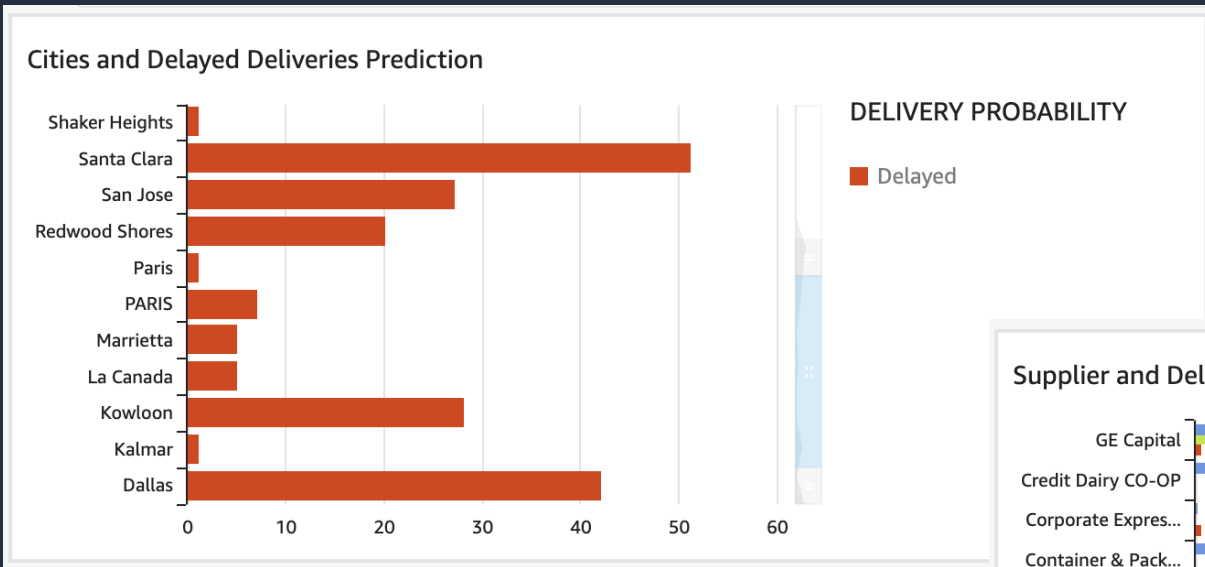
Redshift



MySQL

# Visualize the predictions with Amazon QuickSight

\*\* This is demo data from Oracle E-Business Suite





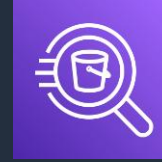
# Oracle E-Business Suite Modernization

# Innovate with Oracle E-Business Suite on AWS



## Amazon Textract

Machine learning (ML) service that automatically extracts text, handwriting, and data from scanned documents



## Amazon Athena

Serverless interactive query service to analyze data



## Amazon Redshift

Amazon Redshift is a fully managed, petabyte-scale data warehouse service in the cloud.



## Amazon QuickSight

Serverless BI service - Ask natural language questions to visualize data in interactive dashboards



## Amazon Step Functions

Workflow service that helps developers use AWS services to build distributed applications, automate processes & create ML pipelines



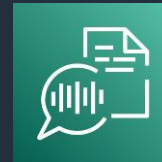
## Amazon SageMaker

Fully managed machine learning - Build, train and deploy machine learning models for any use case



## AWS IoT

Collect, store, and analyze IoT data for industrial, consumer, commercial, and automotive workloads.



## Amazon Transcribe

Automatic speech recognition service - easily add speech and text capabilities



# Thank you!

Vishnu Vinnakota  
vishpaz@amazon.ae

# Survey



**Predictive Analytics for Oracle E-Business Suite**  
Provide your valuable feedback