



AWS Technical Community

re:Invent recap

January 26, 2022



Agenda

- Welcome & general reminders
- Meet the speakers
- re:Invent recap

General reminders

- This is a friendly reminder that information presented and discussed in the TC should not be distributed outside of your organization.
- Meeting recordings and additional materials will be available under “Meetings” in Influitive.
- Log in daily: be on the lookout for new challenges and forum topics.
- Next meeting: Thursday, February 24th

Meet the speakers

Aaron Edell

aaredell@amazon.com

Aaron is the Head of GTM for the Cloud Intelligence Dashboards. Aaron has had a long career in tech and product management, founding several ML and big data startups, the most recent of which was acquired by a public AI company in 2018. He gets to bring his experience thinking about how everyone can get something valuable from the data they create to Cost and Usage data at AWS with the Cloud Intelligence Dashboards.

Steph Gooch

awssteph@amazon.co.uk

Steph is a Commercial Architect in the AWS OPTICS team and acts as a **Subject Matter Expert**, guiding customers through ways to **optimise** their AWS spend. Currently, she supports European Telecommunications customers to develop cloud utilisation, improve financial process and share knowledge on a range of topics.

Anish Kumar

anishaws@amazon.com

Anish Kumar is a Principal WW Go-To-Market specialist in Databases team. He has more than two decades of industry experience leading Go-To-Market strategy and business development teams across enterprises and startups. In the past, he has been a co-founder of two startups, and prior to AWS led strategy and business development for a unicorn. He resides in California with his family.

Meet the speakers

Adi Jayaraman

jayaadit@amazon.com

Adi leads Solutions Architecture for the Hitech segment in AWS. In this role, he focuses on enabling customers to reinvent themselves by leveraging the AWS platform appropriately for agility, operational efficiencies, and innovation. Adi's team has helped customers lower time-to-market for new services and achieve significant reduction in costs of ownership. Prior to AWS, Adi was an early employee of ThoughtSpot, a company that pioneered search-based Analytics. He helped Fortune 10, 100, and 1000 companies launch transformational analytics use-cases that they never were able to before. Adi is based in the Bay Area.

John Majarwitz

johnmaja@amazon.com

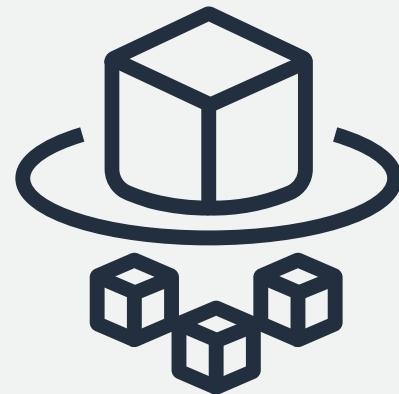
John joined AWS in 2019 as a Principal Solution Architect and is now a Senior Manager for an SA team within Strategic Accounts. John has over 30 years professional experience in computer technology including software development, data design, and technology consulting.



Cost Optimization re:Invent Announcements

Stephanie Gooch
OPTICS

Compute



Graviton2 Support for AWS Fargate

Delivers up to **40 percent better price-performance at 20 percent lower cost** *

Pay only for the time your Fargate containers are running

Flexibility to use a container compute processor of your choice

*compared to Intel x86-based Fargate containers



CloudWatch Lambda Insights on Graviton2

Automated dashboards summarizing the **performance and health** of your Lambda functions

Lambda functions running on ARM-based AWS Graviton2 processors are designed to deliver up to **19% better performance at 20% lower cost** compared to Lambda functions running on x86



Compute Optimizer Enhanced Metrics

Enhanced infrastructure metrics for Amazon EC2 instance and Auto Scaling groups recommendations by capturing **monthly or quarterly** utilization patterns

Ingests and analyzes up to **six times more** Amazon CloudWatch utilization metrics

Efficiency metrics at individual account level in an AWS organization to help identify teams with low cost-efficiency or possible performance risks.



Sustainability Well Architected Pillar

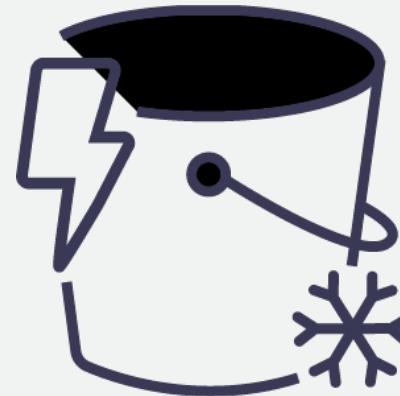
Learn, measure, and improve workloads using **environmental best practices** for cloud computing

Define **sustainability targets**, how to measure against these targets, and how to model where they cannot directly measure

Use AWS technology to solve broader **sustainability challenges**

Storage





Amazon S3 Glacier Instant Retrieval

What is it?

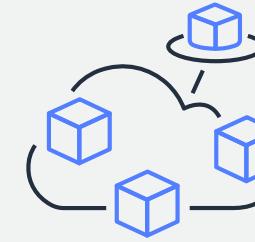
- For long-lived archive data that requires milliseconds retrieval
- 99.99999999% (11 nines) durability
- Designed for 99.9% availability

What are the use cases?

- Petabytes of archive data stored for indefinite periods of time
- Only a small percentage of this archive data is accessed each year
- Archive data must be immediately accessible when requested



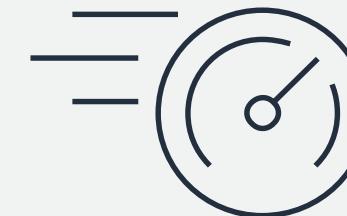
Amazon S3 Intelligent-Tiering: Archive Instant Access



Automatic savings for rarely accessed data



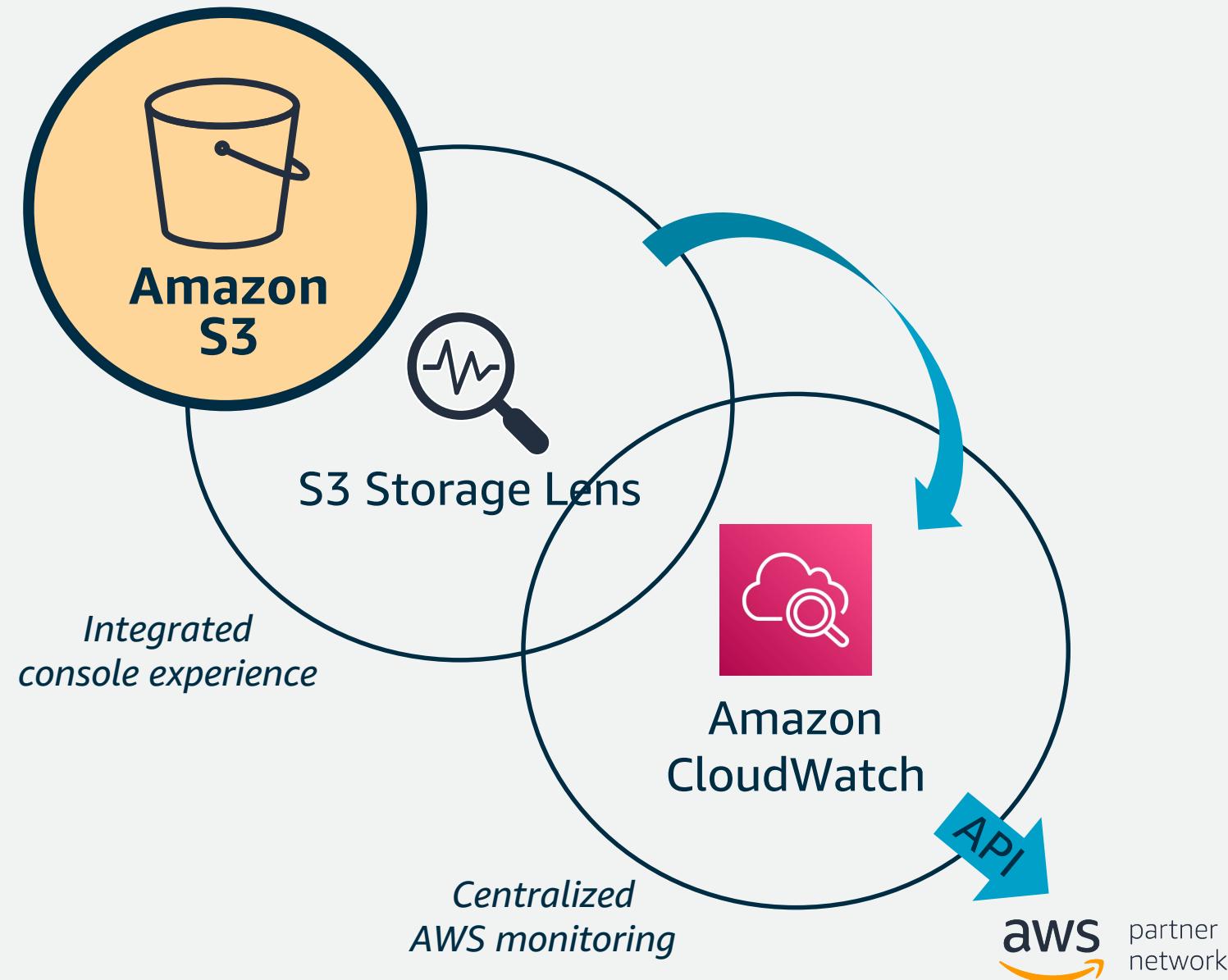
68% lower cost than the Infrequent Access tier



Milliseconds access and high-throughput performance



Designed for 99.99999999% durability



Amazon CloudWatch Publishing for Amazon S3 Storage Lens

Unlock the capabilities of CloudWatch for S3 Storage Lens metrics

- Centralized, cross-service dashboards
- Alarms and triggered actions
- Anomaly detection

Access metrics through the CloudWatch API

- Connect AWS observability partners



S3 Lifecycle filters and actions



Even more granular S3 Lifecycle configurations



Object size filters to optimize transition costs and save more on storage



Number of noncurrent versions to optimize storage spend for versioned buckets



Amazon EBS Snapshots Archive



Lower your cost of Snapshot storage **up to 75%**



Meet compliance and regulations demand you keep data for **longer periods of time**



Restore **accidentally deleted EBS Snapshots**



Recycle Bin for EBS Snapshots

Automatically keep deleted snapshots for a retention period that you specify

Predefined rules specify retention periods for all snapshots or specific “tagged” snapshots

Recover deleted snapshots before your retention period expires

Restrict access to Recycle Bin Rules and resources using AWS Identity and Access Management (IAM) roles

Database

Databases



**Amazon EMR
Serverless**



**Amazon Redshift
Serverless**



**Graviton2-based
instances for
Amazon Neptune**



**DynamoDB
Standard-
Infrequent Access**

Key Announcements

COMPUTE



[EC2 C7g instances powered by AWS Graviton3 processors](#)



[EC2 M1 Mac Instances](#)



[Graviton2 Support for AWS Fargate](#)



[CloudWatch Lambda Insights on Graviton2](#)



[Compute Optimizer Enhanced Metrics](#)



[Sustainability Well Architected Pillar](#)



[Amazon S3 Intelligent-Tiering: Archive Instant Access](#)



[Amazon S3 Glacier Instant Retrieval](#)



[CloudWatch Publishing for Amazon S3 Storage Lens](#)



[S3 Lifecycle Filters and Actions](#)



[EBS Snapshot Archive](#)



[Recycle Bin for EBS Snapshots](#)

STORAGE

DATABASE & ANALYTICS

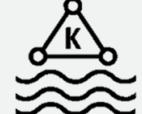
Serverless



[EMR](#)



[Redshift](#)



[MSK](#)



[Kinesis Data Streams On-Demand Mode](#)



[Graviton2-based instances for Amazon Neptune](#)



[DynamoDB Standard-Infrequent Access](#)



[Quicksight Dataset Versioning](#)



THE KEYS TO AWS OPTIMIZATION

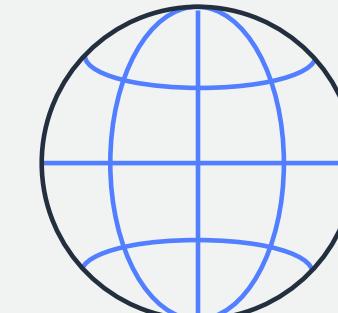
Thursdays 3:30 BT, 10:30 EST and 7:30am PST.



- A live public show where we share **stories**, **concepts** and **solutions** to help you unlock cost optimisation at AWS.

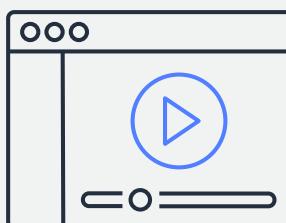
Special Guests Include:

- ✓ AWS Product Owners
- ✓ AWS Customers
- ✓ Optimization Experts
- ✓ FinOPS members



21k+

Views Globally



All VOD on
YouTube

<https://www.youtube.com/c/TheKeysToAWSOptimization>



Join us and watch an on-demand recap of all the announcements from re:Invent 2021.

Segment 1: Architecture / Sys Admin

Segment 2: Developer

Segment 3: Data Scientist / Data Analyst / Engineer

Segment 4: Info Sec / Emerging Tech



global verticals and strategic accounts

AWS re:Invent

NOV. 29 - DEC. 3, 2021 | LAS VEGAS, NV

re:Invent 2021
Data Recap

Re:Invent 2021 Announcements

Data

Analytics

AI/ML



End-to-End Data Strategy: 3 Key Elements

1. Modernize your data infrastructure

2. Unify your data

3. Innovate with data

End-to-End Data Strategy: 3 Key Elements

	Modernize	Unify	Innovate
Easy to Use	DMS Fleet Advisor RDS Custom Babelfish		SageMaker Data Wrangler SageMaker Studio Universal SageMaker Inference Recommender
Lower Operational Burden	Dynamo DB Standard IA S3 Glacier Instant Retrieval AWS Backup Support for S3 EBS Snapshots Archive	MSK, EMR, Redshift Serverless Redshift AutoMV	SageMaker Serverless Inference SageMaker Clarify
Improve Performance		Redshift: - Ra3 - AQUA - Concurrency Scaling - Write	SageMaker Training Compiler Trainium UltraClusters
Governance		Lake Formation Governed Tables, RLS, Compaction Redshift Data Sharing	



Serverless announcements

Amazon Redshift, Amazon EMR, Amazon MSK, and Amazon Kinesis

Amazon Redshift Serverless

Automatically provisions and scales data warehouse capacity. You focus on Insights. We take care of the rest.

Preview – Dec 2



Faster time to market, Don't worry about data warehouse management, Pay for what you use

- Automatic scaling
- Compute provisioning
- Automated patching
- Automatic failover
- Advanced monitoring
- Backup & recovery
- Routine maintenance
- Security & industry compliance

Amazon EMR Serverless

Run petabyte-scale data analytics in the cloud without managing and operating clusters

Preview – Dec 2



Simple to use: Easily run petabyte-scale data analytics in the cloud without managing, tuning, optimizing, securing, and operating clusters

Fast & Highly available Quickly run large-scale applications using Spark, Hive, and Presto

Highly scalable: Automatically scale resources as needed

Cost effective: Pay only for the resources you use for data analytics at scale

Amazon MSK Serverless

Securely stream data with a fully managed, highly available Apache Kafka service

Preview – Dec 2



Easily run Apache Kafka clusters without rightsizing cluster capacity

Instantly scale I/O without worrying about scaling capacity up and down or reassigning partitions

Pay for the data volume you stream and retain

Amazon Kinesis Data Streams on demand

Adjust capacity to stream gigabytes per second of data. Automatic provisioning and scaling

GA – Nov 30



Simple to use: Simplify streaming data processing by eliminating capacity management

Flexible scaling: Automatically scale capacity in response to changing data volumes

Automated high availability: Provide built-in availability and fault tolerance by default

Lower your costs: Pay per gigabyte of data written, read, and store



LEARN MORE

aws.amazon.com/serverless

Amazon Redshift AutoMV

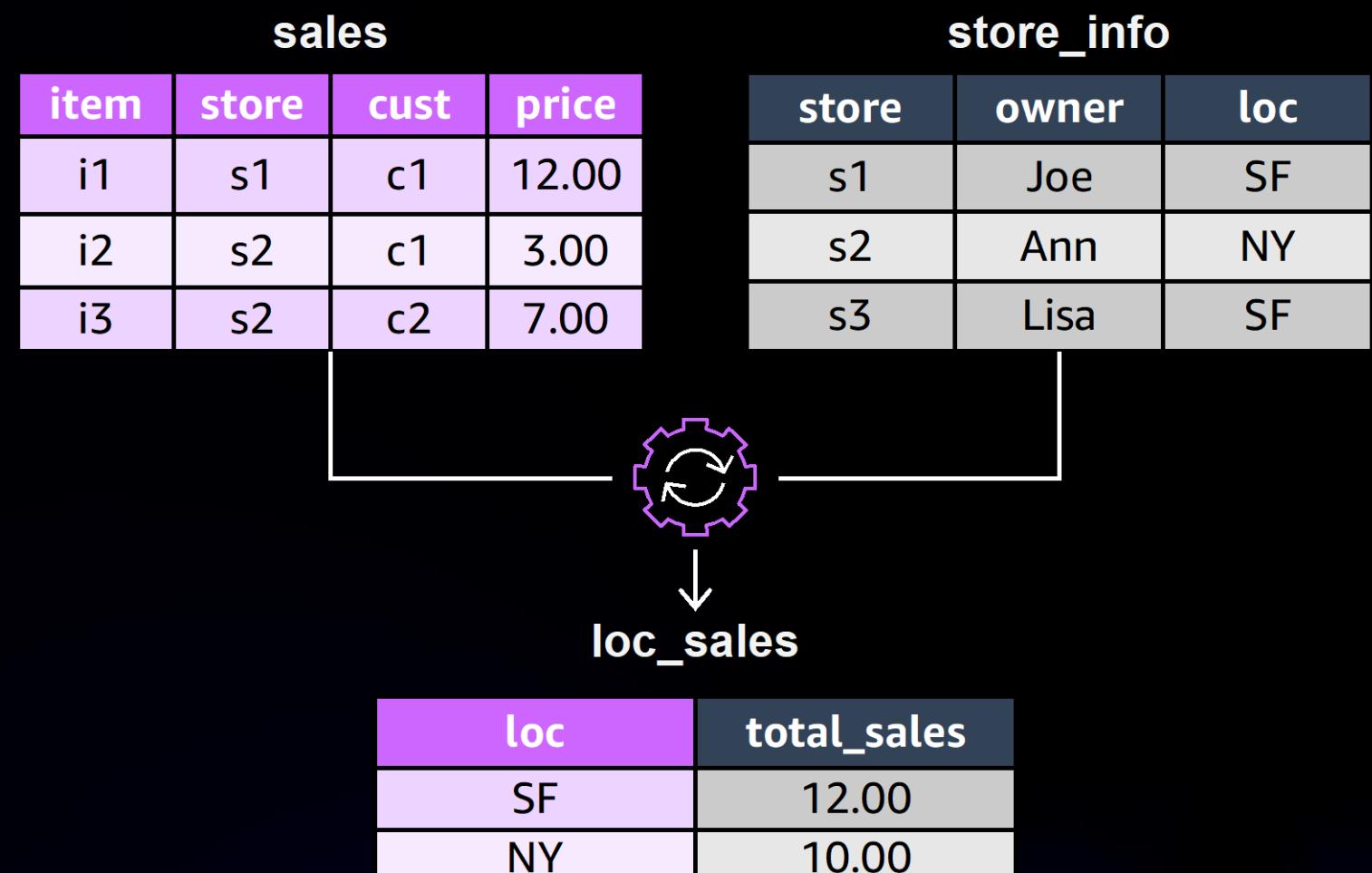
Automated creation and deletion of materialized views,
with incremental refresh

Up to orders of magnitude query
performance improvement

Continual monitoring to identify queries that will
benefit from having a MV and automatically create

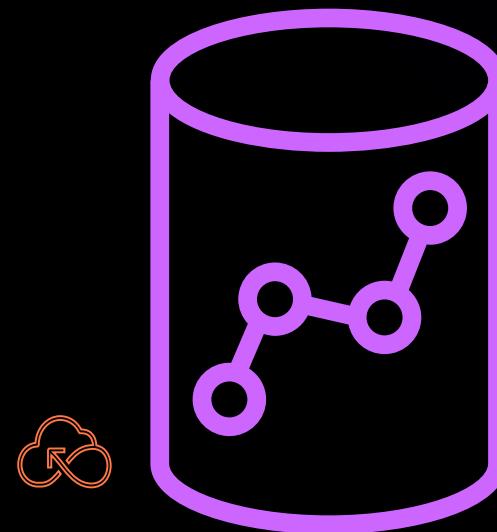
Automated query rewrite to leverage MV

Automatically deletes MVs that are no longer useful



Preview — Nov 30

Amazon Redshift Write Concurrency Scaling



Amazon Redshift now scales write queries with Concurrency Scaling

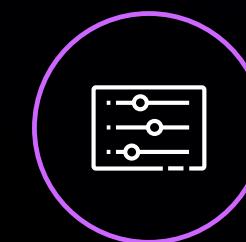
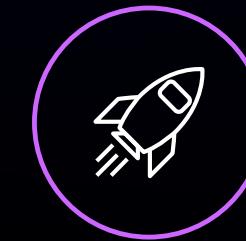
Write queries such as COPY, INSERT, UPDATE, and DELETE can run on transient Concurrency Scaling clusters when there is queueing

If you are currently using Concurrency Scaling, this new capability is automatically enabled in your cluster

AWS Lake Formation

Cell-Level Security and Governed Tables with Automatic Compaction

Generally Available — Nov 30



Cell-Level Security provides granular row and column level access control, making it easier to use a single common table to provide subsets of the data to different users rather than to have to create custom tables for each user

Governed tables makes it easier to write concurrent ETL code to update datasets while also enabling consumers to access the tables, making sure data is consistent at all times.

Automatic Compaction provides performant access to large frequently updated tables by automatically combining small files into larger files which improves i/o overhead.

Amazon Redshift Data Sharing

A SECURE AND EASY WAY TO SHARE DATA ACROSS AMAZON REDSHIFT CLUSTERS

Instant, granular, high-performance data access
without data copies/movement

Live and consistently updating views of data
across all consumers

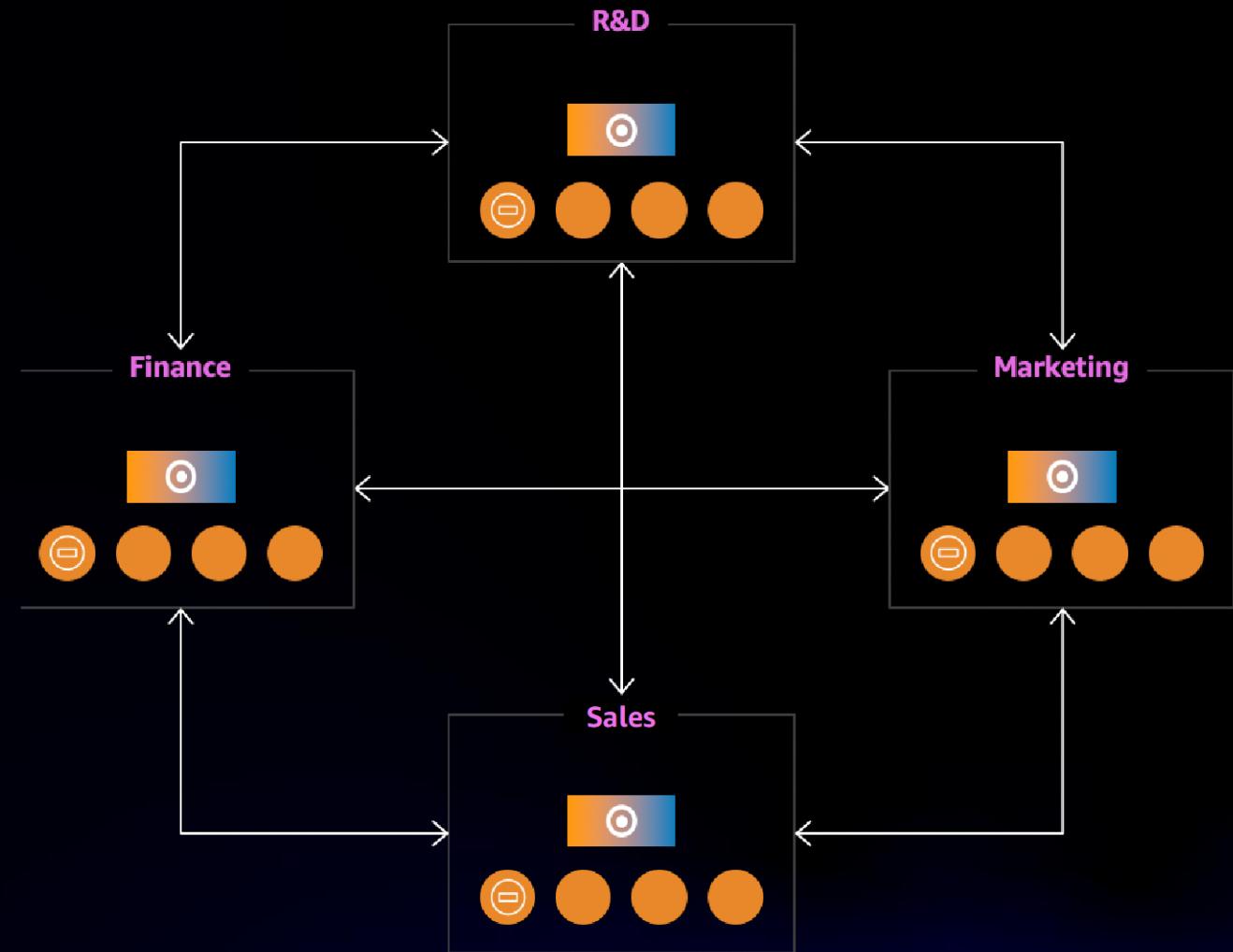
Secure and governed collaboration within and
across organizations

Workloads accessing shared data are isolated
from each other

NEW Cross-account data sharing

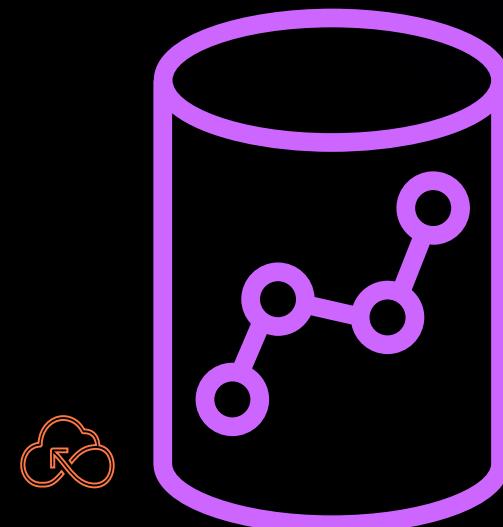
NEW PREVIEW Cross-Region data sharing

NEW Performance Enhancements: Result Caching &
Concurrency scaling for consumer clusters



Preview — Nov 30

AWS Data Exchange for Amazon Redshift



AWS Data Exchange for Amazon Redshift enables you to find and subscribe to third-party data in AWS Data Exchange that you can query in an Amazon Redshift data warehouse in minutes

You can also easily license your data in Amazon Redshift through AWS Data Exchange: Access is automatically granted when a customer subscribes to your data and automatically revoked when their subscription ends, invoices are automatically generated, and payments are automatically collected and disbursed through AWS



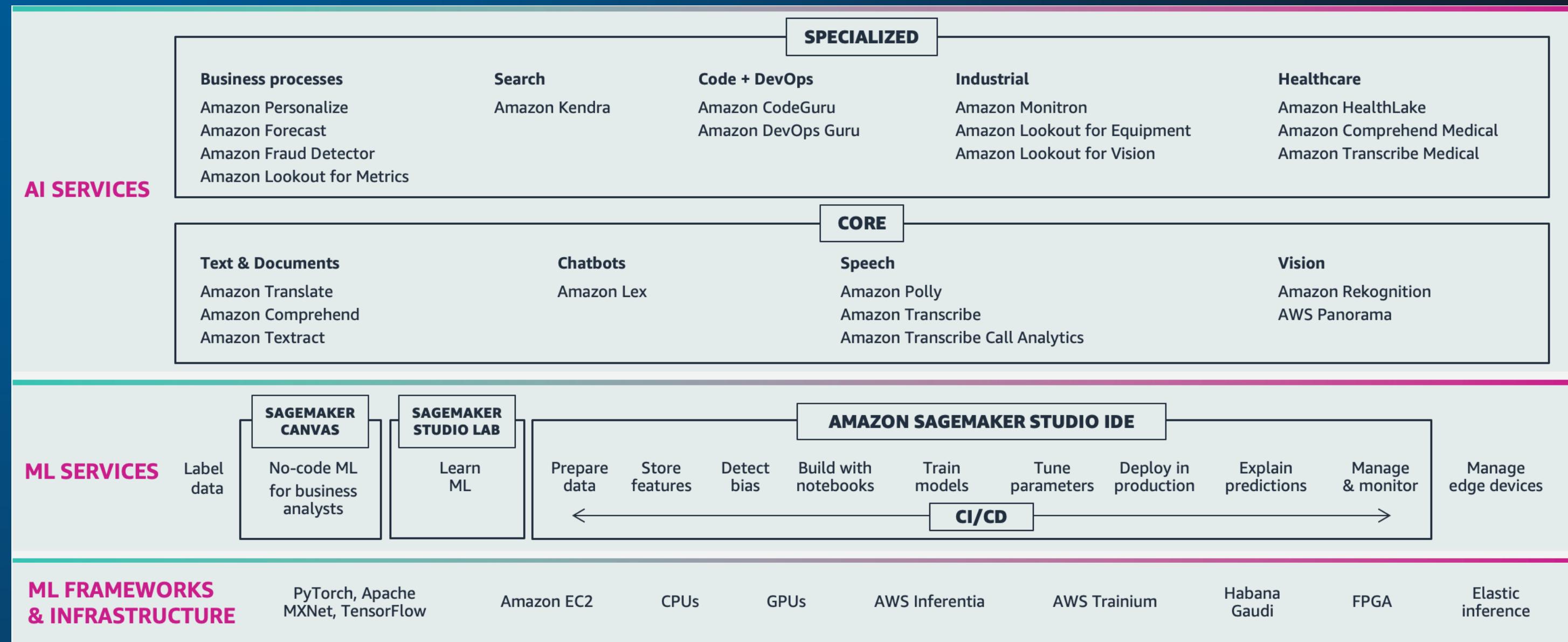
LEARN MORE

<https://aws.amazon.com/redshift/features/aws-data-exchange-for-amazon-redshift/>

AI/ML



The AWS ML Stack



Amazon EC2 Trn1 Instances for ML Training



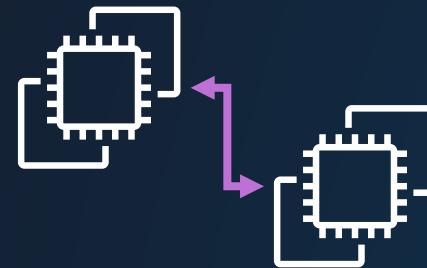
16 AWS Trainium accelerators,
purpose-built for
deep learning training



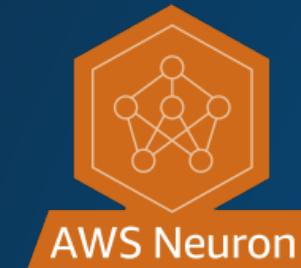
Most cost efficient for large-
scale distributed training



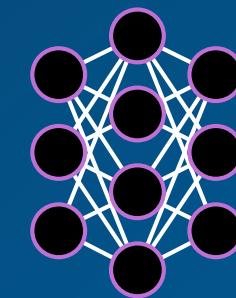
Fastest ML training in the cloud



800 Gbps networking and ultra-
highspeed interconnect between
accelerators

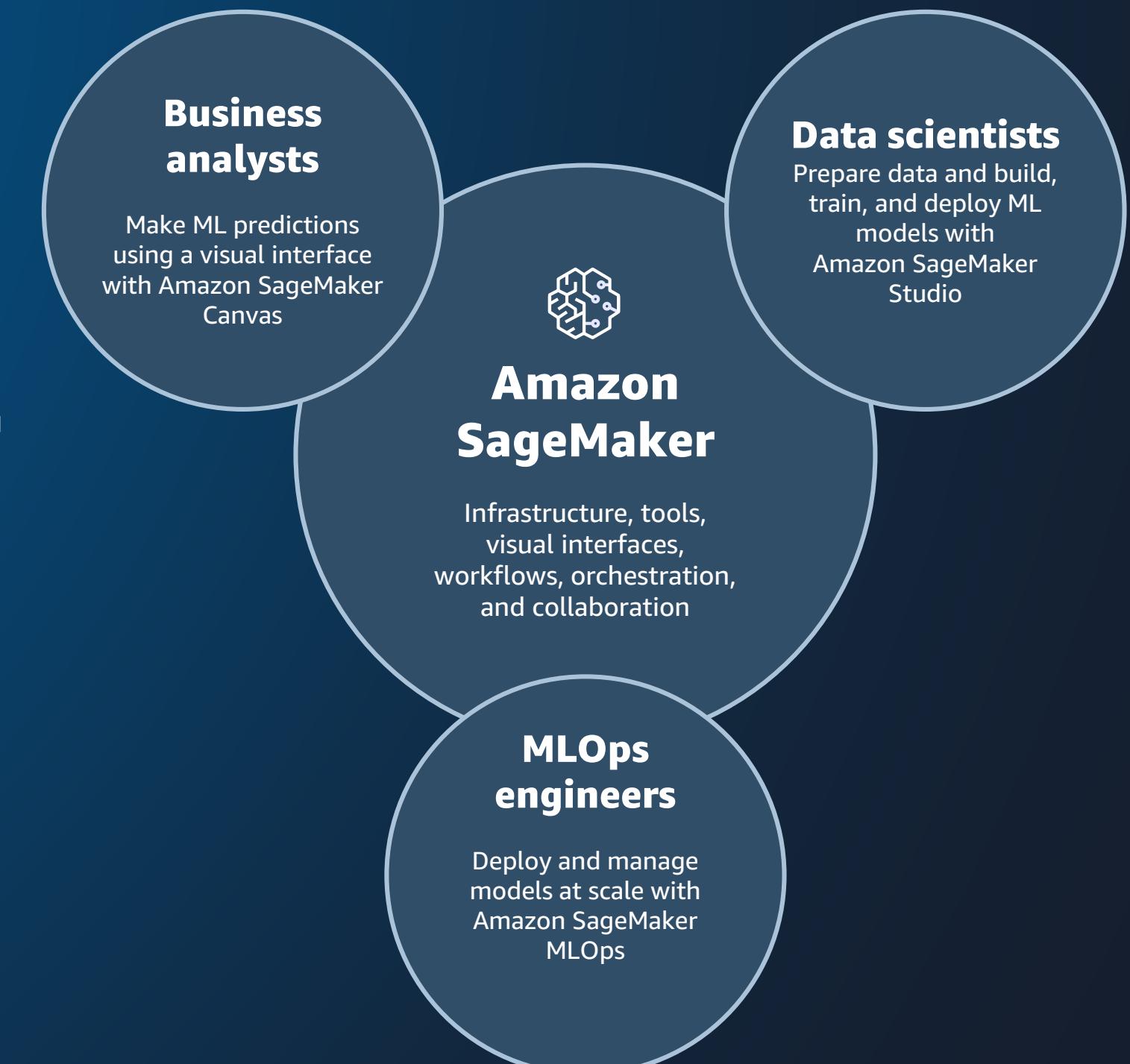


AWS Neuron SDK integrated
with TensorFlow
and PyTorch



Deployed in Amazon EC2 UltraClusters
with tens of thousands of Trainium
chips and petabit-scale networking

Amazon SageMaker helps organizations harness ML



Amazon SageMaker Notebooks

PERFORM DATA ENGINEERING, ANALYTICS, AND ML WORKFLOWS IN ONE NOTEBOOK



Amazon SageMaker



Discover, manage, create, terminate, and connect to Amazon EMR clusters



Interactively access, transform, and analyze a wide range of data



Build, train, and deploy models using your preferred framework

Amazon SageMaker Training Compiler

ACCELERATE THE TRAINING OF DEEP LEARNING MODELS



Amazon SageMaker



Training compiler

Accelerate training times by up to 50% through more efficient use of GPUs



Reduce training costs

Save time and money associated with training



Integrated with existing frameworks

Use familiar framework APIs with minimal code changes

Amazon SageMaker Inference Recommender

ACCELERATE THE DEPLOYMENT OF MODEL ENDPOINTS



Amazon SageMaker



Automatic deployment recommendations
Optimal instance type/count and container parameters



Fully managed load testing
Run and review fully managed load tests on a set of instance types to evaluate performance and trade-offs



Reduce inference costs
Receive endpoint configuration recommends for best price performance

Amazon SageMaker Serverless Inference

DEPLOY ML MODELS FOR INFERENCE WITHOUT CONFIGURING OR MANAGING UNDERLYING INFRASTRUCTURE



Amazon SageMaker



Optimise for intermittent or unpredictable workloads
Automatic and fast scaling when usage is required



Fully managed
Underlying infrastructure, security, patching, monitoring and logging is all managed



Pay per use
Pay only for the resources consumed, not idle time

Amazon SageMaker MLOps

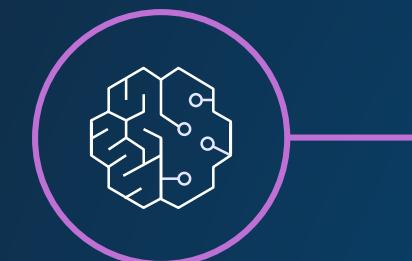
TRACK, ASSESS, AND MONITOR YOUR ML MODELS



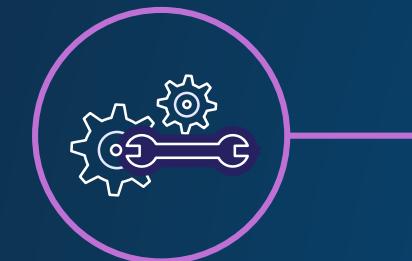
Amazon SageMaker



Improved lineage management
Retrieve all ML lineage across accounts and in a single query, from data to endpoint



Model quality and bias detection in workflows
SageMaker Model Monitor and SageMaker Clarify integrated into SageMaker Pipeline workflows



Monitor endpoints from SageMaker Model Registry
Track endpoints, custom metadata, and model metrics

Amazon SageMaker Ground Truth Plus

DELIVER HIGH-QUALITY TRAINING DATASETS FAST AND REDUCE DATA LABELLING COSTS



**Increase data quality through
ML-powered data labeling**



Access expert data labelers



**Reduce data labeling costs
with assistive labeling features**



**Improve operational efficiency by
reviewing project metrics**



**Make data labeling accessible to data
operations and program managers**

Amazon SageMaker Canvas

GENERATE ML PREDICTIONS – NO CODE REQUIRED



Amazon SageMaker



Quickly access and prepare data sources for ML



AutoML built in to generate accurate predictions



Share ML models with data science teams

Amazon SageMaker Studio Lab

LEARN AND EXPERIMENT WITH MACHINE LEARNING

Amazon SageMaker Studio Lab

Free, no-configuration development environment

All you need is an email address to get started

As many CPU and GPU sessions as needed

Automatically saves session data

Models ready for production



Preview

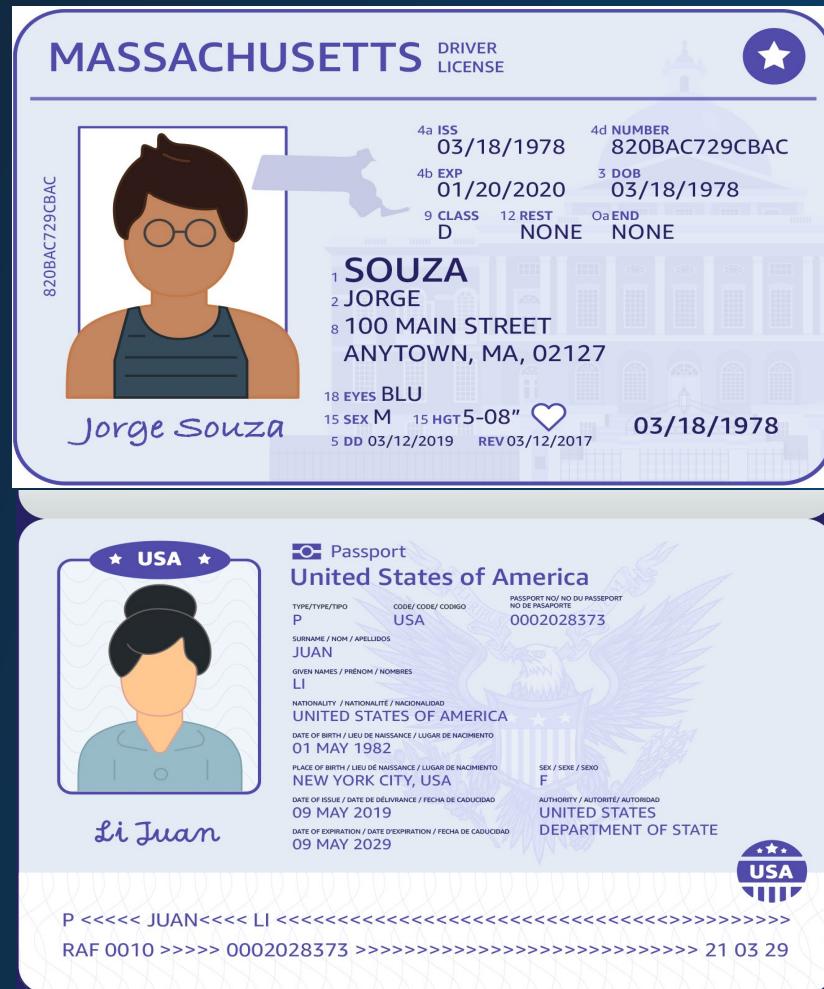
Amazon Textract

SPECIALISED SUPPORT FOR IDENTITY DOCUMENTS



Amazon Textract

DOCUMENT



OUTPUT

First Name: JORGE
Last Name: SOUZA
Middle Name:
Address Line1: 100 MAIN STREET
Address Line 2:
City: ANYTOWN
State: MA
Document Number: 820BAC729CBAC
Expiration Date: 01/20/2020
Date of Birth: 03/18/1978
ID Type: Driver License
Date of Issue: 03/18/1978
Issued By: MASSACHUSETTS
Class: D
Restrictions: NONE
Endorsements: NONE

Amazon Personalize

INTELLIGENT USER SEGMENTATION



Amazon Personalize

- Identify users interested in a genre, category, or any other item attribute
 - Identify users interested in a given item such as a movie, product, and so on
-
- More effective campaigns through marketing channels
 - Acquire users for new product categories, genres, channels, and more
 - Improve return on investment for your marketing spend



Action movie fans

Amazon Personalize

USE-CASE OPTIMISED RECOMMENDERS FOR RETAIL, AND MEDIA AND ENTERTAINMENT



Amazon Personalize

Retail

- Recommended for you
- Customers who viewed this also viewed
- Frequently bought together
- Most viewed
- Best sellers

Media and entertainment

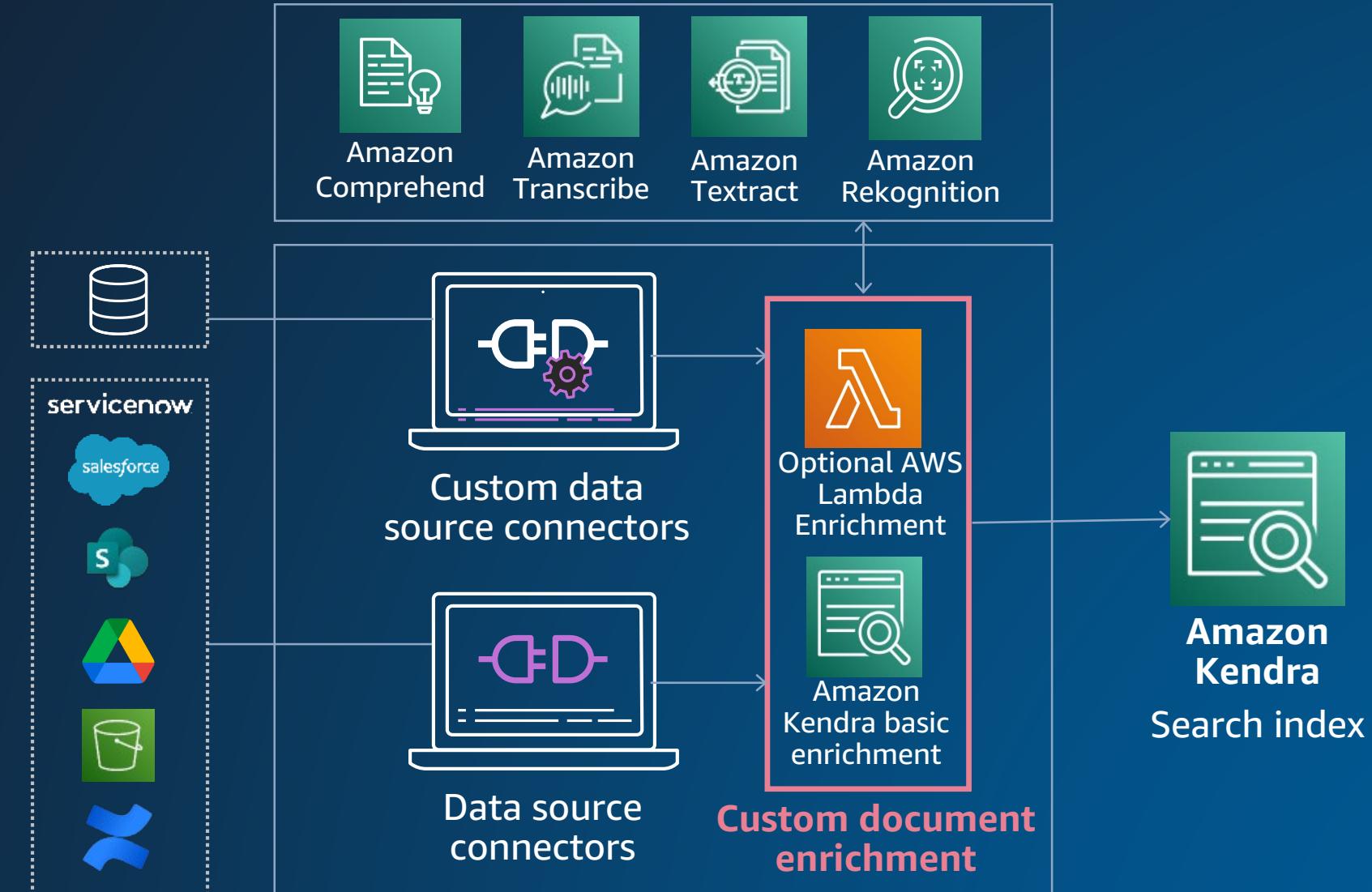
- Top picks for you
- Because you watched X
- More like Y
- Most popular

Amazon Kendra

NEW FEATURE – CUSTOM DOCUMENT ENRICHMENT



Amazon Kendra



Amazon Kendra

NEW FEATURE - EXPERIENCE BUILDER



Amazon Kendra

Amazon Kendra Experience builder
Build mode

Amazon Kendra Search

When is re:invent?

Kendra suggested answer

re:Invent 2017

Last updated: 11/20/2017 - AWS DevDocs... re:Invent 2017 runs from November 27-December 1 in Las Vegas. pre:Invent 2017 is November 21 - November 22. We will be tracking AWS Doc pre:Invent and re:Invent items in the AWS DevDocs Tasks Conference SIM folder.. ([More](#))

WEB | https://www.amazon.com/bin/view/AWS/reinvent_2017

Frequently asked questions

Where is re:Invent located? ▶

How do I register for re:Invent? ▶

When is re:Invent registration open? ▶

1-10 of 65 Recommended documents

AWS re:Invent 2016

...registration, etc. before group team meetings start) Website & Registration Launch: (tentative - week of June 13th or 20th) AWS re:Invent 2016: November 28 - December 2, 2016 at... ([More](#))

WEB | https://www.amazon.com/bin/view/AWS_re:Invent_2016/

Sort: Relevancy ▾

Design

Search a query, then you can drag components to design the search page.

Preview

Disable design tools

UI component

- Search box
- Filter
- Suggested answer
- FAQ
- Sort
- Documents

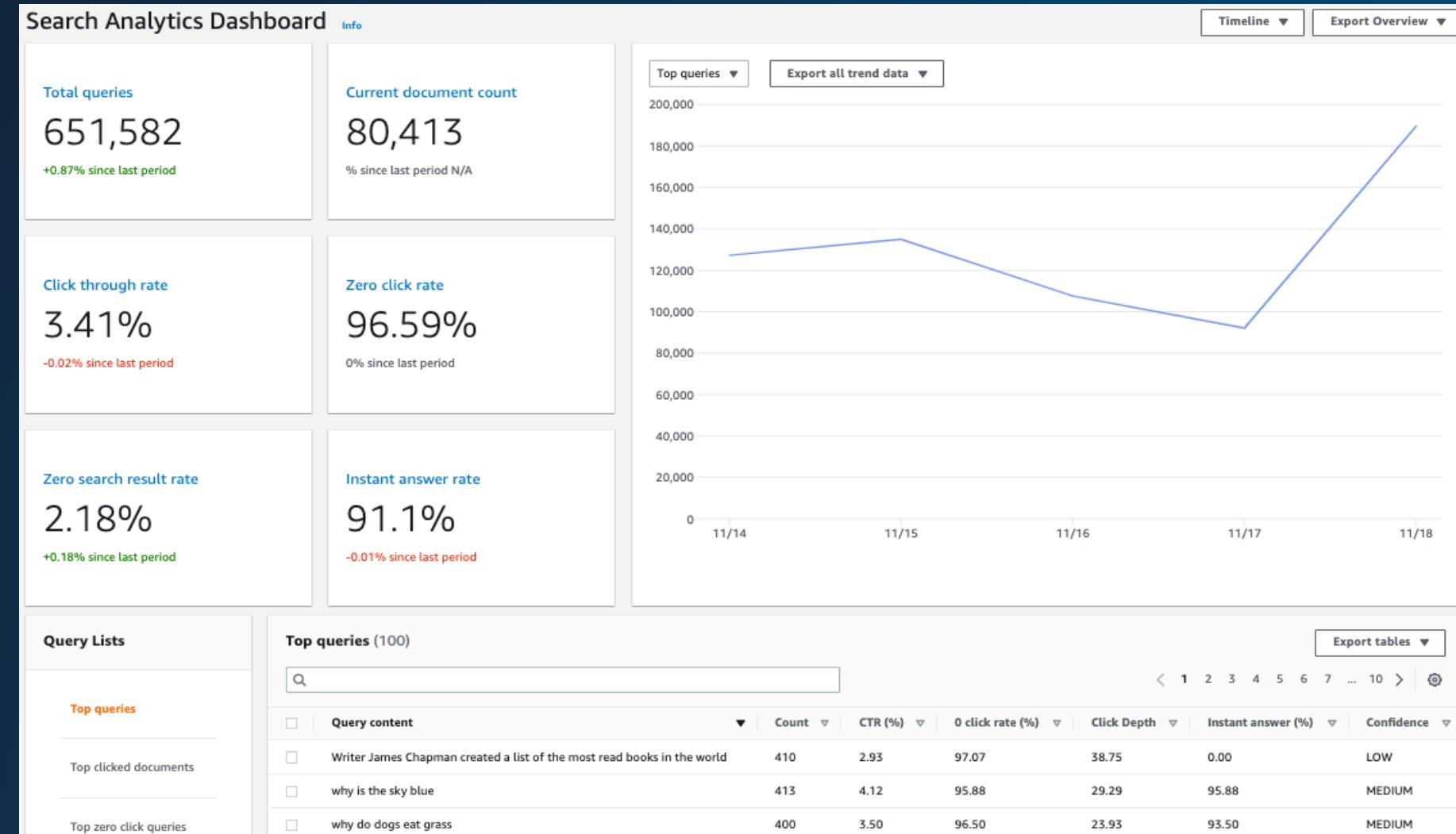
Reset to default settings

Amazon Kendra

NEW FEATURE – SEARCH ANALYTICS DASHBOARD



Amazon Kendra



Amazon Lex

AUTOMATED CHATBOT DESIGNER

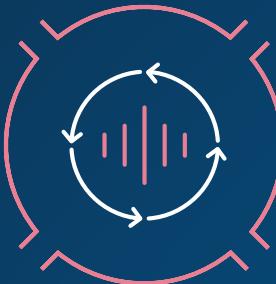


Amazon Lex



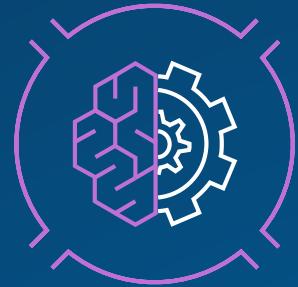
Analyze thousands of lines of transcripts in minutes

Discover the most common intents and the information needed to fulfill them



Accelerate chatbot deployment

Allows you to design chatbots in hours rather than weeks



Improve customer experience

Helps ensure that intents are well defined and separated

AI for Data Analytics (AIDA) Partner Solutions



AI & ML Scholarship Program



Learn ML faster with AWS DeepRacer Student
An all-new free service for students over the age of 16

Fast-track your career with scholarships
2,000 students per year to be awarded scholarships as part of the AWS AI & ML Scholarship program

Receive mentorship from AWS and Intel ML experts
Students in the AWS AI & ML Scholarship program receive mentoring and career guidance from industry experts

CLOUD FINANCIAL MANAGEMENT

Cloud Intelligence Dashboard Re:Cap

Aaron Edell (he/him)

aaredell@amazon.com

Head of GTM

Cloud Intelligence Dashboards



Table of Contents

- **QUICK REFRESHED ON THE CLOUD INTELLIGENCE DASHBOARDS**
- **NEW COST INTELLIGENCE DASHBOARD V3**
- **NEW KPI DASHBOARD**
- **NEW CLI TOOL FOR DEPLOYMENT**

How can I... ?

- Figure out the impact of savings plans and reserved instances?
- Visualize cost and usage across multiple payers?
- Track a cost optimization metric like unit cost of compute?
- See opportunities to become more cost-optimized?
- Learn what trends are important to track?
- Get alerted by anomalies in cost or usage?
- Get granular insights into my cost and usage data such as:
 - Track my LOB's adoption of Spot, Graviton, or GP3?
 - Get my entire organization to agree on adopting cost optimization?
 - Empower my Cloud Center of Excellence to make optimization recommendations on data?
 - Use information about past usage to make decisions about the future?

Cloud Intelligence Dashboards are...



• Easy to use

- All insights in plain language
- Organized by service category
- High-level overviews



Secure

- Supports AWS Identity and Access Management
- No agents running
- Data stays in your organization
- All AWS native services



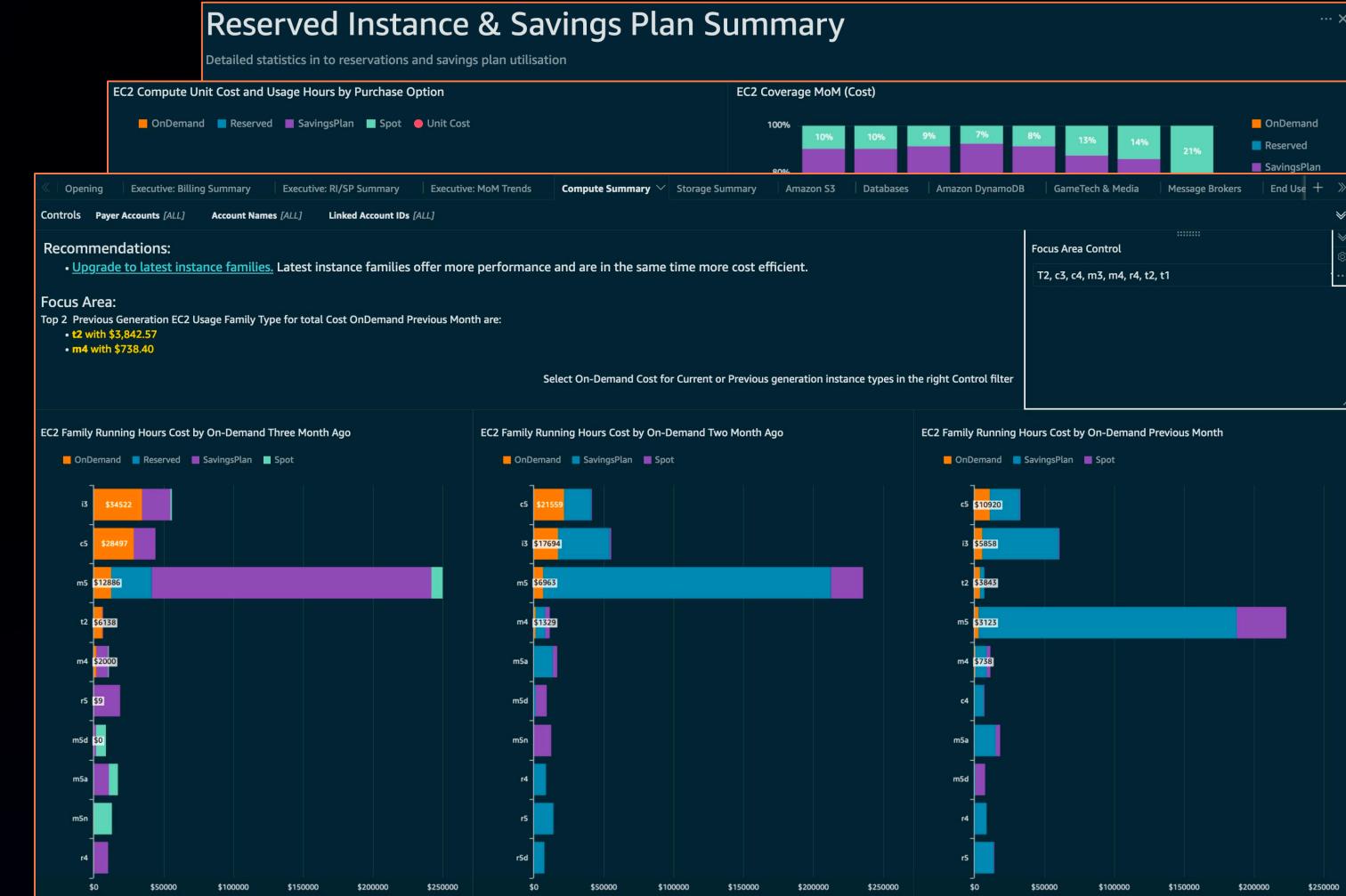
In-depth

- Over 100 visuals
- Resource-level granularity
- Fully customizable
- ML-driven insights



Cost efficient

- Amazon QuickSight licenses start at \$18/mo
- Serverless: pay as you go



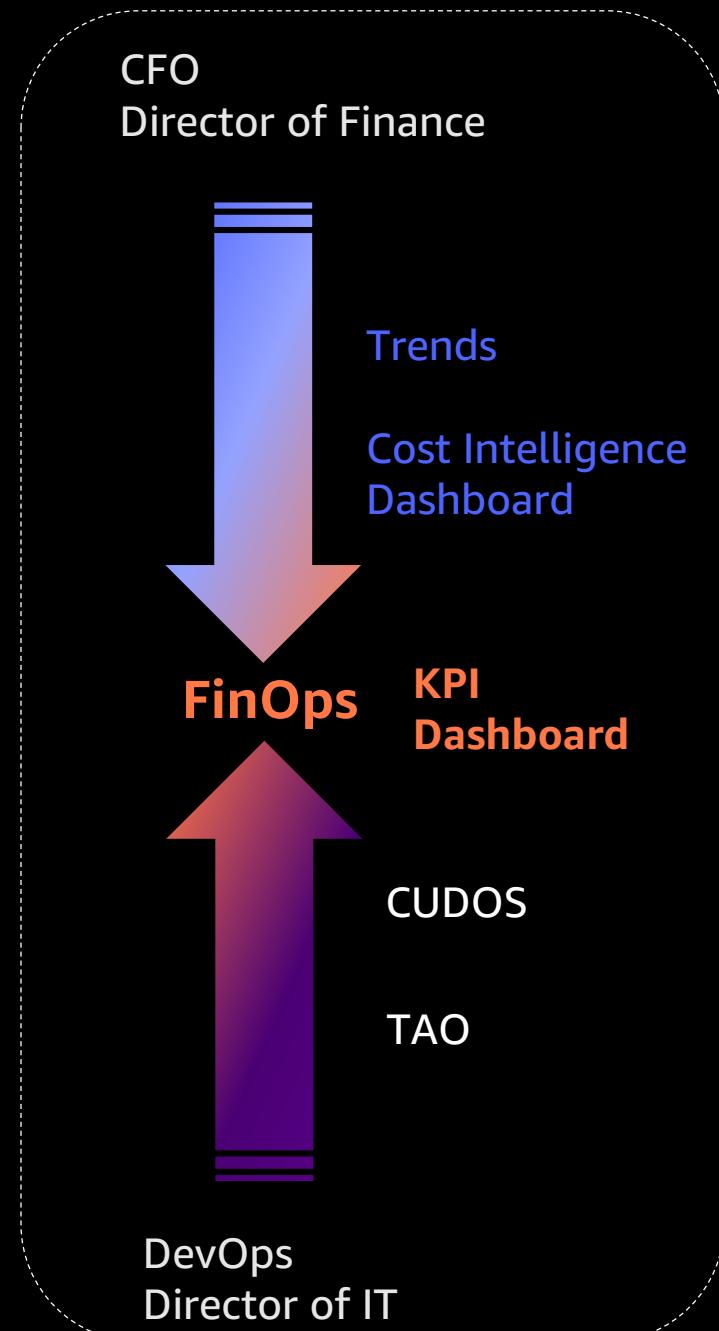


Cloud Intelligence Dashboards

Which Dashboard should I use?

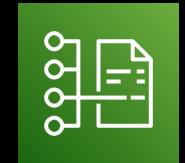
Out of the box features	Trends	Cost Intelligence Dashboard	KPI Dashboard	CUDOS	TAO
Tracking unit economics		●			
Tracking optimization		●	●		
Reporting financial trends	●	●		●	
Granular per service insights/trends	●			●	
Finding more ways to optimize		●	●	●	●
Improve security and performance					●
Finding un/underutilized resources				●	●
See cost and usage by tags				●	
Chargeback/showback		●			
Cost and usage alerts and anomalies	●	●		●	
Long-term period-over-period trends	●				
Forecast/track impact of optimization			●		

All dashboards can be customized to include cost allocation tags, cost categories, account or business unit mappings, and other 3rd party data.



The Cloud Intelligence Dashboards Framework

1. Start with your Cost and Usage Reports



AWS Cost & Usage Report



AWS Trusted Advisor Organizational Report

(optional – available to customers with business support or above)

2. Setup the framework

SQL Queries

Summary View
EC2 Running Cost
S3 View
Compute Savings Plan Eligible
Spend
Account Name Map

The CID Framework



Amazon Athena



AWS Glue

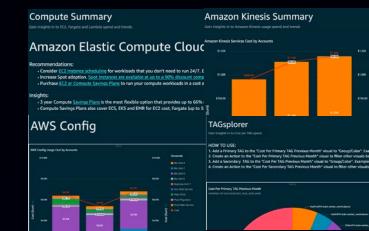


Amazon QuickSight

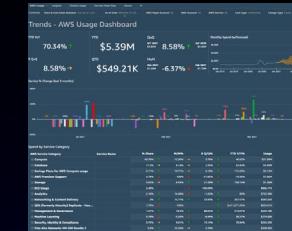
3. Access your dashboards



The Cost Intelligence Dashboard



CUDOS Dashboard



Trends Dashboard

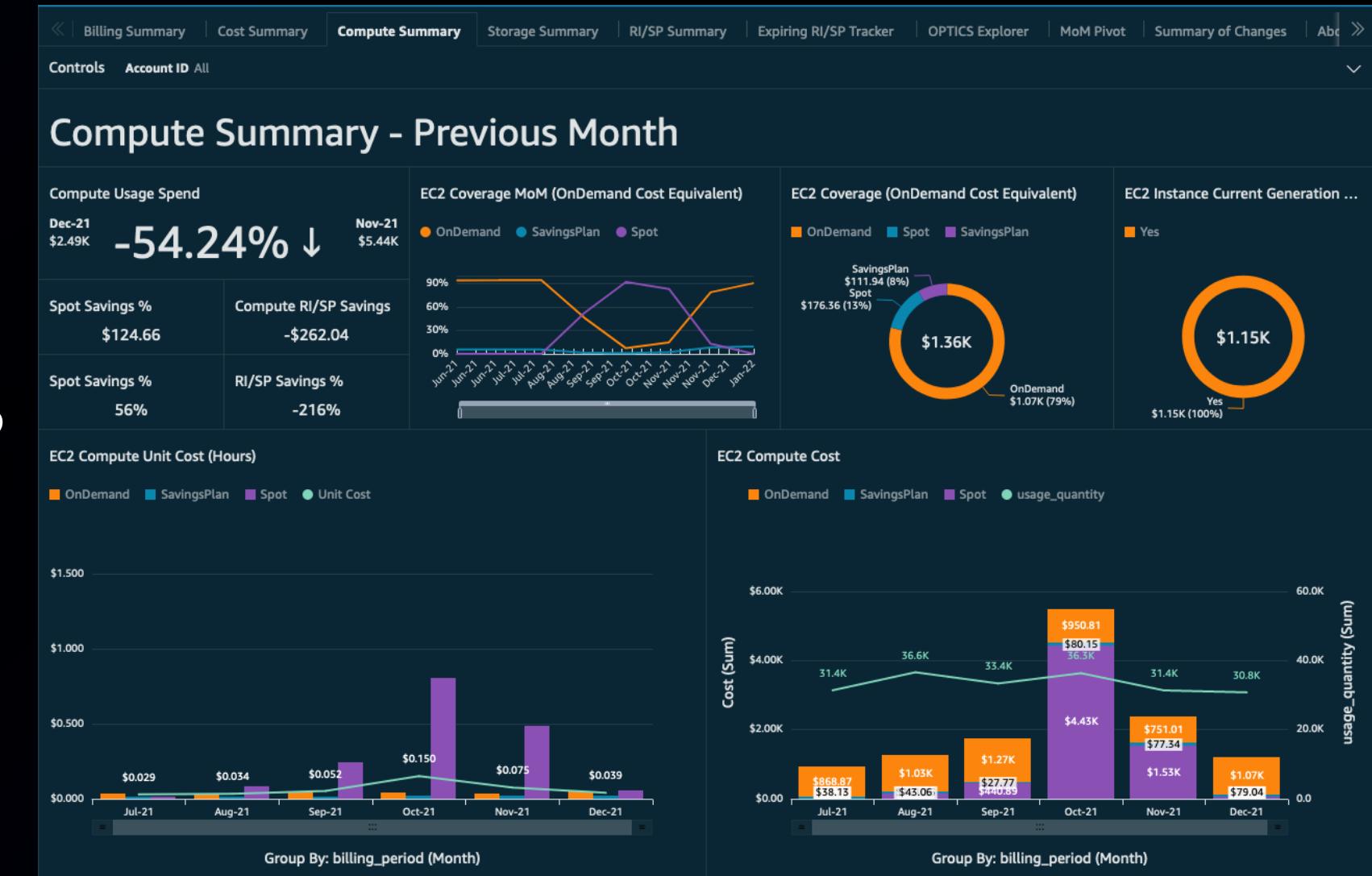


Trusted Advisor Organizational (TAO) Dashboard

Cost Intelligence Dashboard

New V3

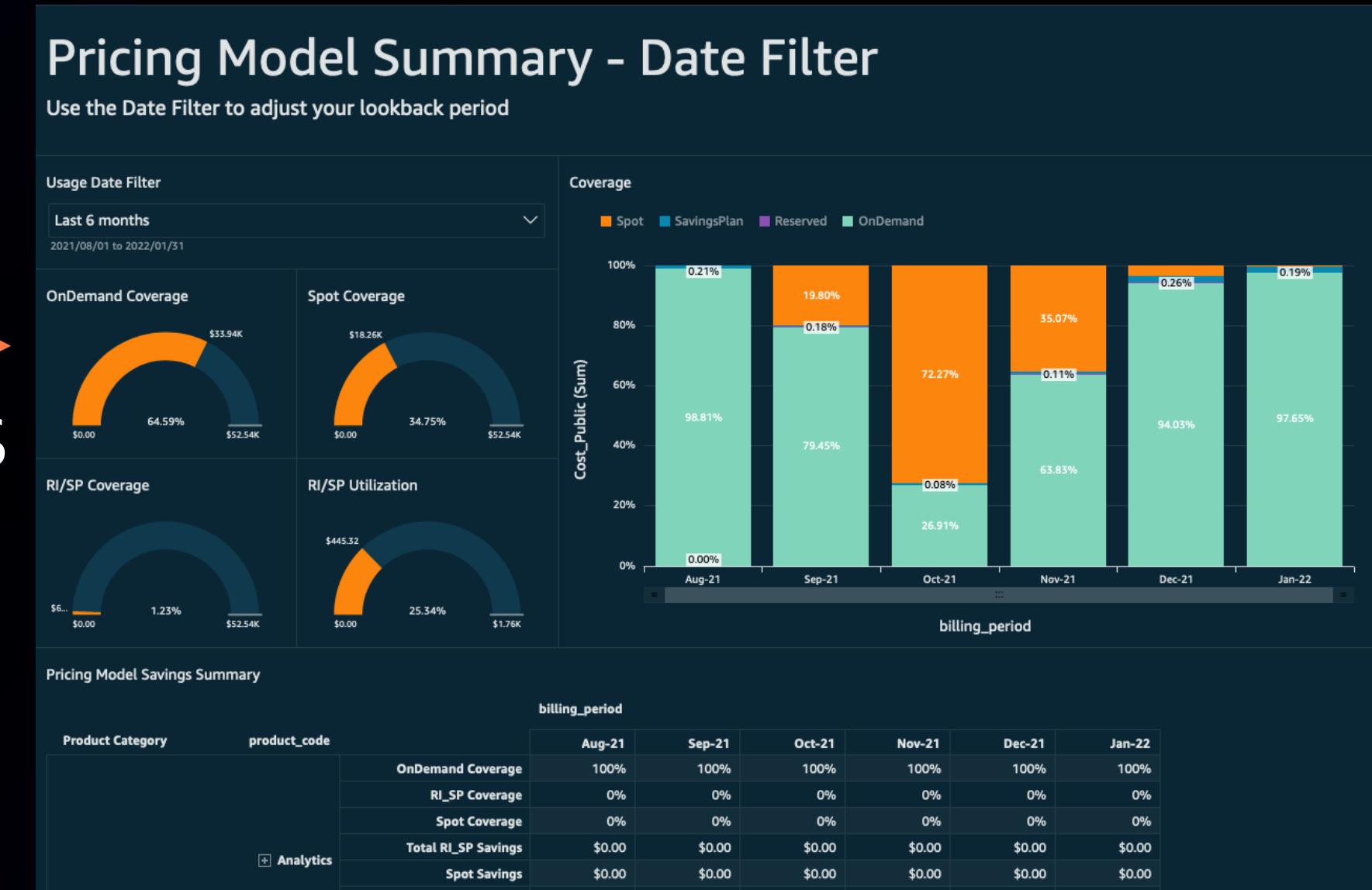
- Spot Savings 
- More coverage visuals
- Multi-dimensional OPTICS explorer



Cost Intelligence Dashboard

New V3

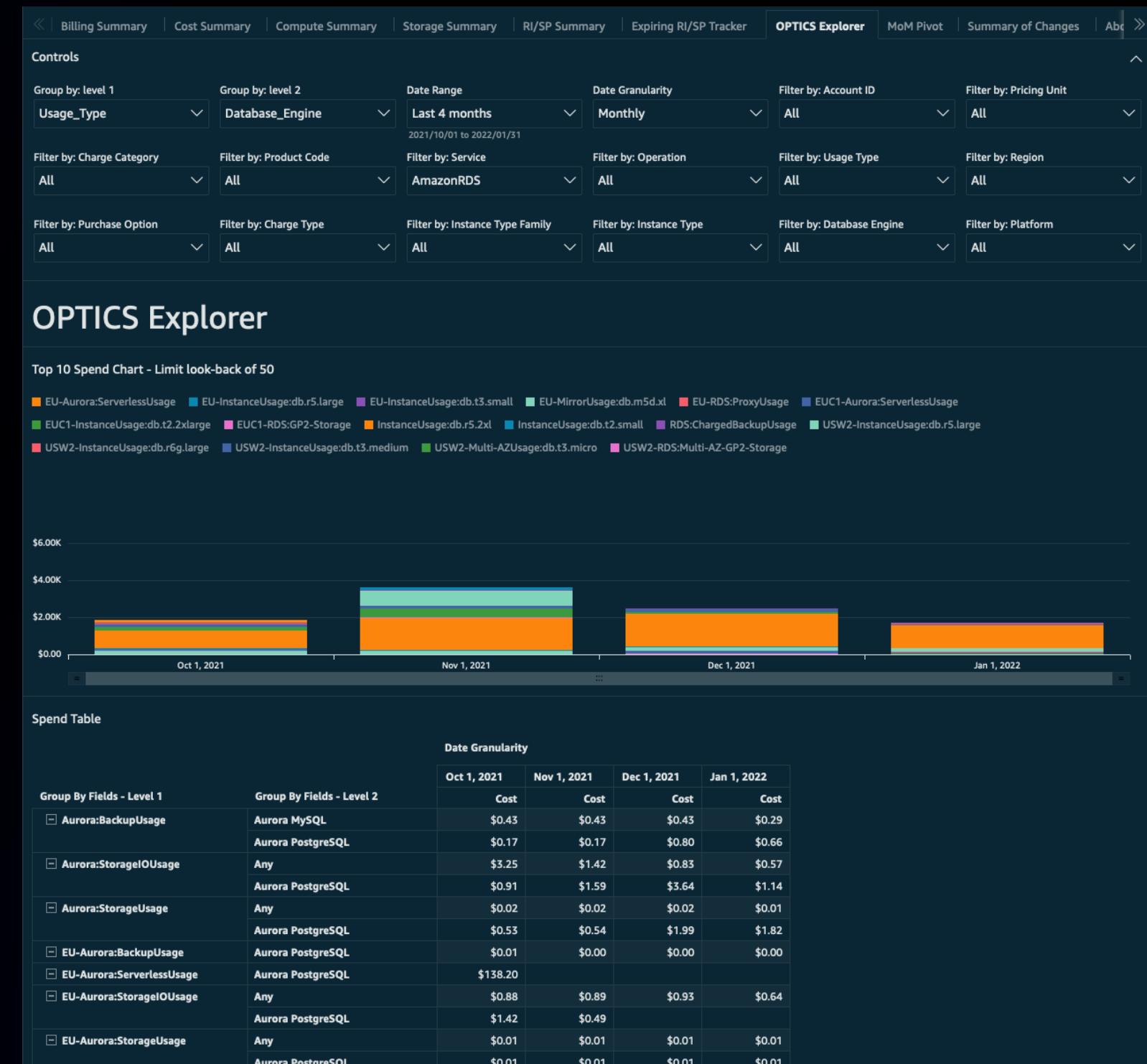
- Spot Savings
- More coverage visuals →
- Multi-dimensional OPTICS explorer



Cost Intelligence Dashboard

New V3

- Spot Savings
- More coverage visuals
- Multi-dimensional OPTICS explorer



KPI Dashboard

Live demo

KPI Tracker | Set KPI Goals | Metrics Summary | EC2 | EBS | S3 | Other Graviton | Commit Optimizations | About | Controls | Group By All | Billing Period Last 4 months | Account Name All | Account ID All | Payer Account ID All | ▾

KPI Tracker

KPI Goals Tracking

Customize the KPI goals and view the KPI savings assumptions in the Set KPI Goals sheet
Note: Green text highlights where you are meeting or exceeding a KPI goal

Goals >	
	All
Spend	\$5.8M
EC2 Prev Generation Goal	≤ 10%
EC2 Spot Goal	≥ 10%
EC2 Graviton Goal	≥ 20%
EC2 AMD Goal	≥ 20%
EBS gp3 of gp Goal	≥ 50%
EBS Snapshot >1yr Goal	≤ 10%
S3 Standard Goal	≤ 65%
RDS Graviton Goal	≥ 20%
ElastiCache Graviton Goal	≥ 20%
OpenSearch Graviton Goal	≥ 20%
Lambda Graviton Goal	≥ 20%
Compute OD Goal	≤ 30%
Sagemaker OD Goal	≤ 50%
RDS OD Goal	≤ 50%
ElastiCache OD Goal	≤ 50%
OpenSearch OD Goal	≤ 50%
Redshift OD Goal	≤ 50%
DynamoDB OD Goal	≤ 50%

All > billing_period				
	All	Total		
	Oct 2021	Nov 2021	Dec 2021	
Spend	\$1.9M	\$1.8M	\$2.1M	\$5.8M
EC2 Prev Generation	2%	2%	2%	2%
EC2 Spot	24%	26%	25%	25%
EC2 Graviton	0%	0%	0%	0%
EC2 AMD	8%	8%	6%	8%
EC2 EBS Snapshots >1yr	23%	28%	30%	27%
S3 Standard	83%	82%	85%	83%
RDS Graviton	5%	6%	6%	6%
ElastiCache Graviton	0%	0%	0%	0%
OpenSearch Graviton	1%	1%	1%	1%
Lambda Graviton	0%	0%	0%	0%
Compute OD Coverage	39%	39%	34%	38%
SageMaker OD Coverage	100%	100%	100%	100%
RDS OD Coverage	75%	76%	77%	76%
ElastiCache OD Coverage	47%	47%	48%	47%
OpenSearch OD Coverage	52%	49%	48%	50%
Redshift OD Coverage	33%	34%	35%	34%
DynamoDB OD Coverage	100%	100%	100%	100%

Estimated Additional Monthly Savings at KPI Goal

Note: Visual is showing the additional net savings at the KPI goal not the total savings if 100% of the opportunity was realized.

Goals >	
	All
Spend	\$5.8M
Total Savings at Goal	\$209.98K
EC2 Prev Generation	\$0.0
EC2 Spot	\$0.0
EC2 Graviton	\$96.4K

All > Billing Period				
	All	Total		
	Oct 2021	Nov 2021	Dec 2021	
Spend	\$1.9M	\$1.8M	\$2.1M	\$5.8M
Total Savings at Goal	\$69.61K	\$69.03K	\$72.08K	\$209.98K
EC2 Prev Generation	\$0.0	\$0.0	\$0.0	\$0.0
EC2 Spot	\$0.0	\$0.0	\$0.0	\$0.0
EC2 Graviton	\$31.0K	\$30.7K	\$34.7K	\$96.4K



Thank you

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