

AWS RE:INVENT  
RE:CAP



AWS  
re:Invent

The world is **asynchronous**



AWS re:Invent is a learning conference hosted for the global cloud computing community with in-person and virtual content.

2000+ Technical Sessions

50,000+ Attendees

100+ Announcements

# Agenda

Builder Experience

Serverless

DevOps

AI/ML

Data and Analytics

Compute

Storage

Networking

Security & Compliance

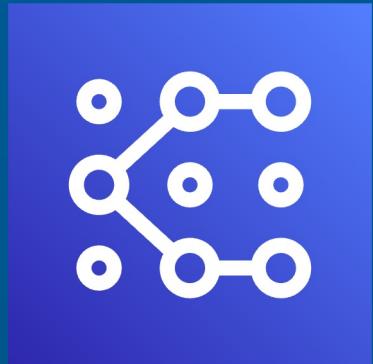
Other



# Builder Experience



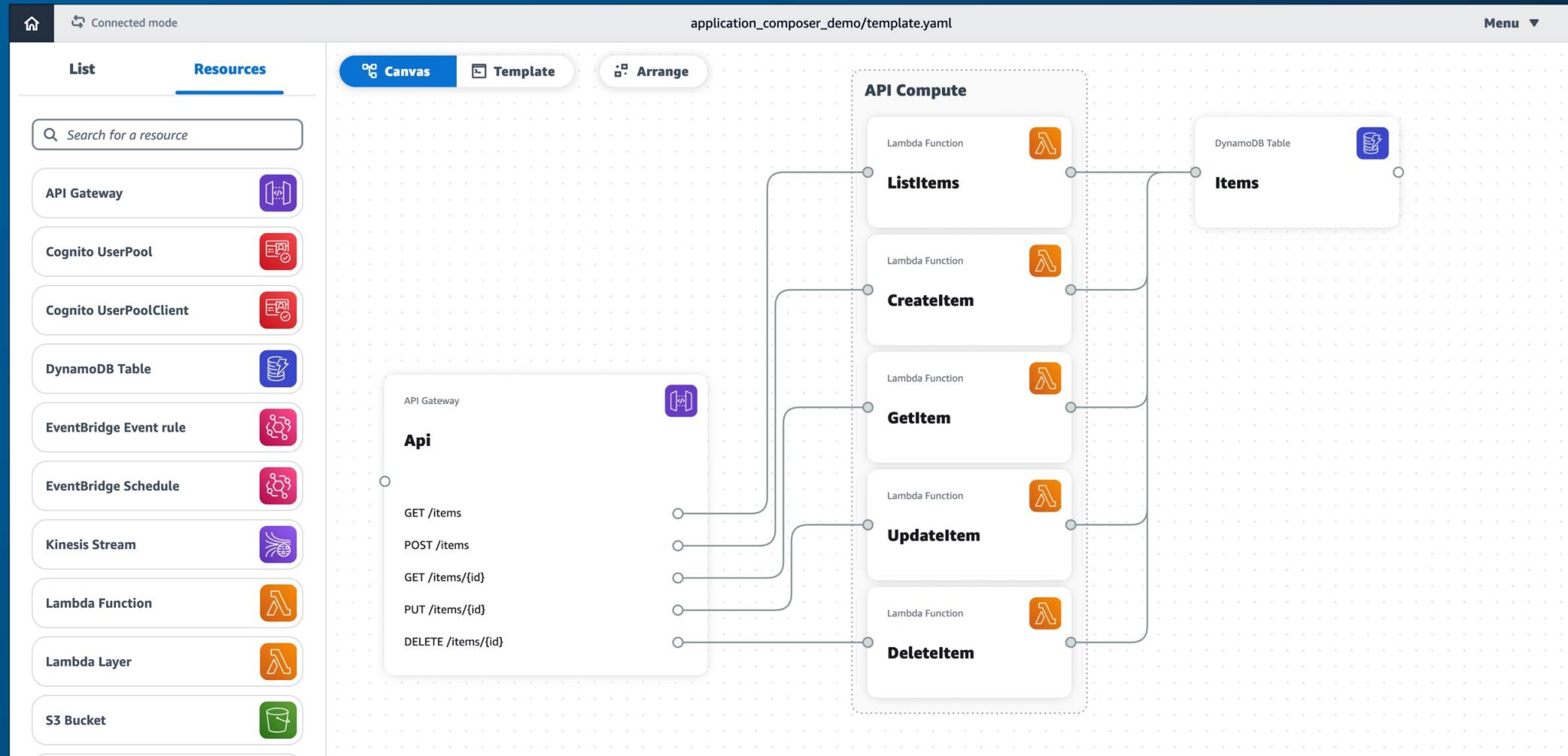
# AWS Application Composer



AWS Application Composer

- Helps you **visually compose and configure** AWS services into serverless applications.
- Backed by Infrastructure as Code (IaC)
- **Visual builder** that makes it easier to design a serverless application architecture by:
  - **Dragging**
  - **Grouping**
  - **Connecting**AWS services in a visual canvas

# AWS Application Composer



Preview

# Use cases



Design and build new serverless applications

AWS Application Composer removes the learning curve of composing serverless application from multiple AWS services



Deploy serverless applications through IaC

AWS Application Composer's visual canvas simplifies common tasks, such as generating deployment-ready configuration and IaC for each service in the architecture



Visualize your application architecture and configuration

Quickly understand your application architecture and its components as you collaborate with your team

# Amazon CodeCatalyst

SPARK A FASTER PLANNING, DEVELOPMENT, AND DELIVERY LIFECYCLE ON AWS



The screenshot shows the Amazon CodeCatalyst interface for a project named 'orch-api'. A green banner at the top indicates that a Dev Environment was successfully created. The main view displays the 'app: main' repository with 1 branch, 0 pull requests, and 1 related workflow. The 'Code' section is selected, showing 'Source repositories' and other options like 'Pull requests' and 'Dev Environments'. On the right, a large window shows a Visual Studio Code instance with an SSH connection to 'aws-devenv-911599f3-7fd3-4bb0-b293-66160963e9c8'. The code editor has an open file 'index.ts' containing TypeScript code for a Node.js application. The Explorer sidebar shows the project structure with files like '.cloud9', '.codecatalyst', '.vscode', 'src/index.ts', and 'Dockerfile'. The bottom status bar shows the connection details and file statistics.



Preview

# Amazon CodeWhisperer



ENTERPRISE ADMINISTRATIVE CONTROLS, SIMPLE SIGN-UP, AND SUPPORT FOR NEW LANGUAGES

```
python > api > runtime > get_save_image.py X
1 import os
2 import json
3 import boto3
4 import requests
5 import botocore.exceptions
6
7 s3_client = boto3.client("s3")
8 S3_BUCKET = os.getenv('BUCKET_NAME')
9
10 # 1.) Function to get a file from url
11 def get_file(url):
12     try:
13         r = requests.get(url)
14     except requests.exceptions.RequestException as e:
15         print(e)
16         return None
17     return r
18
19 # 2.) Function to upload image to S3
20 def upload_image(file, filename):
21     try:
22         s3_client.upload_fileobj(file, S3_BUCKET, filename)
23     except botocore.exceptions.ClientError as e:
24         print(e)
25         return False
26     return True
27
28 def handler(event, context):
29     url = event["queryStringParameters"]["url"]
30     name = event["queryStringParameters"]["name"]
31
32     # pass the output of method #1 as input to method #2
33
34     return {
35         'statusCode': 200,
36         'body': json.dumps('Successfully Uploaded Img!')
37     }
```

- Generates code recommendations based on the code and comments in your IDE
  - Supports Python, Java, JavaScript, C#, TypeScript
  - Available in popular IDEs - Visual Studio Code, JetBrains, AWS Cloud9, AWS Lambda
  - Integrate with AWS IAM Identity Center or use AWS Builder ID

# Serverless





# AWS Lambda

First Serverless Computing Service

LAUNCHED IN 2014

100+

NEW FEATURES

1 million+

ACTIVE  
CUSTOMERS

10 trillion+

REQUESTS  
PER MONTH

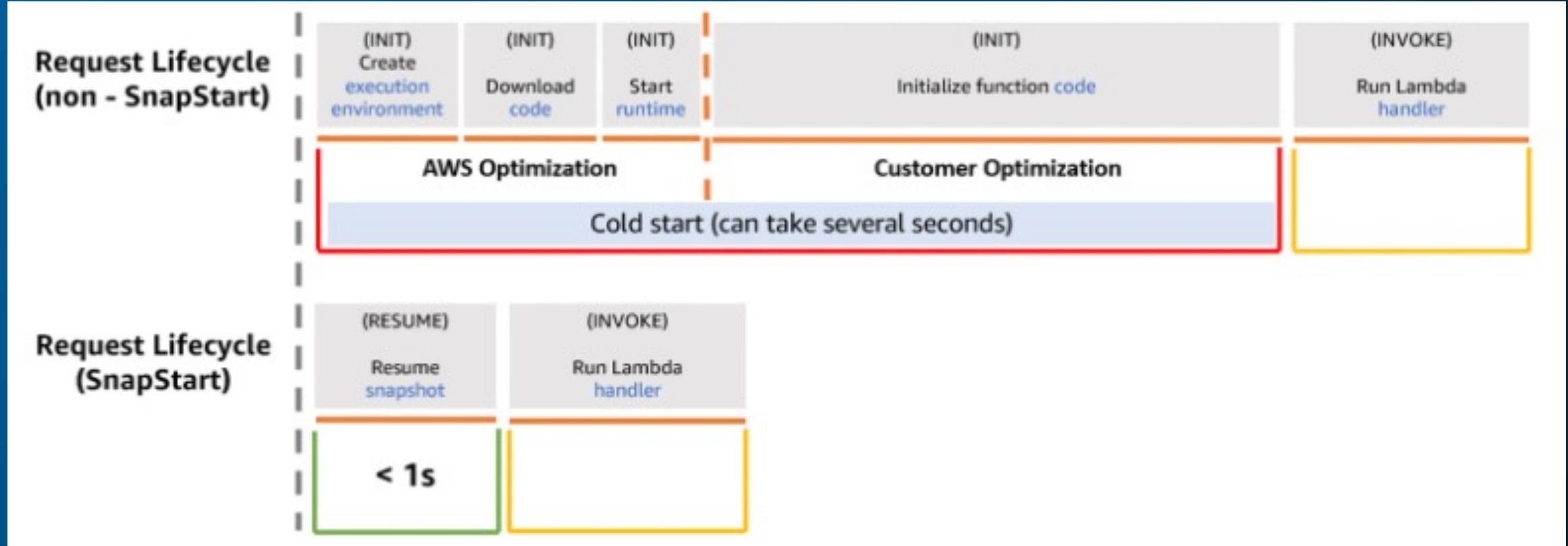


# AWS Lambda SnapStart



- Reduces Java “Cold Starts” by 90%
- Designed to reduce the ‘init’ phase of function invocation
- Available for Corretto Java11 runtime.
- No extra charge

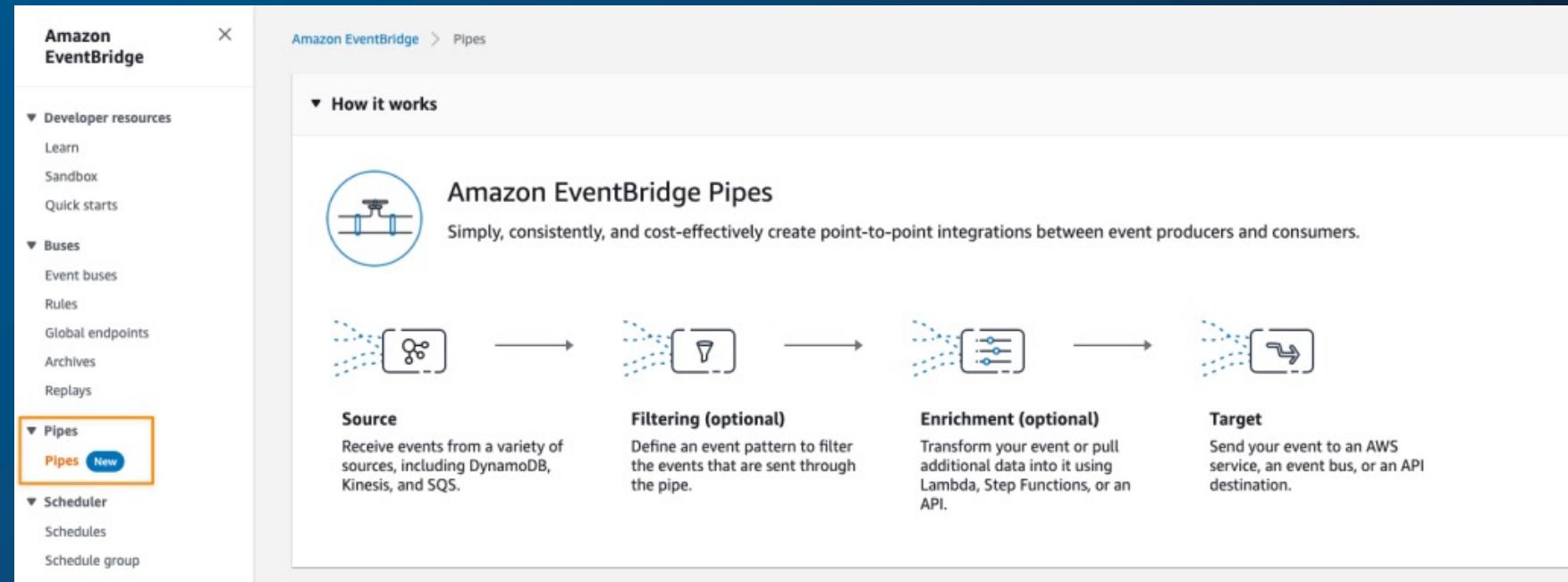
# AWS Lambda SnapStart Lifecycle



# Amazon EventBridge Pipes

CREATE POINT-TO-POINT INTEGRATIONS BETWEEN EVENT PRODUCERS AND CONSUMERS

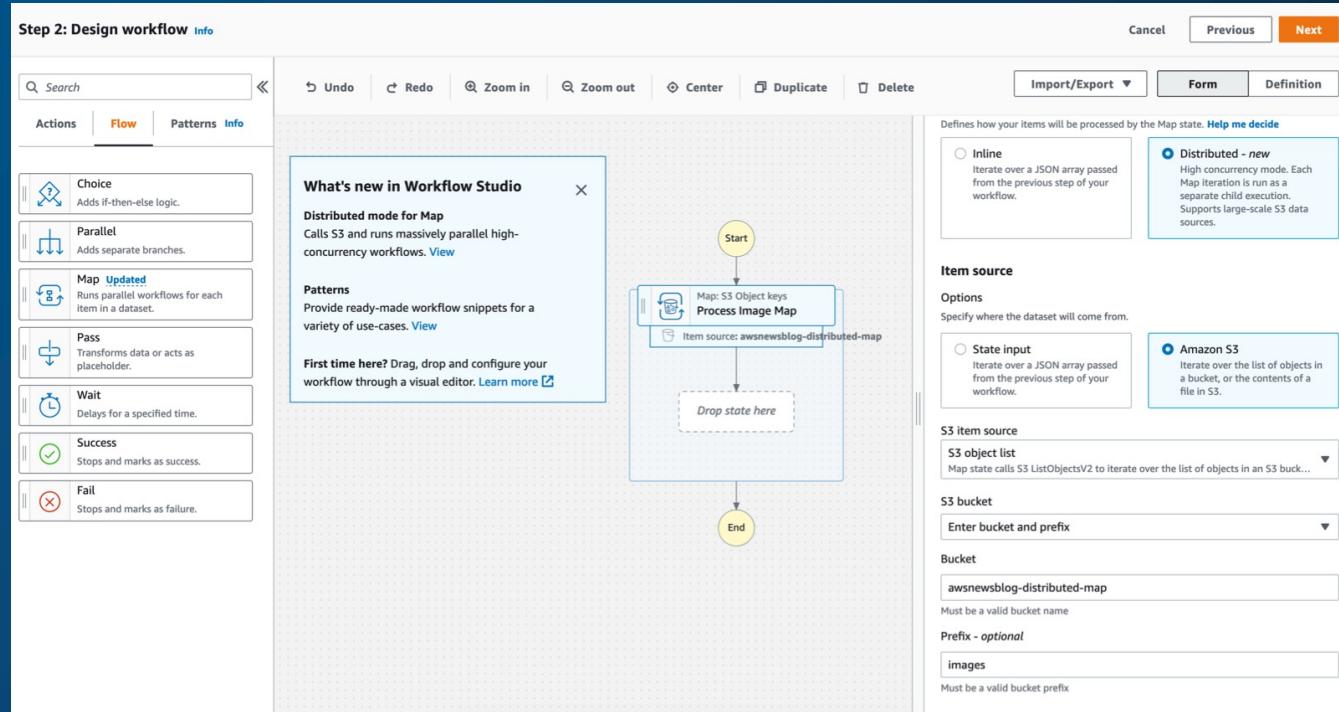
- Removes the need to write undifferentiated “glue code”
- Simplest pipe consists of a source and target
- Can include filtering & enrichment as needed



# Distributed Map for AWS Step Functions

A SERVERLESS SOLUTION FOR LARGE-SCALE PARALLEL DATA PROCESSING

- Supports maximum concurrency of up to 10,000 executions in parallel
- e.g. Iterate over millions of objects in S3
- Process data using any service API supported by Step Functions



GA

# Amazon AppFlow Supports Over 50 Applications

## Recently released highlights:

- **Redshift** now featuring PrivateLink connectivity
- **SAP\*** now including ODP support
- **Salesforce Marketing Cloud\***
- **Google Analytics 4**
- **AWS Glue Data Catalog Integration**

## New Marketing connectors:

- Facebook Ads\*
- Facebook Page Insights
- Google Ads\*
- Google Search Console
- Instagram Ads
- LinkedIn Ads

## New Customer Service and Engagement connectors:

- MailChimp
- Sendgrid
- Zendesk Sell\*
- Zendesk Chat\*
- Zendesk Sunshine
- Freshdesk
- Okta
- Typeform

## As well as:

- Microsoft Teams
- Zoom Meetings
- Stripe
- Amazon RDS for PostgreSQL
- QuickBooks Online
- Jira Cloud\*
- GitHub
- GitLab
- CircleCI
- DocuSign Monitor
- Domo
- And more...



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\* Launched in 2022 prior to re:Invent

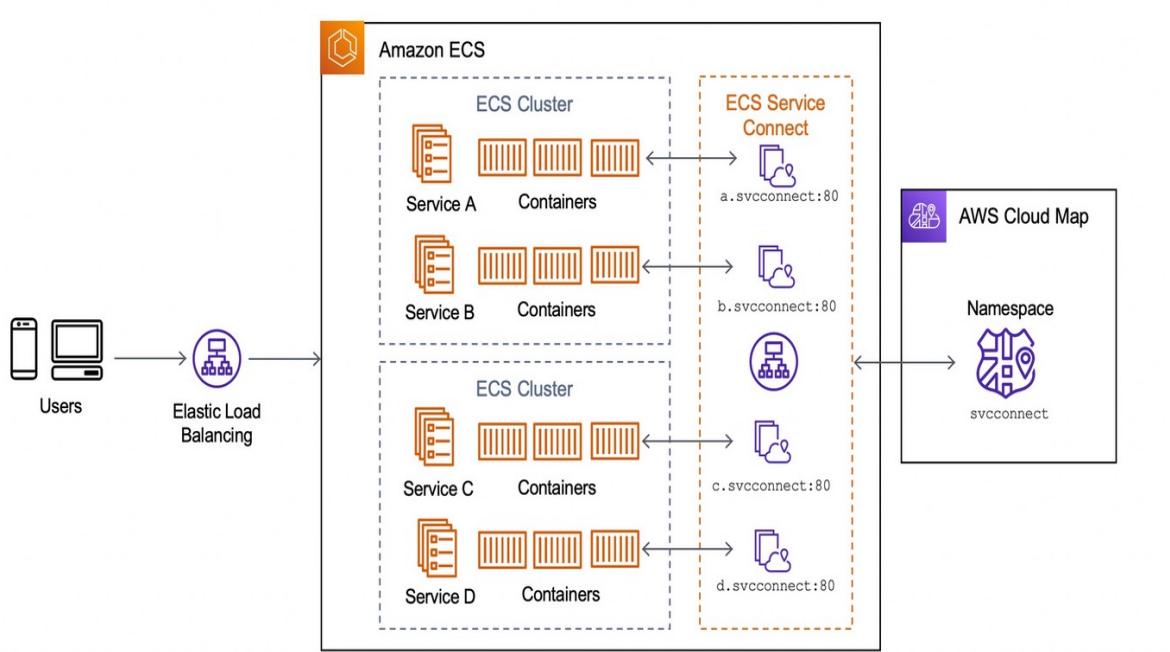
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# DevOps



# Amazon ECS Service Connect

- SIMPLIFY SERVICE DISCOVERY, CONNECTIVITY AND TRAFFIC OBSERVABILITY FOR AMAZON ECS



- Focus on application code while ECS Service Connect handles service-to-service communication, service discovery and observability
- Provides easy network setup and seamless service communication deployed across multiple ECS clusters and VPCs

# Amazon RDS Blue/Green Deployments

AMAZON RDS MYSQL, MARIADB AND AMAZON AURORA

A new fully-managed feature for Amazon Aurora with MySQL compatibility, Amazon RDS for MySQL and MariaDB that enables you to make database updates safer, simpler, and faster.

RDS > Databases > my-bg-deployment

## my-bg-deployment

Related

Filter by databases

DB identifier	Role	Engine	Region & AZ
my-aurora-mysql	Regional cluster	Aurora MySQL	us-west-2
my-aurora-mysql-writer	Writer instance	Aurora MySQL	us-west-2b
my-aurora-mysql-reader-1	Reader instance	Aurora MySQL	us-west-2c
my-aurora-mysql-reader-2	Reader instance	Aurora MySQL	us-west-2a
<b>my-bg-deployment</b>	Blue/Green Deployment	-	-
my-aurora-mysql-green-ehfzqu	Regional cluster	Aurora MySQL	us-west-2
my-aurora-mysql-reader-1-green-bknyym	Reader instance	Aurora MySQL	us-west-2c
my-aurora-mysql-reader-2-green-ukohjj	Reader instance	Aurora MySQL	us-west-2a
my-aurora-mysql-writer-green-xlaieq	Writer instance	Aurora MySQL	us-west-2b

Actions ▾

- Modify
- Switch over
- Delete

RDS > Databases > Switch over: my-bg-deployment

## Switch over: my-bg-deployment Info

Switch over traffic from the blue environment to the green environment.

### Switchover summary

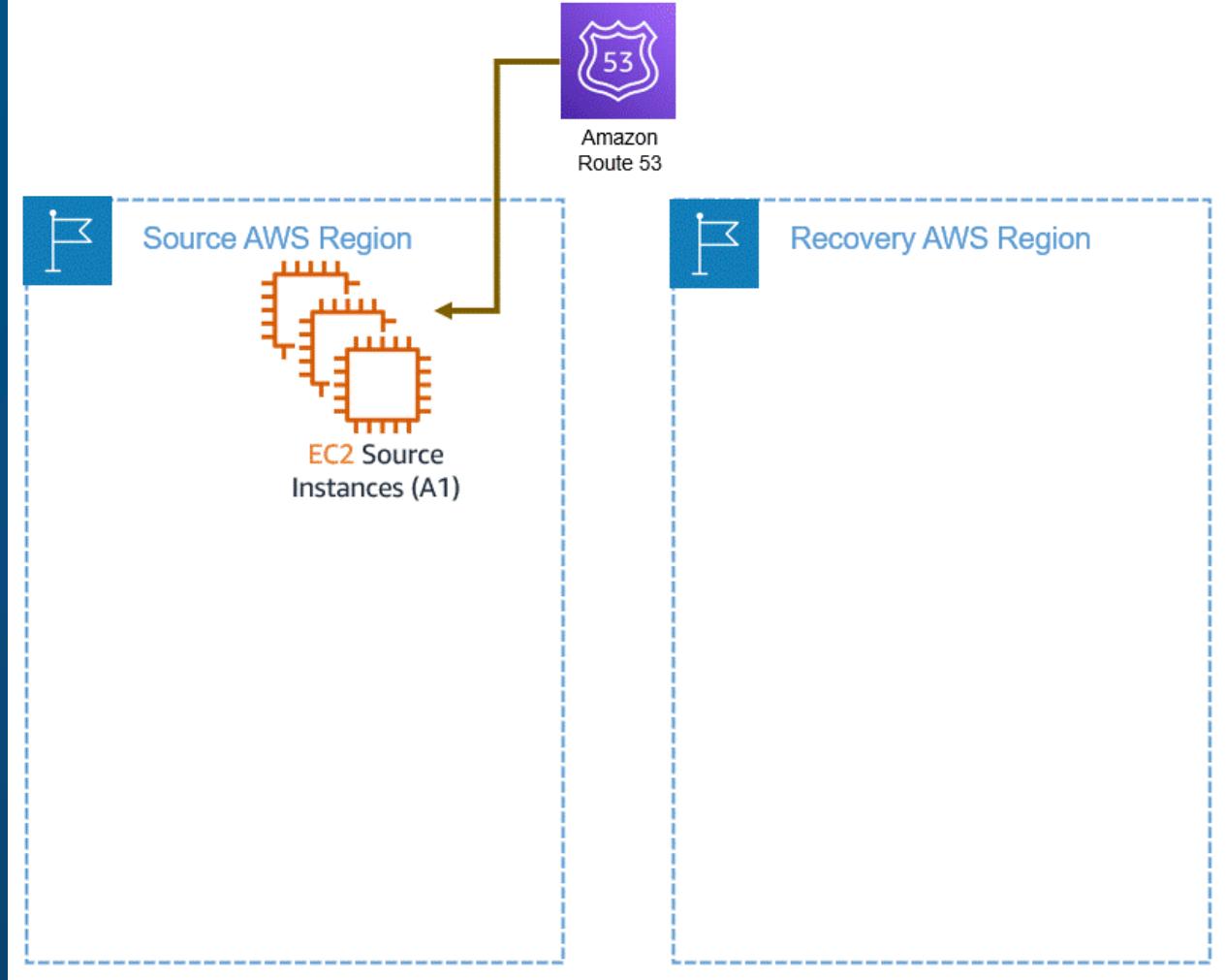
You are about to switch over from Blue databases to Green databases. Check the settings of the Green databases to verify that they are ready for the switchover.

Blue databases Instances	Green databases Instances
Identifier my-aurora-mysql-writer my-aurora-mysql-reader-1 my-aurora-mysql-reader-2	Identifier my-aurora-mysql-writer-green-xlaieq my-aurora-mysql-reader-1-green-bknyym my-aurora-mysql-reader-2-green-ukohjj
Engine version aurora-mysql 5.7.mysql_aurora.2.10.2	Engine version aurora-mysql 5.7.mysql_aurora.2.10.2
Parameter group bg-aurora-mysql57	Parameter group bg-aurora-mysql57

# AWS Elastic Disaster Recovery Automated Failback

Automated in-AWS Failback provides a simplified and expedited experience to fail back Amazon EC2 instances to the original region

## Stage: Preparation



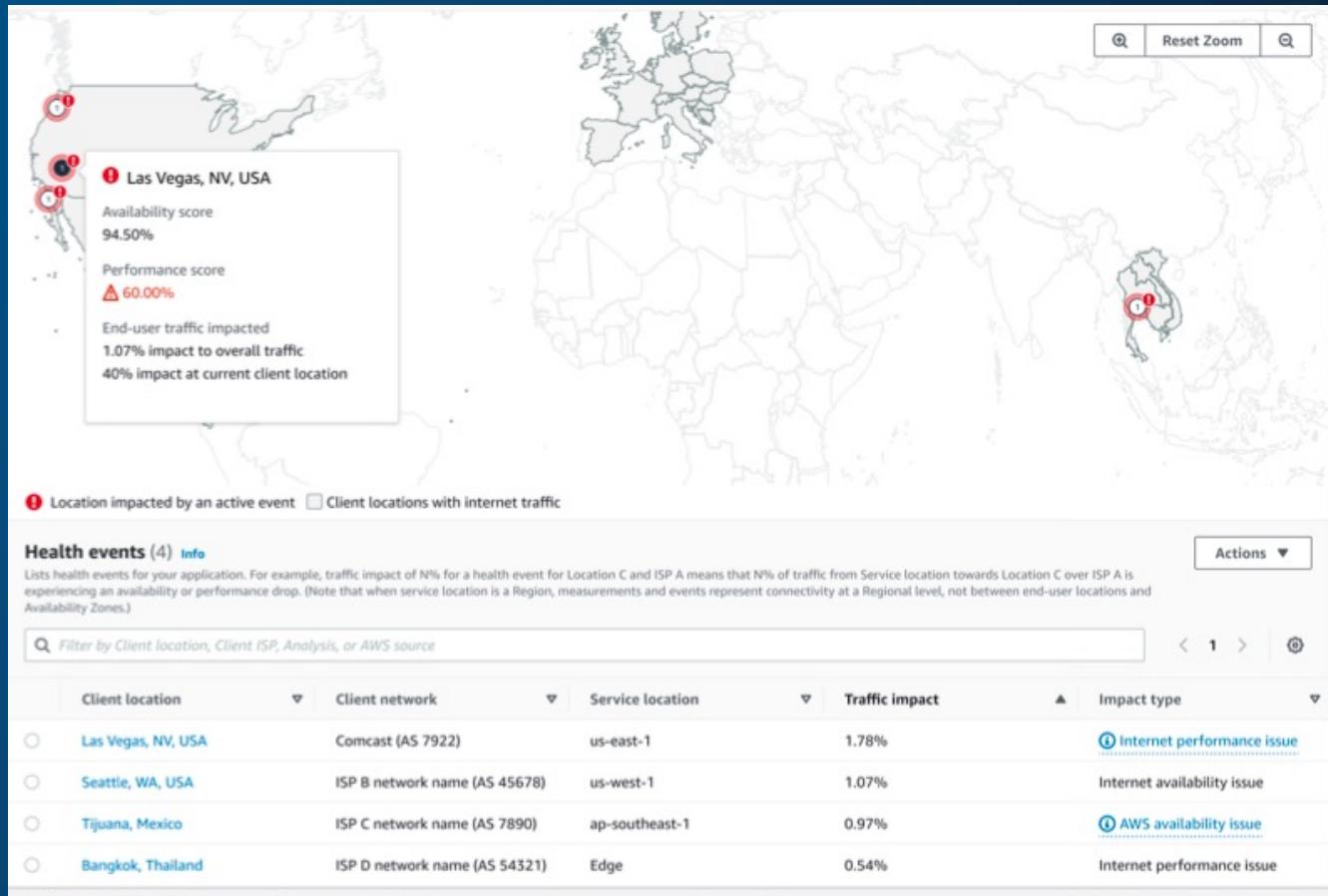
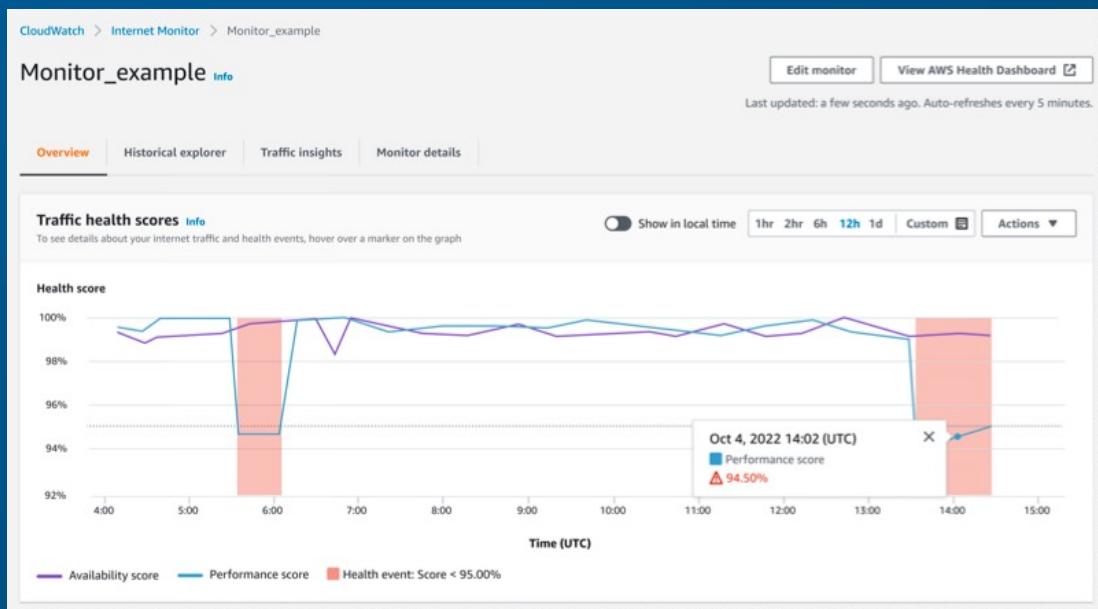
# AWS Backup – New Features

- AWS Backup for Amazon S3 (*Public Preview in US West*)
- Support for VMware workloads (GA)
- Protect and Restore Your CloudFormation Stacks (GA)
- Support for Amazon Redshift (GA)
- Delegation of organization-wide backup administration (GA)



# Amazon CloudWatch Internet Monitor

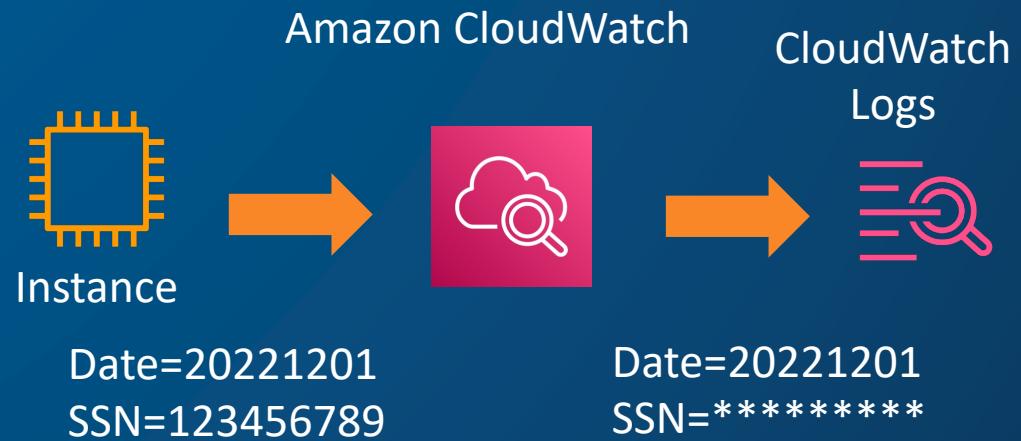
Provides visibility into how an internet issue might impact the performance and availability of your applications.



Preview

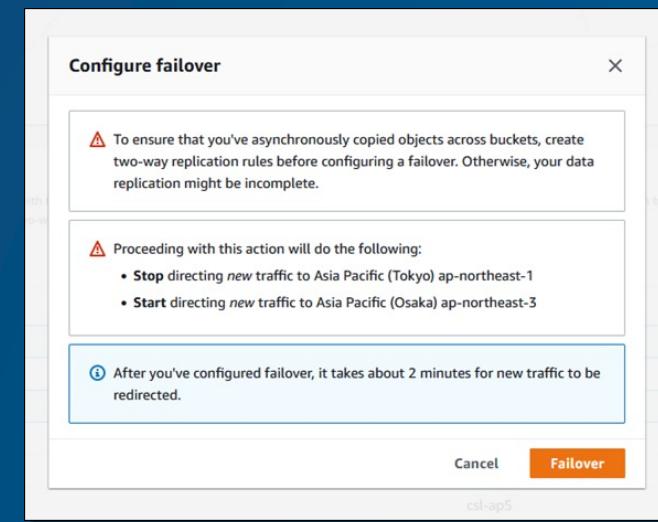
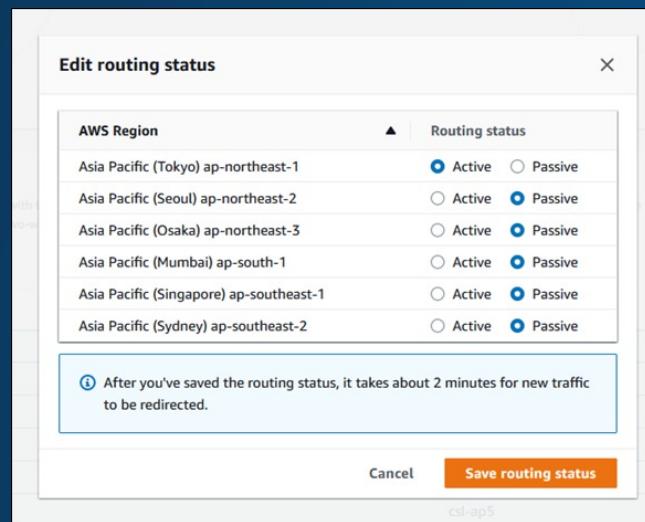
# Amazon CloudWatch Logs Data Protection

A new set of capabilities that leverage pattern matching and machine learning capabilities to detect and protect sensitive log data-in-transit.



# Amazon S3 Multi-Region Access Points Failover Controls

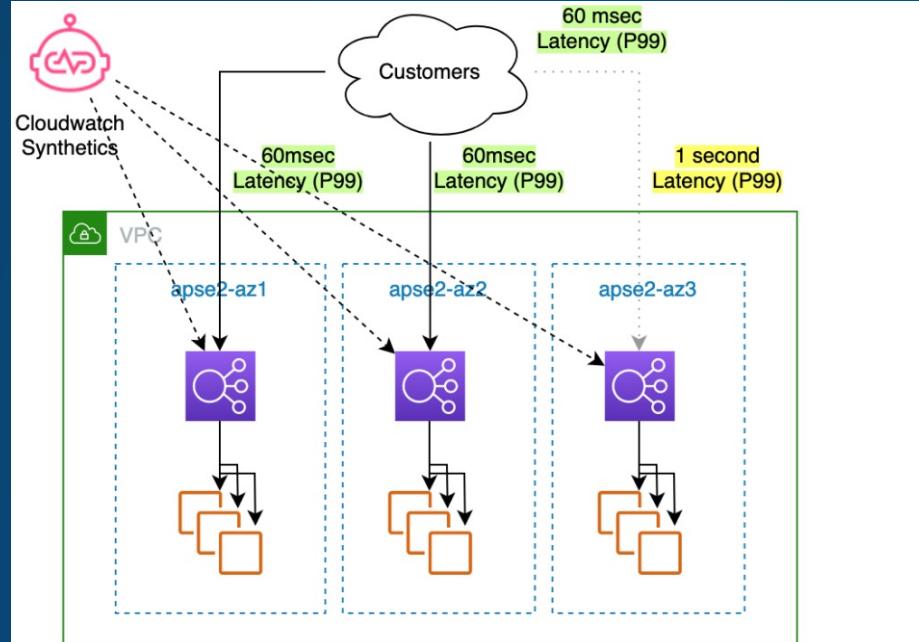
- Multi-Region Access Point will automatically route all traffic to the closest bucket (synchronized via S3 Replication) in another region
- Failover Controls let you shift S3 data access request traffic routed through an Amazon S3 Multi-Region Access Point to an alternate AWS Region within minutes to test and build highly available applications for business continuity



# Amazon Route 53 ARC – Zonal Shift

RAPIDLY RECOVER FROM APPLICATION FAILURES IN A SINGLE AZ

- New capability built into ELBs
- Allows better end user experience for highly resilient multi-AZ applications
- Implementation of a “recovery-oriented” strategy
- Shift traffic away from an AZ to other healthy AZs with ease

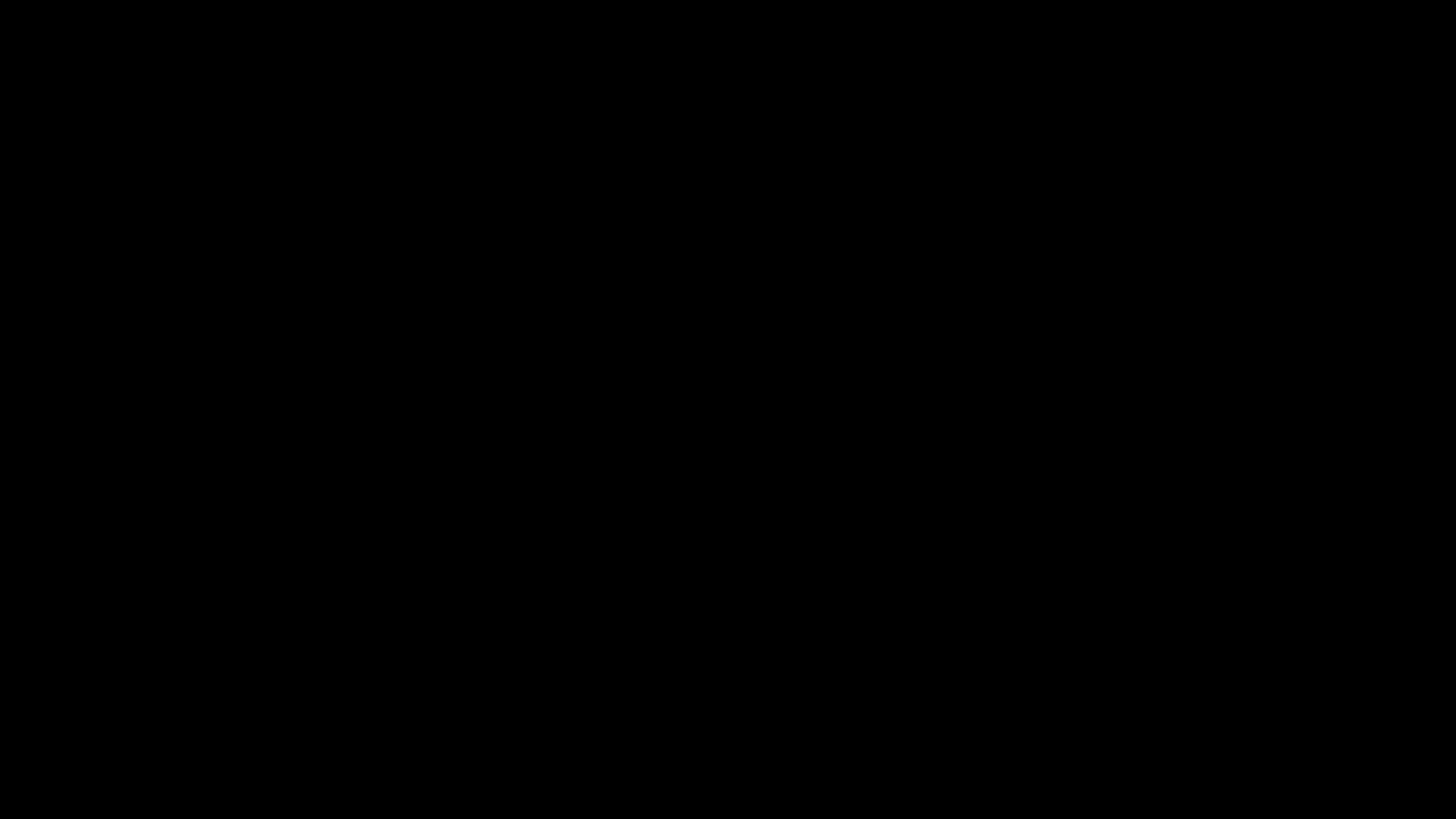


Preview

# AI/ML

# Next Generation SageMaker Notebooks

NEW FEATURE – INCREASE EFFICIENCY ACROSS THE ML DEVELOPMENT WORKFLOW



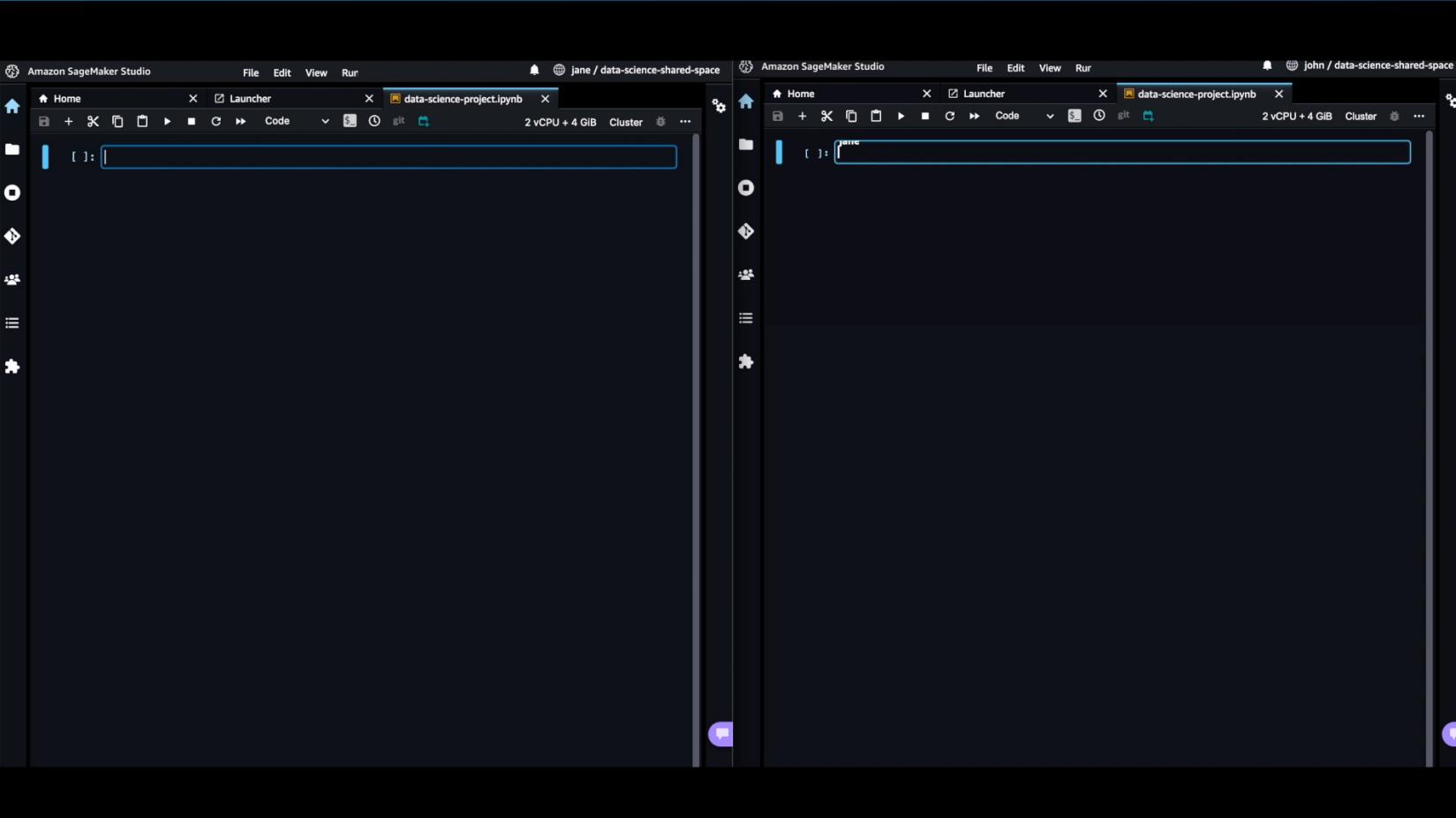
Built-in Data preparation in SageMaker Studio Notebooks



GA

# Next Generation SageMaker Notebooks

NEW FEATURE – INCREASE EFFICIENCY ACROSS THE ML DEVELOPMENT WORKFLOW

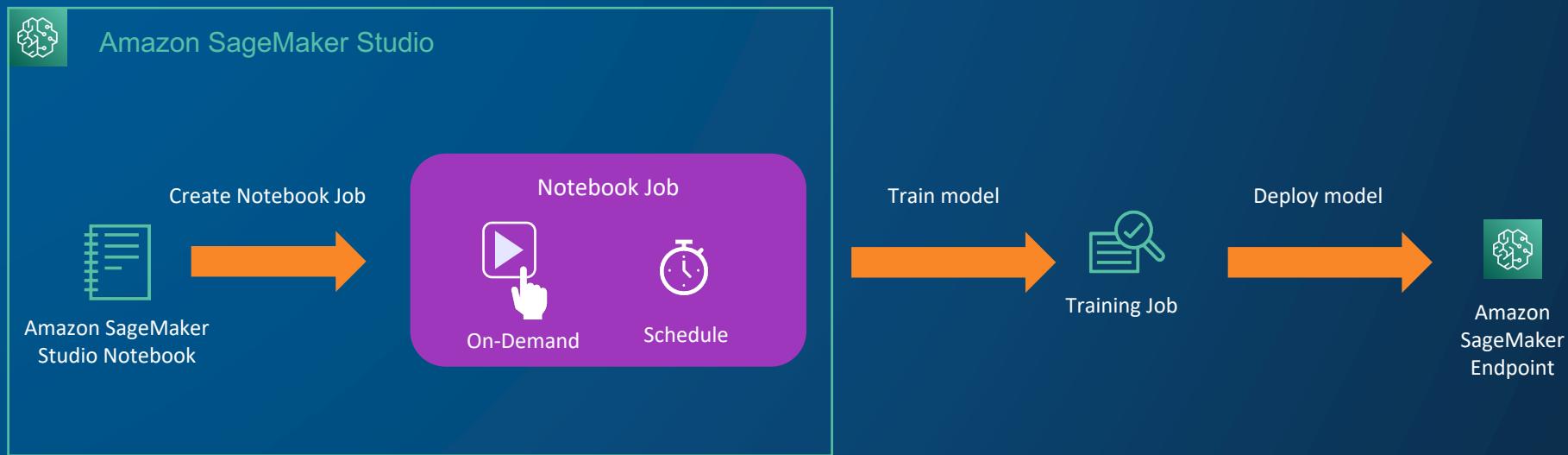


Shared spaces that give data science and ML teams a workspace for real-time collaboration

# Next Generation SageMaker Notebooks

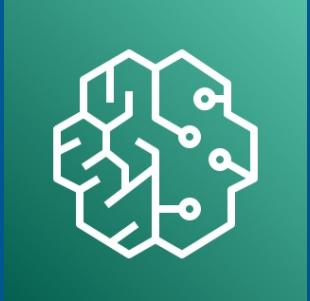
NEW FEATURE – INCREASE EFFICIENCY ACROSS THE ML DEVELOPMENT WORKFLOW

Automate a Notebook as a job that can run in a Production environment



# Geospatial ML with Amazon SageMaker

NEW FEATURE – GEOSPATIAL ML



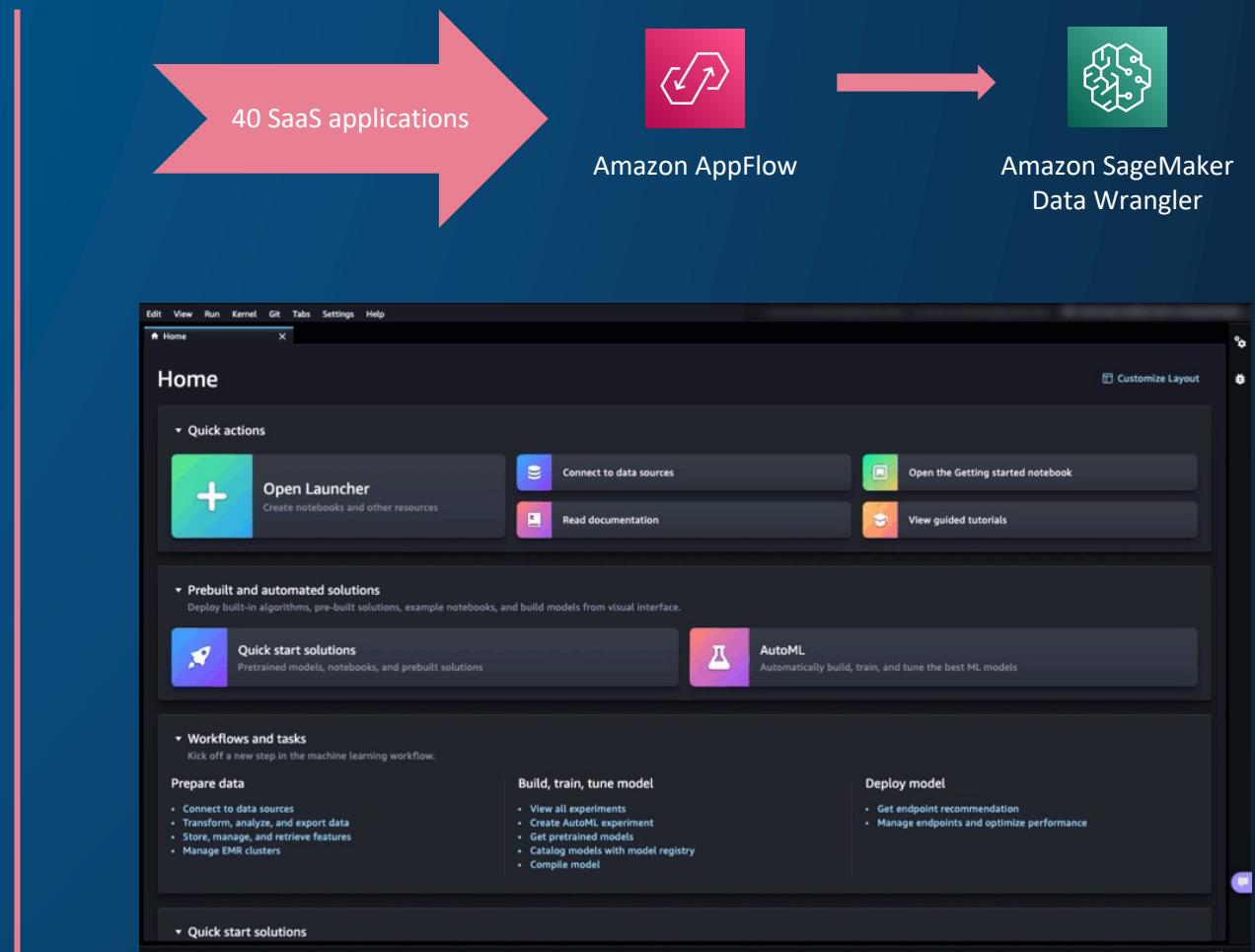
Amazon SageMaker  
Geospatial ML Support

- Acquire geospatial data with just a few clicks
- Easily prepare geospatial data with built-in operations and transformations
- Speed model building with pre-trained deep neural network (DNN) models and geospatial operators

# Amazon SageMaker Data Wrangler

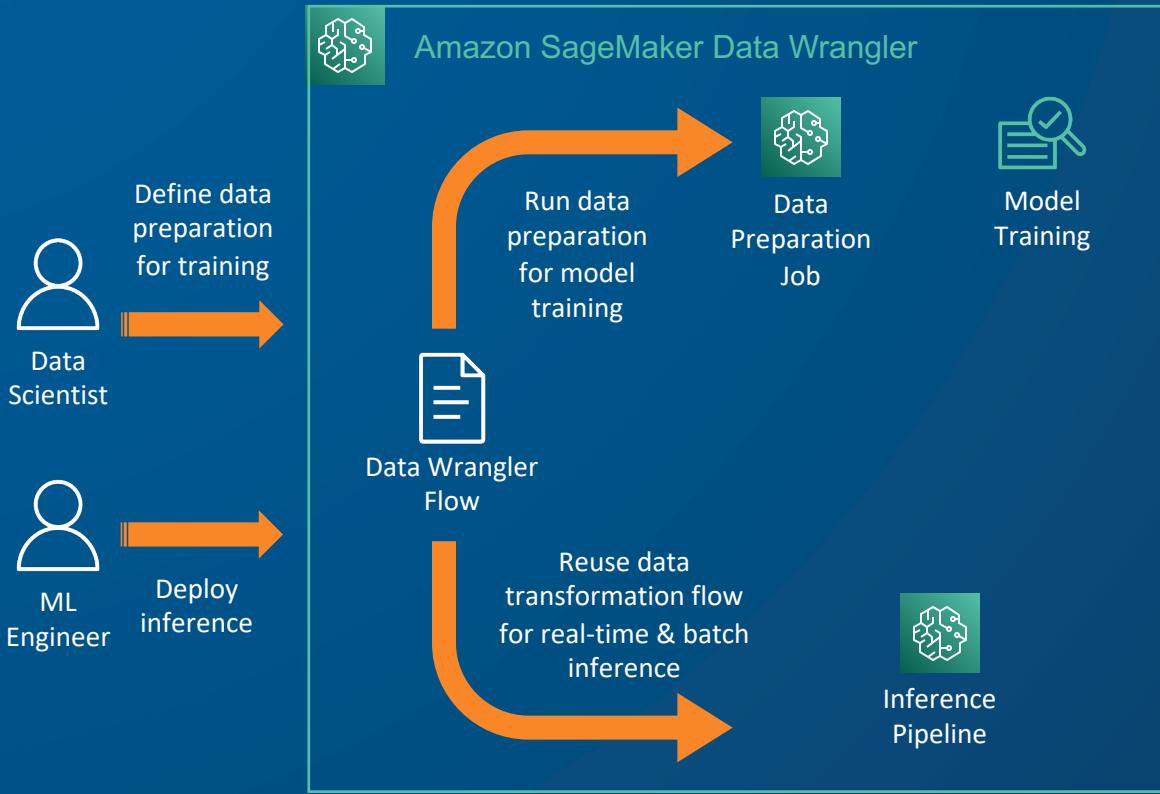
NEW FEATURE – SUPPORTS SAAS APPLICATIONS AS DATA SOURCES

- Bring data from external SaaS Solutions
- Aggregate external SaaS application data for ML in Data Wrangler to prepare data for ML
- More than 40 SaaS applications as data sources



# Real-Time and Batch Inference in Data Wrangler

NEW FEATURE – REAL-TIME AND BATCH INFERENCE IN DATA WRANGLER



- Deploy data preparation flows from Data Wrangler for real-time and batch inference
- Reuse the data transformation flow
- Speed up your production deployment

# Amazon SageMaker – New Governance tools

NEW FEATURE – SIMPLIFY ACCESS CONTROL AND ENHANCE TRANSPARENCY

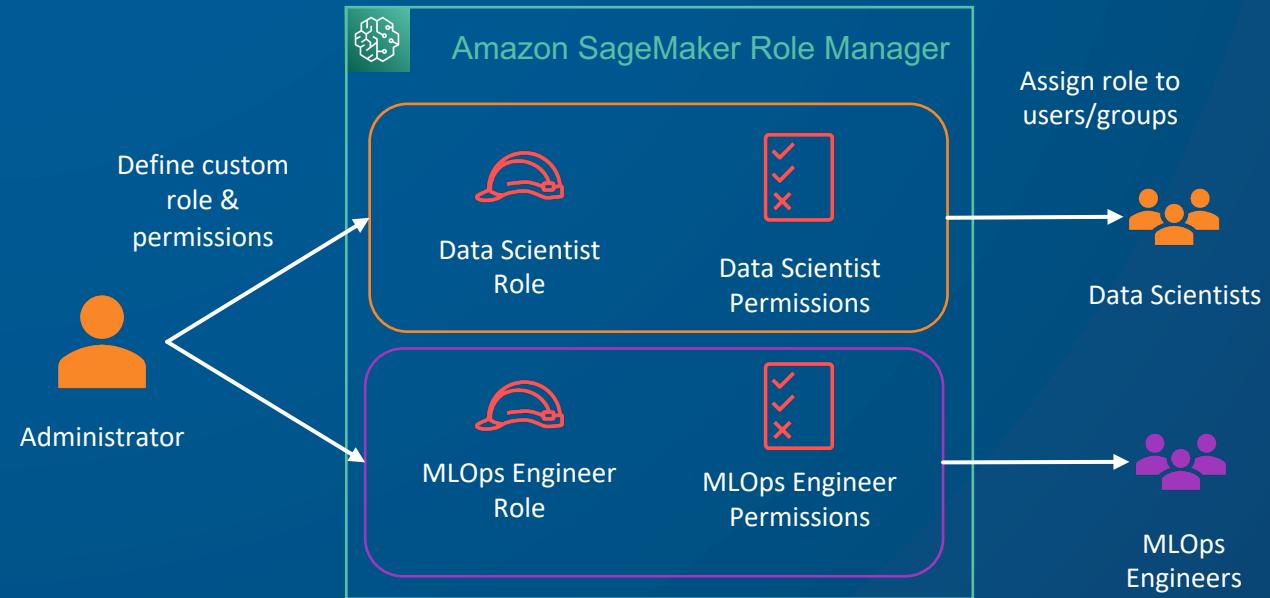
The screenshot shows the 'Model dashboard' page in the Amazon SageMaker console. At the top, there's a breadcrumb navigation: 'Amazon SageMaker > Model dashboard'. Below it, the title 'Model dashboard' is followed by a 'Info' link. A sub-instruction 'Display all SageMaker models, endpoints, and monitor alerts.' is present. The main area is titled 'Models' with an 'Info' link. It features a search bar with the placeholder 'Filter models or endpoints by property or value'. Below the search bar is a table with the following columns: Model Name, Risk Rating, Model Quality, Data Quality, Bias Drift, Feature Attribution Drift, Endpoints, Last batch transform job, and Model creation time. The table contains five rows of data:

Model Name	Risk Rating	Model Quality	Data Quality	Bias Drift	Feature Attribution Drift	Endpoints	Last batch transform job	Model creation time
Customer-Churn-Model	High	⚠ Nov 16, 2022 02:13 UTC	⚠ Nov 16, 2022 02:13 UTC	⌚ Scheduled	⌚ Scheduled	Customer-Churn-Model-Endpoint and 1 more	Customer-Churn-Model--2022-11-16-00-53-43-505	Nov 14, 2022 03:35 UTC
Fraud-Detection-Model	Low	-	⚠ Nov 16, 2022 02:03 UTC	-	-	Fraud-Detection-Model-Endpoint		Nov 13, 2022 20:43 UTC
Loan-Approval-Model	High	-	⚠ Nov 16, 2022 02:12 UTC	-	-	Loan-Approval-Model-Endpoint		Nov 14, 2022 03:23 UTC
Product-Recommendation-Model	High	-	⚠ Nov 16, 2022 02:07 UTC	-	-	Product-Recommendation-Model-Endpoint		Nov 14, 2022 03:18 UTC
Sentiment-Analysis-Model	High	-	⚠ Nov 16, 2022 02:09 UTC	-	-	Sentiment-Analysis-Model-Endpoint		Nov 15, 2022 03:58 UTC

Monitor all your deployed models through a unified dashboard

# Amazon SageMaker – Role Manager

NEW FEATURE – SIMPLIFY ACCESS CONTROL AND ENHANCE TRANSPARENCY

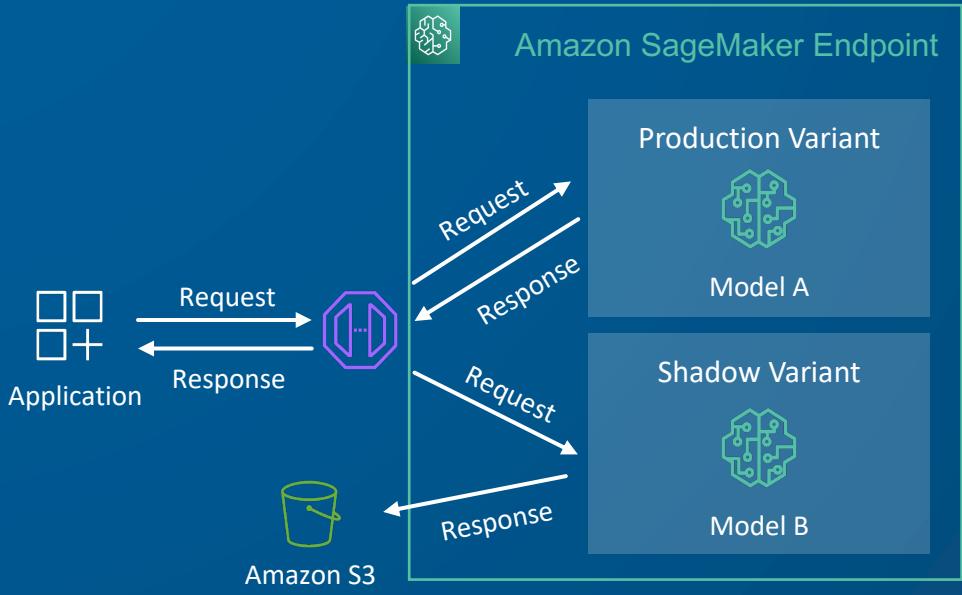


Define custom permissions for SageMaker users in minutes

Onboard users faster

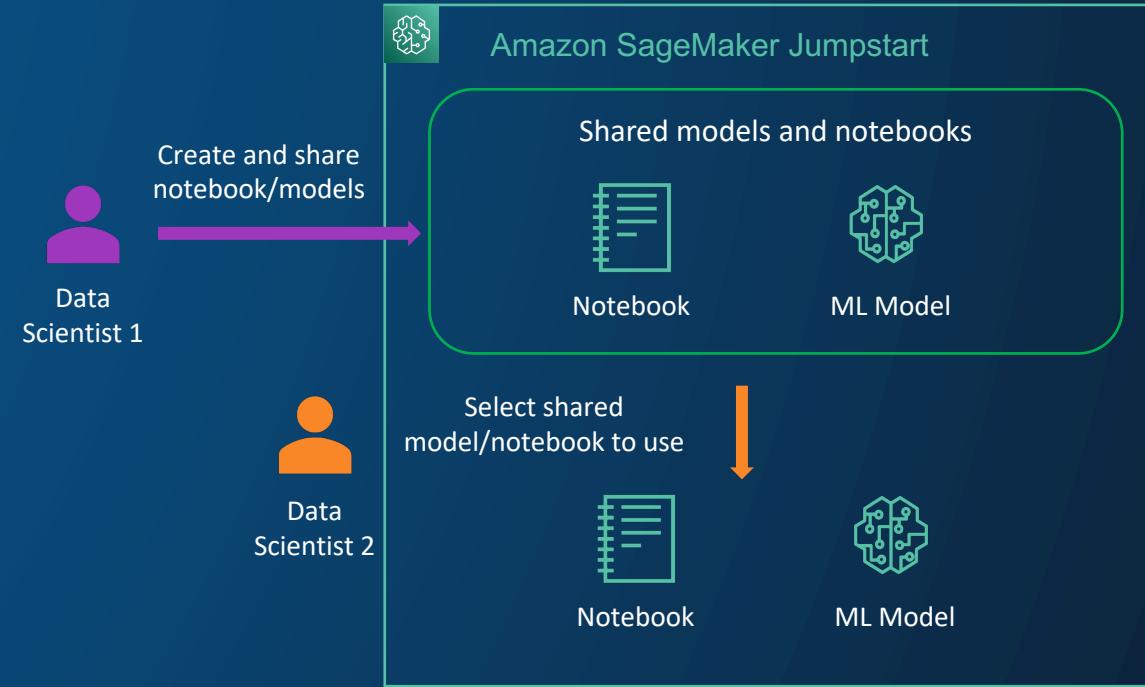
# Amazon SageMaker – New Features

## SHADOW MODE AND SHARING ML MODELS



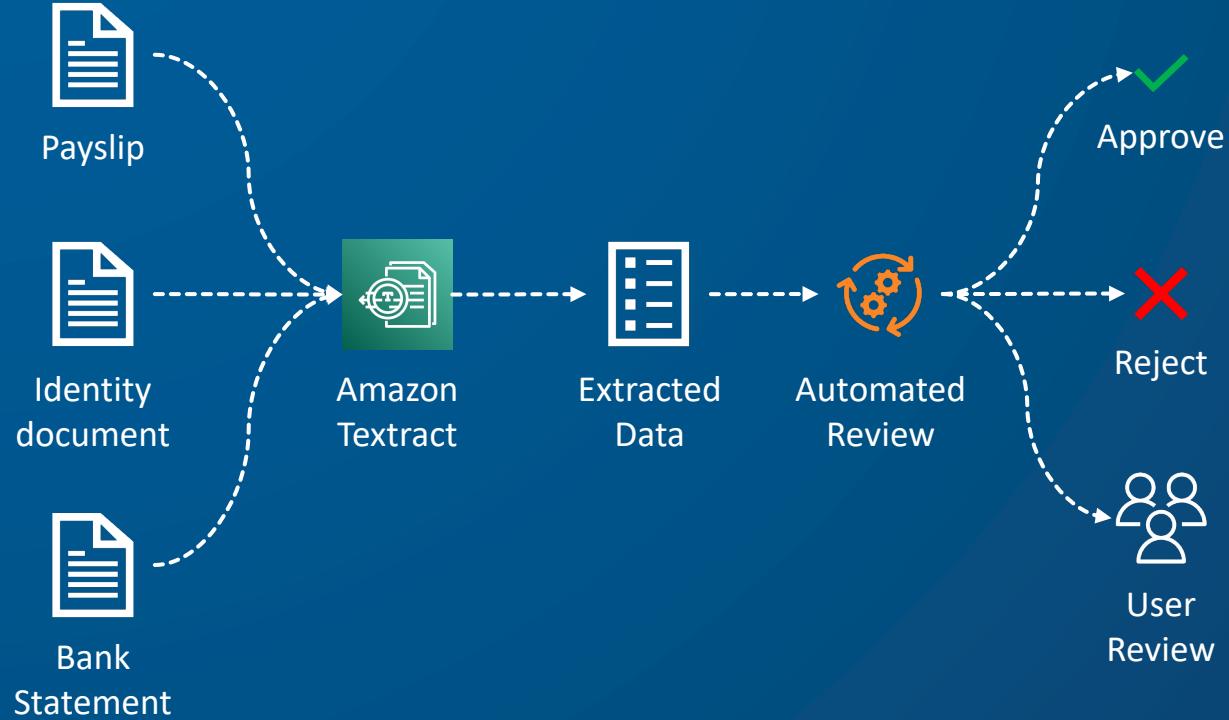
Deploy a model in shadow mode and conduct a holistic test

Use deployment guardrails for SageMaker inference endpoints to update your model in production.



Share ML artifacts, such as models and notebooks, more easily with other users with the same AWS Account

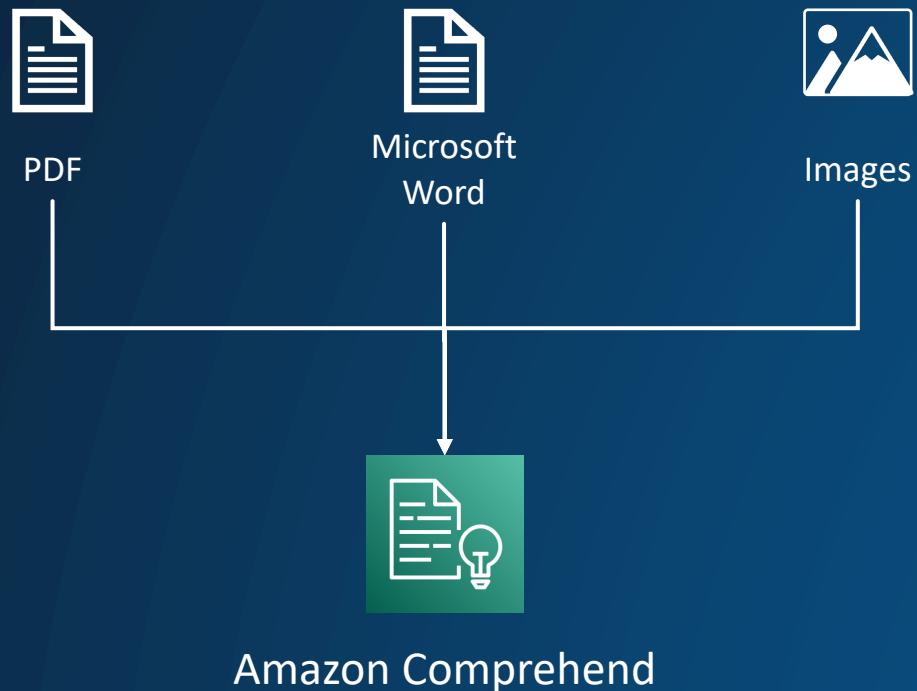
# Amazon Textract - Analyze Lending API



- Analyze and classify documents contained in mortgage loan applications
- Greater workflow automation to accelerate automation efforts
- Reduce human error so that users can focus on higher-value tasks

# Amazon Comprehend for IDP

INTELLIGENT DOCUMENT PROCESSING (IDP)



- Classify and extract entities from files, without extracting the text first
- Real-time inferencing of files, as well as asynchronous batch processing on large document sets
- Combines OCR and Comprehend NLP capabilities to classify and extract entities

# Amazon Kendra

INTELLIGENT ENTERPRISE SEARCH



What's the credit card with the lowest annual fees?

Credit Card	Interest Rates
Bank 1	21.55
Bank 2	20.45
Bank 3	21.47



¿Qué es Amazon Kendra?

## Tabular search for HTML documents

Search more intuitively and effectively through tables embedded in HTML pages

## Extended language support for semantic search

Kendra now supports semantic search for English, Spanish, French, German, Portuguese, Japanese, Korean, and Chinese

# AI Service Cards

The screenshot shows the AWS Machine Learning homepage. At the top, there's a navigation bar with links like Contact Us, Support, English, My Account, Sign In to the Console, and a search bar. Below the navigation is a main menu with categories such as Machine Learning, Overview, Use Cases, AI Services, ML Services, Frameworks, Infrastructure, Learn ML, and Resources. A prominent banner titled "Responsible use of artificial intelligence and machine learning" features a green and blue abstract background with dots. Below the banner, there's a sub-section for "Resources and tools to guide your development and application of AI and ML technologies". A news item about Amazon SageMaker supporting Shadow Testing is also visible.

This screenshot shows a detailed AI Service Card for Amazon Rekognition Face Matching. The page title is "AWS AI Service Cards – Amazon Rekognition Face Matching". On the left, there's a sidebar with a "PAGE CONTENT" section containing links to Overview, Intended use cases and limitations, Design of Rekognition face matching (which is highlighted), Deployment and performance optimization best practices, Further information, and Glossary. The main content area starts with an "Overview" section, which describes how Rekognition face matching measures similarity between faces. It mentions the use of CompareFaces and SearchFaces APIs. The text explains that Rekognition does not provide pre-built collections of faces and requires users to create their own. It also notes that throughout the card, "face matching" refers to the API names. Below this is a "True Match" section with a detailed explanation of how similarity scores work, mentioning a threshold between 0 and 100. The final section is a "Human Faces Differ" note, explaining various factors that can affect face recognition accuracy.

AWS AI Service Cards to provide information on AWS AI Services as Responsible AI

Provides documentation of expected use cases, limitations, design guidelines for Responsible AI, and best practices for use and operation

Rekognition Face Matching, Textract AnalyzeID, and Transcribe Batch (English-US) are the initial targets and will be expanded based on customer feedback.

# Data and Analytics



# Amazon Data Zone

UNLOCK DATA ACROSS ORGANIZATIONAL BOUNDARIES WITH BUILT-IN GOVERNANCE



- Link data producers and consumers
- Break data silos
- Enhance data discovery
- Simplify collaboration
- Govern data on its journey

Coming Soon

# AWS Clean Rooms

COLLABORATE WITHOUT SHARING RAW DATA



Create clean rooms in minutes

- More securely match, analyze, and collaborate with datasets to gain insights and optimize campaign performance
- Collaborate with hundreds of thousands of companies on AWS without sharing or revealing underlying data
- Protect underlying data with a broad set of privacy-enhancing controls for clean rooms
- Use flexible, easy-to-configure analysis rules to tailor queries to your specific business needs

# AWS OpenSearch Serverless

REAL-TIME SEARCH, MONITORING, AND ANALYSIS OF BUSINESS AND OPERATIONAL DATA



OpenSearch Serverless

- Automatically provisions and scales the underlying resources to deliver fast data ingestion and query responses.
- Decouples compute and storage and separates the indexing (ingest) components from the search (query) components
- supports the same ingest and query APIs as OpenSearch so you can get started in seconds with your existing clients and applications

# AWS Glue Updates

DELIVER HIGH QUALITY DATA ACROSS YOUR DATA LAKES AND DATA PIPELINES

- **AWS Glue 4.0** – Access to the latest Spark and Python releases so builders can develop, run, and scale their data integration workloads and get insights faster.
- **AWS Glue Data Quality** - Automatic data quality rule recommendations based on your data
- **AWS Glue for Ray** - Data integration with Ray (ray.io), a popular new open-source compute framework that helps you scale Python workloads
- **AWS Glue for Apache Spark** - Supports three open source data lake storage frameworks: Apache Hudi, Apache Iceberg, and Linux Foundation Delta Lake.
- **AWS Glue Custom Visual Transform** - Create and share your own ETL logic, input rules, etc. on Studio. Available on the Transform tab of Glue Studio. Master administrators in Glue Studio can improve efficiency for other workers.



Preview

# Amazon Athena for Apache Spark

BUILD INTERACTIVE SPARK APPLICATIONS



Interactive Spark applications start under a second and run faster with our optimized Spark runtime



Harness Spark for complex, powerful analytics using the expressive power of Python along with its wide ecosystem



Build applications without managing resources or configuring software with Athena

# Amazon Redshift Updates



- **Apache Spark Integration** - Author Apache Spark applications using Java, Python, Scala, with access to rich, curated data in your data warehouse
- **Streaming Ingestion Support** - Kinesis Data Streams (KDS) and Managed Streaming for Apache Kafka (MSK) without staging in S3
- **Dynamic Data Masking** - Easily protect sensitive data by managing data masking policies through an SQL interface
- **Auto-Copy From Amazon S3** - Simple, low code data ingestion
- **New Query sets** – MERGE,ROLLUP,CUBE,GROUPING SETS
- **Supporting large JSON object** – Up to 16MB (from 1MB)
- **Multi-AZ deployment**

# Amazon Aurora Zero-ETL Integration

INTEGRATION WITH AMAZON REDSHIFT



Amazon Redshift

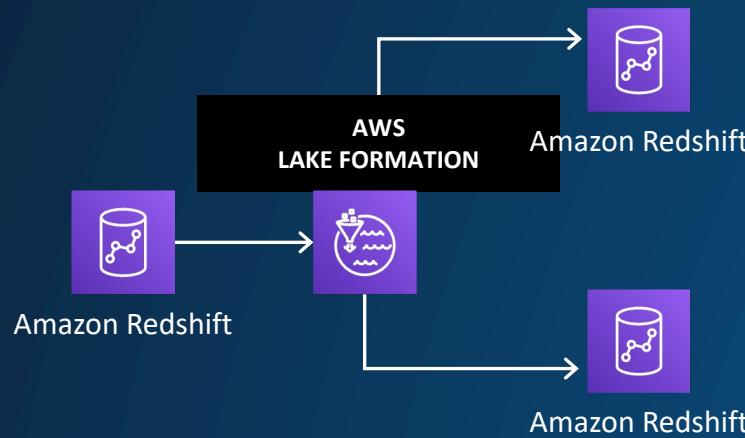


Amazon Aurora

- Drive holistic insights across applications or partitions
- Analyze data from multiple Aurora databases in the same Redshift cluster
- Leverage Redshift features such as materialized views, data sharing and federated access to data lakes

# AWS Lake Formation Data Sharing Access Control

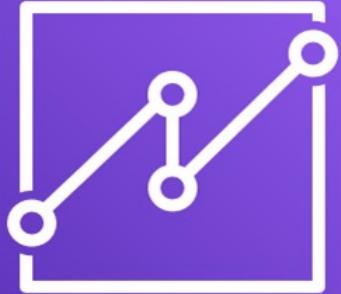
CENTRALLY MANAGE DATA SHARING



- Centrally manage granular access to data across all consuming data services
- Improve security and governance with row level and column level granular permissions on data sharing
- No manual scripting or complex querying
- Define policies once and enforce those consistently for multiple consumers

# Amazon QuickSight Updates

- **Paginated Reports** - Create, schedule, and share highly formatted multipage reports
- **Q Automated Data Prep** - AI-enhanced automated data preparation, making it fast and straightforward to augment existing dashboards for natural language questions
- **QuickSight API** - Access underlying data models of Amazon QuickSight dashboards, reports, analyses and templates via the AWS Software Development Kit (SDK)
- **2 new questions types** – “forecast” and “why”. “forecast” creates dynamic forecast dashboard, and “why” determines its data driver which relates a specific data change



# Amazon RDS Optimized Reads/Writes



- **Optimized Reads** - achieve faster query processing by placing temporary tables generated by MySQL on NVMe-based SSD block storage that is physically connected to the host server. Queries that use temporary tables, such as those involving sorts, hash aggregations, high-load joins, and Common Table Expressions (CTEs) can execute up to 50% faster with Optimized Reads.
  - r5d, m5d, r6gd and m6gd
  - MySQL engine version 8.0.28 or newer
- **Optimized Writes** - deliver an improvement of up to 2x in write transaction throughput at no extra charge, and with the same level of provisioned IOPS.
  - db.r5b or db.r6i
  - latest version of MySQL 8.0

# Amazon Kinesis Firehose OpenSearch integration



Support for Amazon OpenSearch Serverless as a stream delivery destination for Amazon Kinesis Data Firehose

# Amazon DocumentDB Elastic Cluster



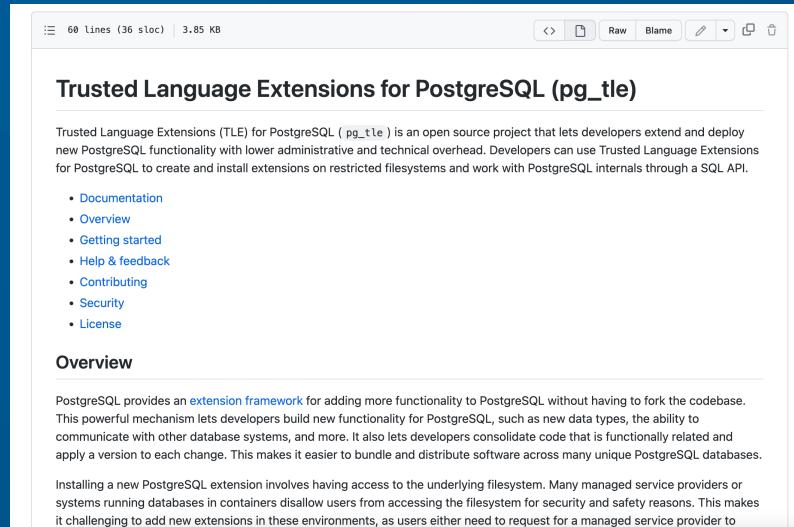
Amazon DocumentDB  
(with MongoDB compatibility)

Flexibly scales to store petabytes of data and handle millions of read/write requests per second

Infrastructure is managed by AWS. No instance creation or scaling operations required.

Provides availability across 3 AZs, with data replicated to 6 locations across 3 AZs for high durability

# Trusted Language Extensions for PostgreSQL



OSS development kit for developing PostgreSQL extensions

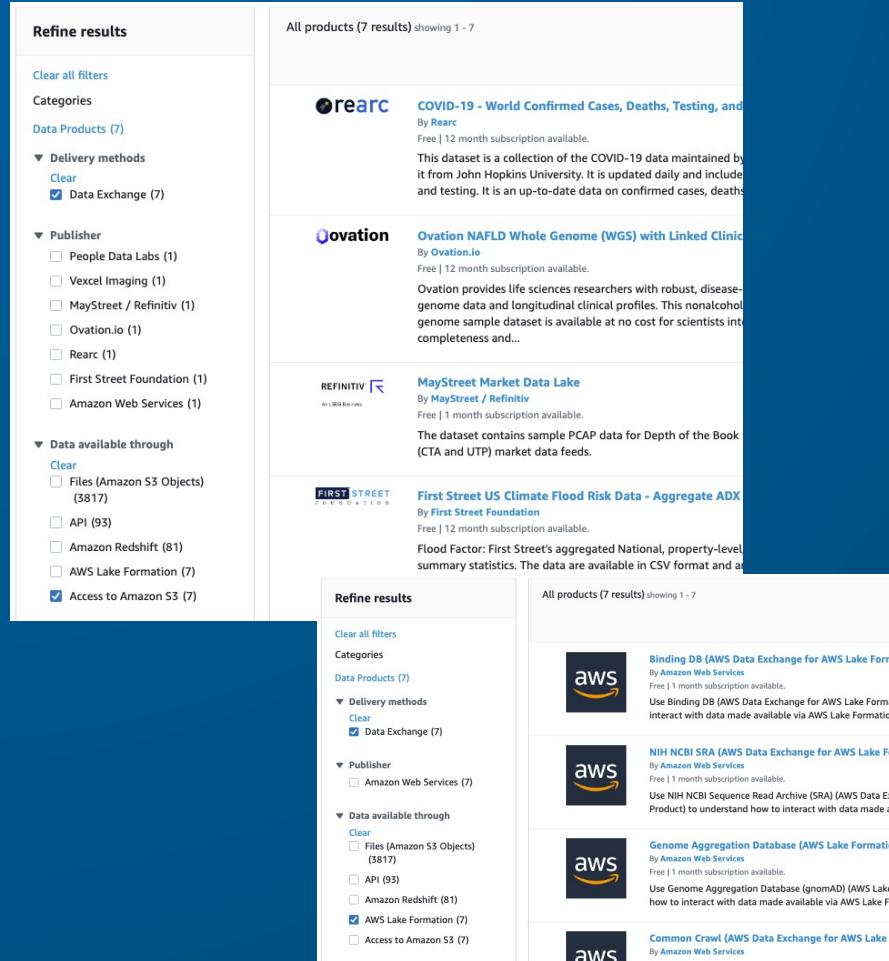
Open source software based on Apache 2.0 license

DB administrators can set permissions and control the installation and execution of extensions

Can be developed in JavaScript, Perl, and PG/pgSQL

Amazon Aurora (PostgreSQL compatible) and Amazon RDS for PostgreSQL version 14.5 or later

# AWS Data Exchange for LakeFormation and S3



The screenshot shows the AWS Data Exchange interface with the search term "Data Products" entered. The results page displays seven data products from various providers:

- Rearc**: COVID-19 - World Confirmed Cases, Deaths, Testing, and Vaccination Data. Free | 12 month subscription available.
- Ovation**: Ovation NAFLD Whole Genome (WGS) with Linked Clinical Data. Free | 12 month subscription available.
- REFINITIV**: MayStreet Market Data Lake. Free | 1 month subscription available.
- FIRST STREET FOUNDATION**: First Street US Climate Flood Risk Data - Aggregate ADX. Free | 12 month subscription available.

The sidebar on the left contains filters for Refine results, Categories, Data Products (7), Delivery methods (with Data Exchange checked), Publisher (including People Data Labs, Vexcel Imaging, MayStreet / Refinitiv, Ovation.io, Rearc, First Street Foundation, and Amazon Web Services), and Data available through (including Files, API, Amazon Redshift, AWS Lake Formation, and Access to Amazon S3).

AWS Data Exchange subscribers (users) now have direct access to the data provider's S3 buckets or LakeFormation's catalog

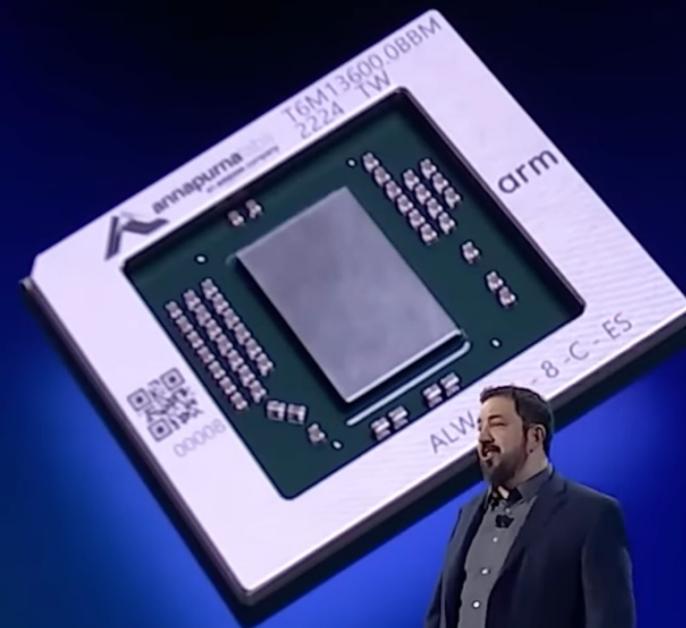
Users no longer need to create S3 or other storage locations to copy and update data, reducing resource costs.



Preview

# Compute





NEW

# AWS Nitro v5

Custom Silicon built by Annapurna Labs

2x

Transistors

50%

Faster DRAM  
Speed

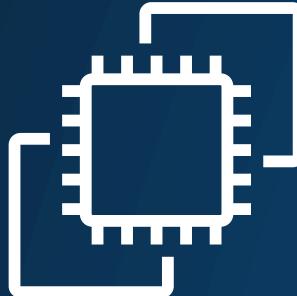
2x

More PCIe  
Bandwidth

GENERALLY AVAILABLE TODAY

# Next Generation Nitro System - Nitro v5

CUSTOM SILICON BUILT BY ANNAPURNA LABS

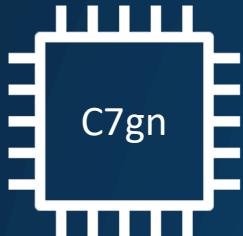


AWS Nitro System

- **2x Transistors**
- **50% Faster DRAM Speed**
- **2x More PCIe Bandwidth**
- **60% Higher PPS**
- **30% Lower Latency**
- **40% Better Performance per Watt**

# New Graviton3E instance - C7gn

LATEST-GENERATION EC2 INSTANCE WITH ENHANCED NETWORKING, POWERED BY GRAVITON AND NITRO V5



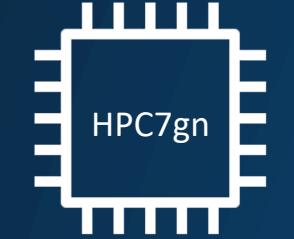
C7gn instance

- **200Gbps Networking Bandwidth**
- **Up to 50% better Packet Processing Performance (compared to C6gn)**
- **2x Higher PPS/vCPU (compared to C6gn)**

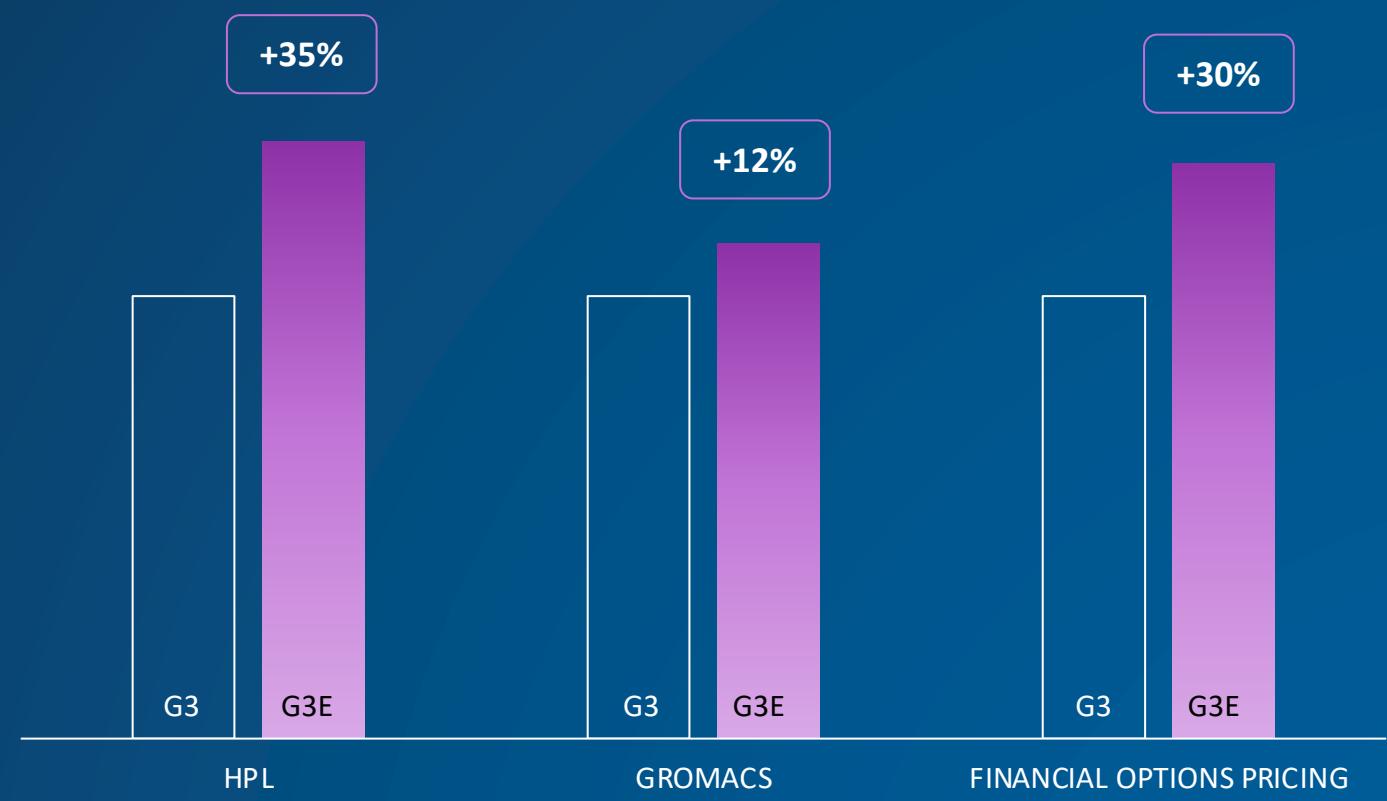
Sign up for the C7gn preview at <https://aws.amazon.com/ec2/instance-types/c7g/>

# New Graviton3E instance - HPC7g

THE BEST PRICE/PERFORMANCE FOR TIGHTLY COUPLED COMPUTE-INTENSIVE HPC

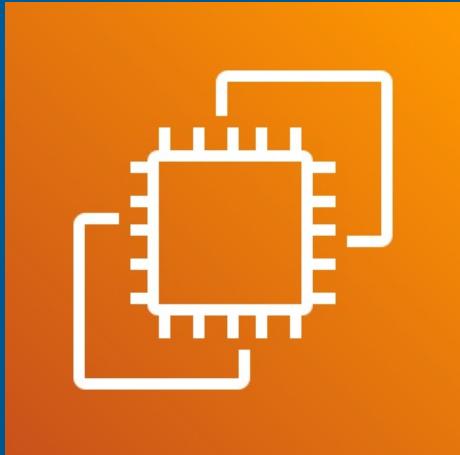


HPC7gn instance



Coming Soon

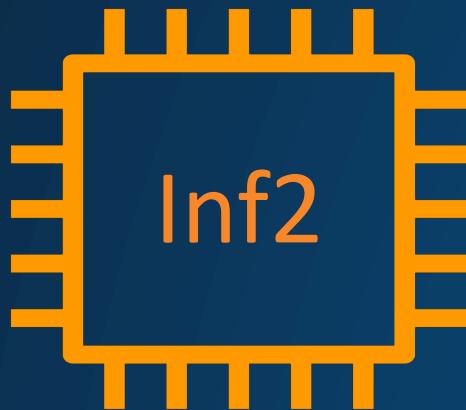
# Amazon EC2 Hpc6id instances



- Optimised for High Performance Computing workloads  
Efficiently run memory bandwidth-bound, data-intensive high performance computing (HPC) workloads, such as finite element analysis and seismic reservoir simulations.
- 3rd Generation Intel Xeon Scalable processors  
All-core turbo frequency of 3.5 GHz, 1,024 GB of memory, and up to 15.2 TB of local NVMe solid state drive (SSD) storage. 200Gbps Elastic Fabric Adapter (EFA). Ice Lake cores.
- Available now in US regions  
Available in US East (Ohio) and AWS GovCloud (US-West).

# Amazon EC2 Inf2

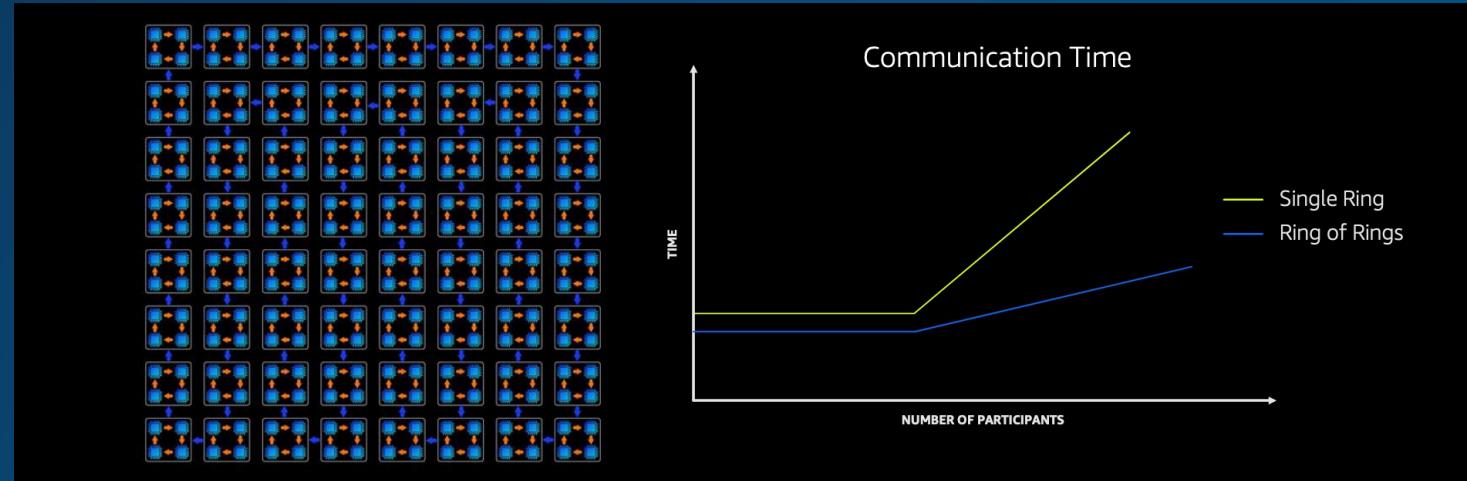
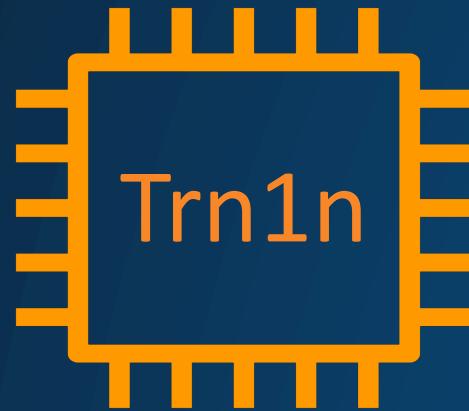
HIGHEST INFERENCE PERFORMANCE AT THE LOWEST COST IN AMAZON EC2



- Gen2  
Second-generation AWS inferential accelerator
-  3x higher computer performance, 4x higher accelerator memory, up to 4x higher throughput and up to 10x lower latency compared to Inf1
-  Optimized for complex models such as large language models and vision transformers

# Amazon EC2 Inf2

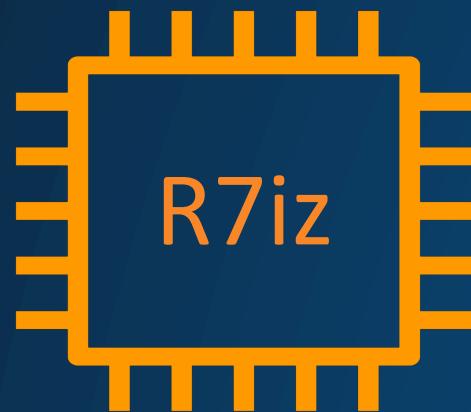
HIGHEST MACHINE LEARNING PERFORMANCE IN AMAZON EC2



Enhanced network performance version of Trn1 instance with AWS Tranium chip for AWS machine learning

Low latency EFA-optimized network with up to 1.6 Tbps

# Amazon EC2 R7iz

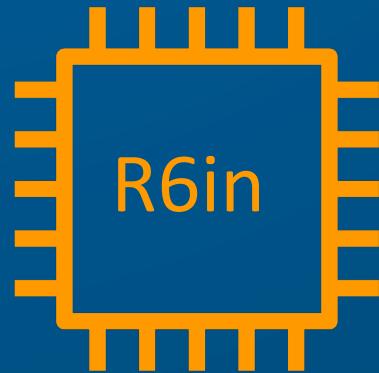
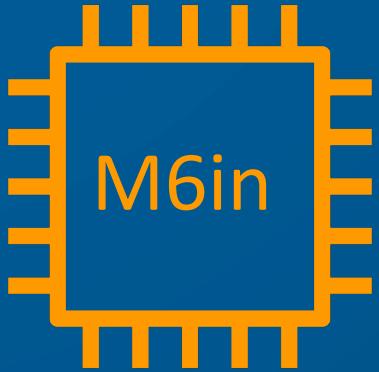


Memory-optimized instances with high clock frequency CPUs  
Powered by 4th generation Intel Xeon Scalable Processor (Sapphire Rapids)  
running at up to 3.9GHz with all cores turbo

- Up to 128 vCPUs and 1,024 GiB of memory
- Up to 50Gbps network bandwidth
- Up to 40Gbps EBS bandwidth

Highest performance of any X86-based instance, up to 20% faster than z1d instances

# Amazon EC2 M6in, M6ind, R6in, R6ind



General-purpose and memory-optimized instances with high clock frequency CPUs and high network performance

3rd generation Intel Xeon Scalable Processor running at up to 3.5GHz with all cores turbo

- Up to 200Gbps network bandwidth

- Up to 80Gbps EBS bandwidth

- Up to 128 vCPUs and 512 GiB of memory for M6in and M6idn

R6in, R6idn up to 128vCPU, 1,024GiB memory

M6idn, R6idn with 7.6TB NVMe SSD

# Amazon EC2 Microsoft Office AMI

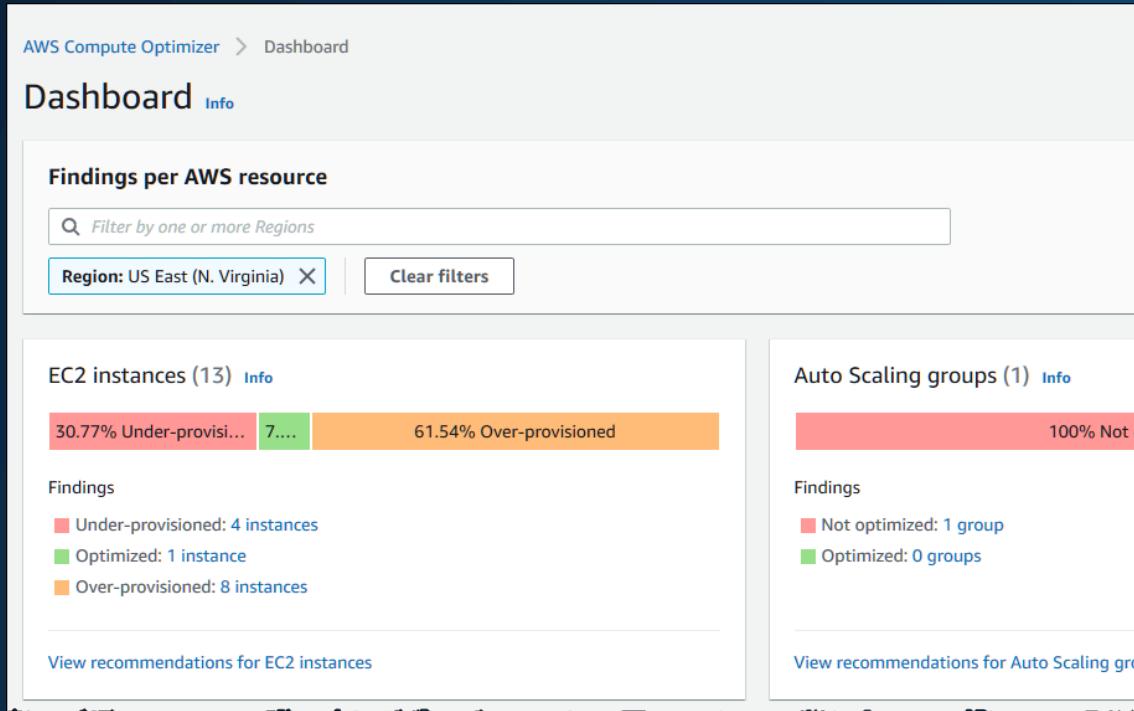
Microsoft Office LTSC Professional Plus 2021 fully compliant AMI provided

Amazon EC2 License Included Windows Server instances: per vCPU

Microsoft Office and RDS Subscriber Access License (SAL): Monthly (non-daily) per user



# AWS Compute Optimizer external metrics support

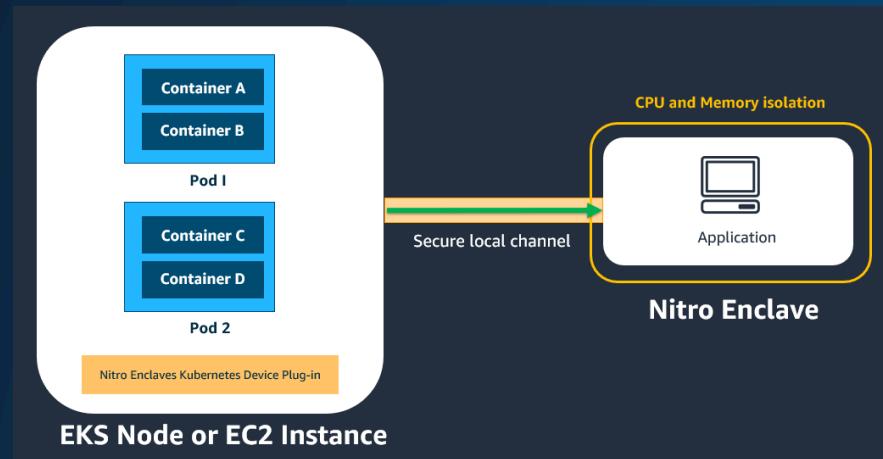


AWS Compute Optimizer now leverages metrics captured by partner solutions when calculating sizing recommendations

Memory metrics can now be obtained from Datadog, Dynatrace, Instana, and New Relic in addition to CloudWatch

Enables more cost-optimized proposals in combination with other factors such as CPU

# AWS Nitro Enclaves EKS and k8s support



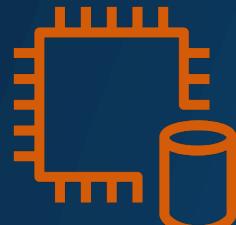
Nitro Enclaves can now be controlled from Amazon EKS and Kubernetes Pods

Previously, you had to write your own code, but now you can deploy and easily manage them as Kubernetes Pods with the Nitro Enclaves Kubernetes Device Plug-in.

# AWS EC2 Torn write prevention



Amazon EBS



Amazon EC2 with  
Instance Store



Amazon RDS

Torn Write Prevention (TWP) is a feature that makes writes to storage transactional and prevents the creation of halfway states, guaranteeing integrity for writes up to 16KiB blocks.

If you are running a database such as MySQL or MariaDB, you can disable double writes. Up to 30% performance improvement without sacrificing endurance.

Available on instance storage for I4i instances and EBS for Nitro-based instances; RDS is available in the form of Optimized Write

# Storage

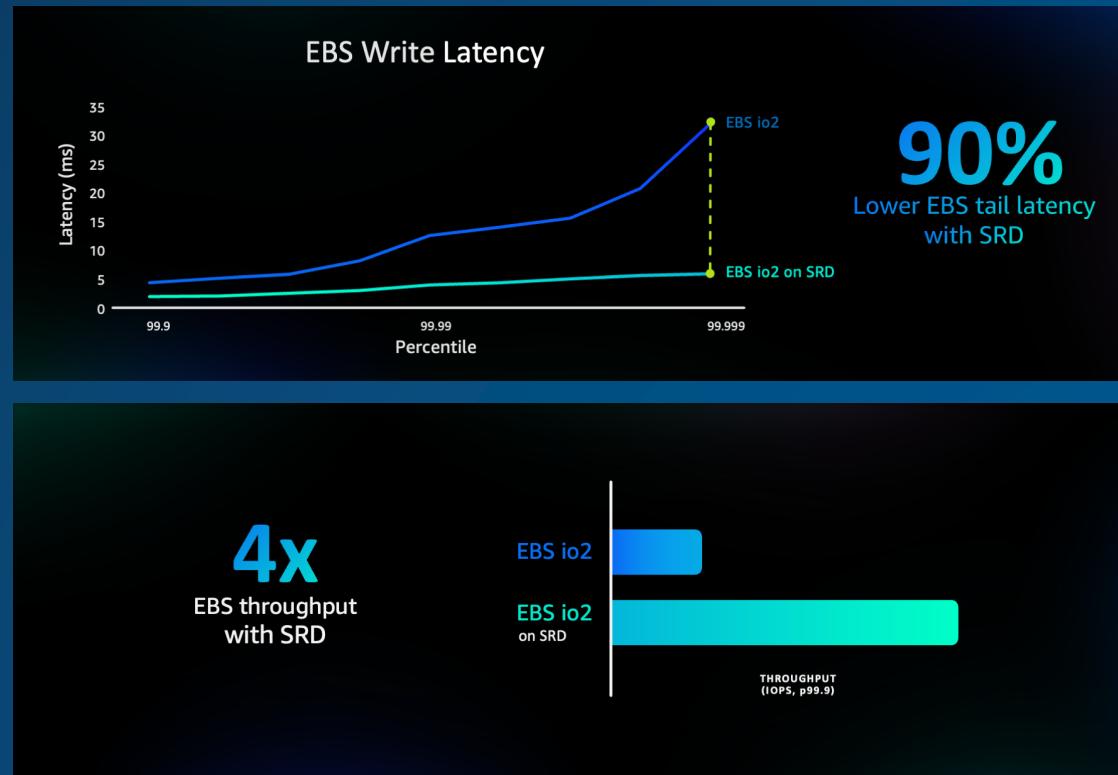
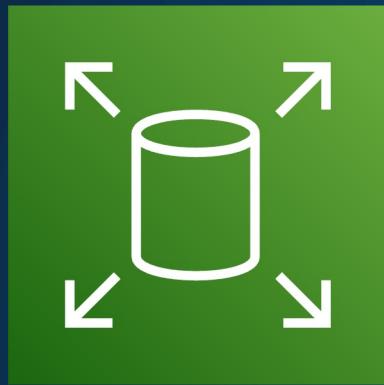


# Amazon EFS Updates



- **Elastic Throughput** - Provides as much throughput as needed on a pay-as-you-go basis
- **New Lifecycle Policy** - 1 day can be set in addition to the existing 7, 14, 30, 60, and 90 days
- **Performance Improvements**
  - **Reads:** Up to 60% lower latency  
*(frequently-accessed data and metadata)*
  - **Writes:** Up to 40% lower latency  
*(files 64 KB or smaller and metadata)*

# Amazon EBS io2 SRD support in 2023



- By applying SRD, write latency is improved by up to 90%, especially in long-tail areas such as P99.999. Throughput is also improved by 4X.

# Amazon FSx for OpenZFS Updates



New generation of file systems with Amazon FSx for OpenZFS. Maximum throughput and IOPS doubled, with NVMe cache

Up to 10GB/s throughput and up to 350,000 IOPS

High-speed NVMe cache up to 2.5TB with read performance exceeding 1,000,000 IOPS with latency in the hundreds of microseconds

# Amazon FSx for NetApp ONTAP Updates



- **Throughput improvement** - Doubles throughput capacity and maximum IOPS per file system. Throughput increased from 2GB/s to 4GB/s and SSD IOPS from 80,000 to 160,000.
- **Easier to access Multi-AZ file systems** - Option to create Multi-AZ file systems with an IP address range that's within your VPC's IP address range. This allows you to access them from on-premises without needing to create any additional routes in your Transit Gateway.

# Networking



# Amazon VPC Lattice

Service-aware networking



Simplifies the way developers connect, secure, and observe communication, with application layer networking between services

## Connectivity

- Cross-account, cross-VPC connections to services
- Application-aware routing

## Consistency across compute services

- Integration with Amazon EC2, Amazon ECS, AWS Lambda, and Amazon EKS/Kubernetes

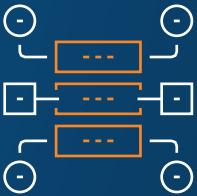
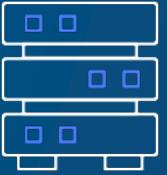
## Observability and traffic control

- Logs or metrics export to Amazon S3, Amazon CloudWatch, and Amazon Kinesis Data Firehose
- Advanced layer 7 routing and resiliency controls

## Security

- Access policy for Zero Trust architectures
- Centralized control of inbound and outbound traffic

# Amazon VPC Lattice benefits



Increased developer productivity

Simplified service discovery and connectivity

Enhanced security posture

Granular access control with IAM roles

Optimized compute choice

Support for EC2 Auto Scaling groups, EKS, Lambda

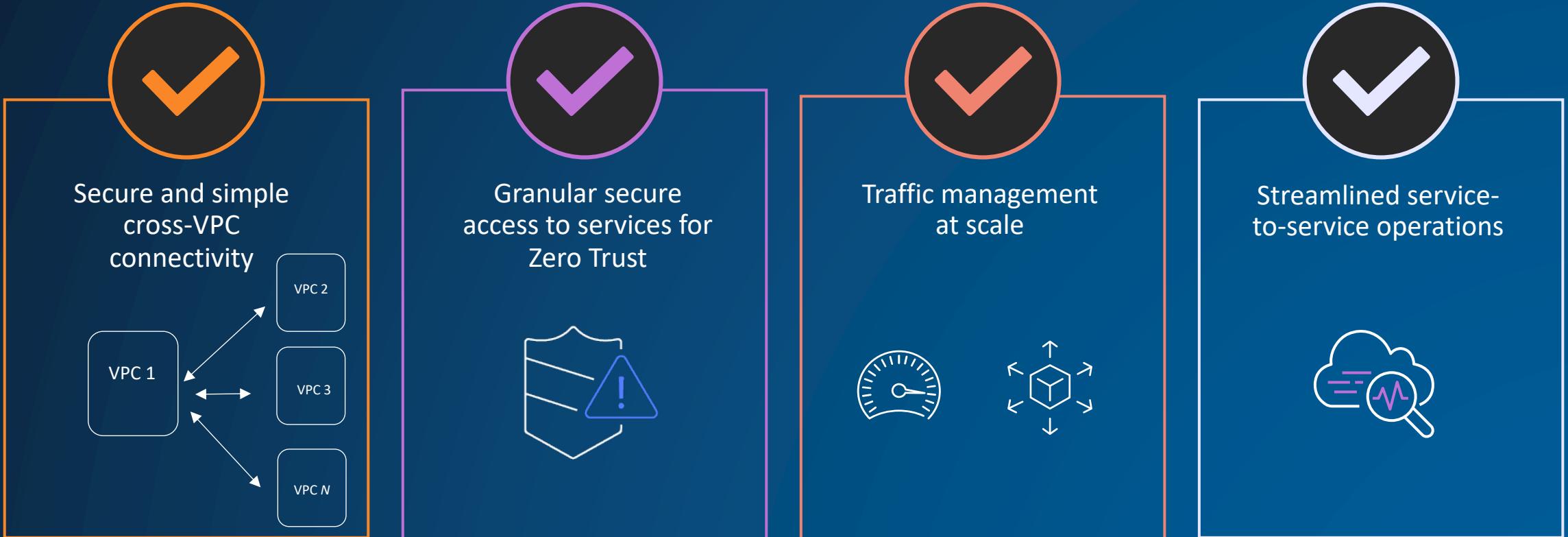
Improved scale and resilience

Fully managed control plane and data plane

Reduced Day 2 operations costs

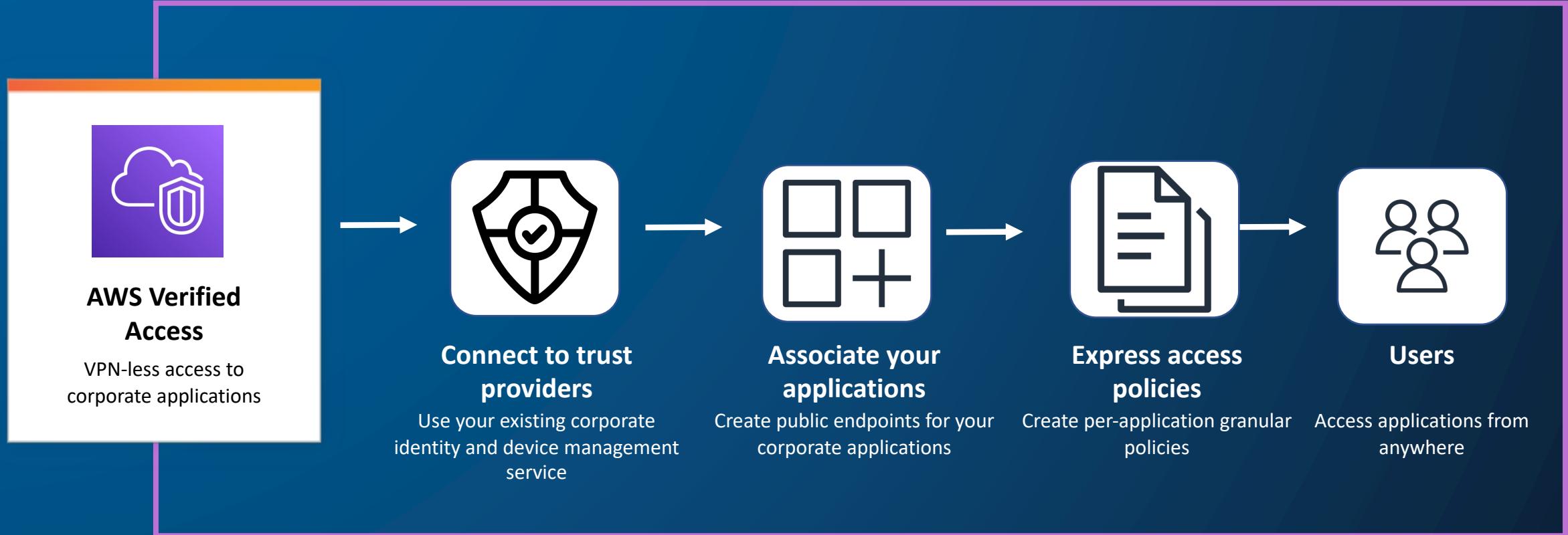
Operate large environments with fewer resources

# Use cases for Amazon VPC Lattice



# Introducing AWS Verified Access (preview)

Remote access to corporate applications



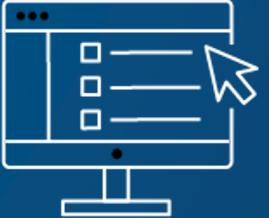
# Benefits summary

## AWS Verified Access



### Enhance security posture

Reduce the risk of lateral movement and spread of ransomware.



### Improve end-user experience

Access across all applications and devices.



### Simplify operations

Define policies and onboard new applications in minutes. Automate with third-party services.

# AWS Verified Access use cases



## Secure distributed users

Corporate application access with zero trust principles using multiple security signals such as identity, location, and device security status.



## Manage corporate application access

Central policy creation and management for IT admins to onboard new corporate applications in minutes.



## Centralized Access Logs

Full visibility into corporate application access requests and logs, facilitating quick data gathering and faster remediation.

# Load Balancing Enhancements

- ALB now supports turning cross zone load balancing off
- NLB health check improvements
- Configure health-check intervals
- Specify HTTP response codes
- Configure consecutive health check responses
- ALB/NLB minimum healthy targets
- Route 53 ARC zonal shift for ALB/NLB [Preview]



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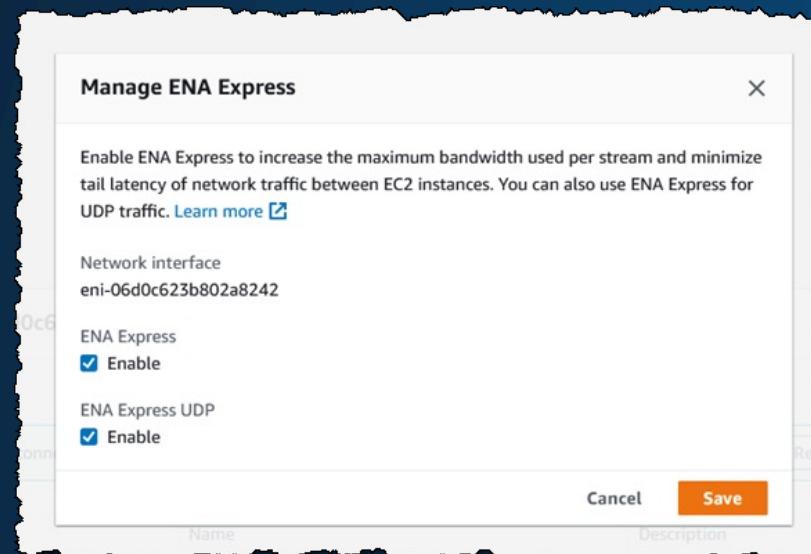
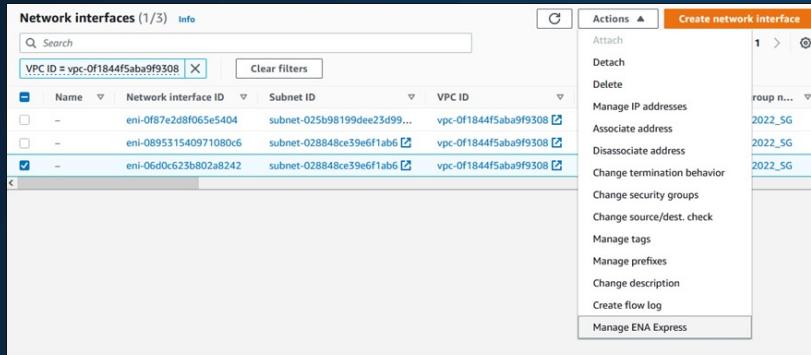
# Networking Enhancements

- VPC Reachability Analyzer supports cross-account traces
- AWS Network Manager introduces real-time performance monitoring for the AWS Global Network



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# Elastic Network Adapter (ENA) Express



Enables the benefits of Scalable Reliable Diagrams (SRD) to be applied to general workloads

Users do not need to be aware of SRD and can implement it using normal TCP/UDP communication

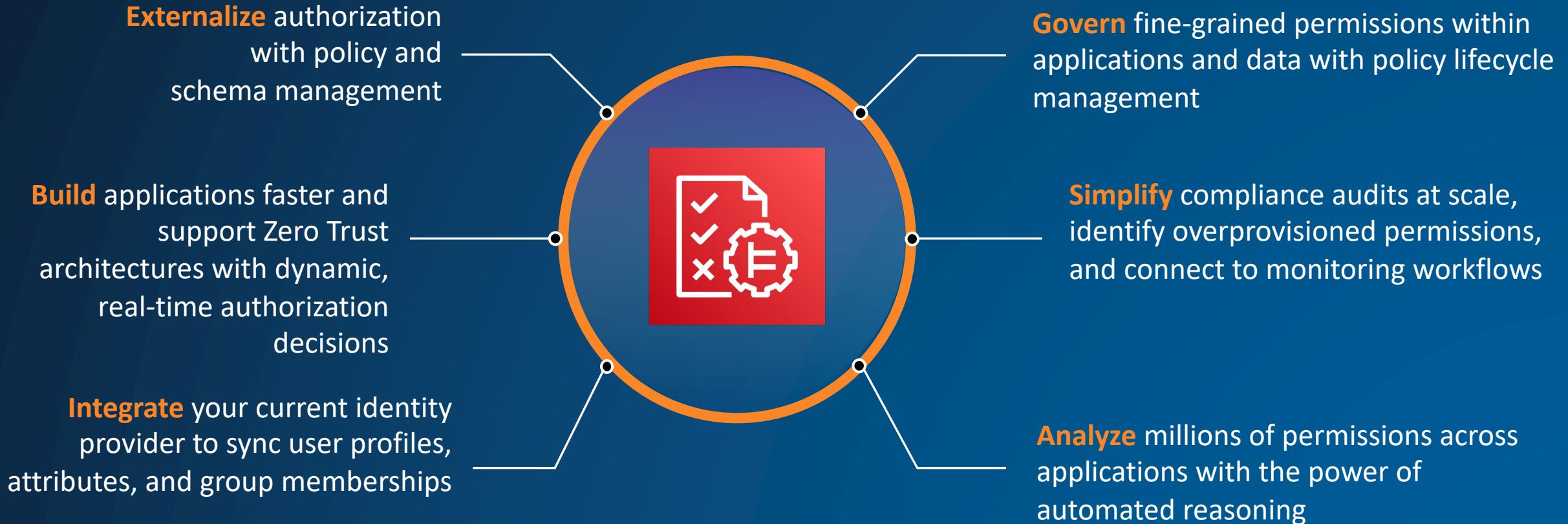
Throughput of up to 5-25 Gbps available on a single stream

# Security & Compliance



# Amazon Verified Permissions

FINE-GRAINED PERMISSIONS AND AUTHORIZATION FOR YOUR CUSTOM APPLICATIONS



# Amazon Security Lake

AUTOMATICALLY CENTRALIZE YOUR DATA SECURITY



- **Centralize** data automatically from cloud, on-premises, and custom security sources across Regions
- **Optimize** and manage security data for more efficient storage and query performance
- **Normalize** data to an industry standard to easily share and use with multiple analytics tools
- **Analyze** using your preferred analytics tools while retaining control and ownership of your security data

# AWS Config Proactive Compliance

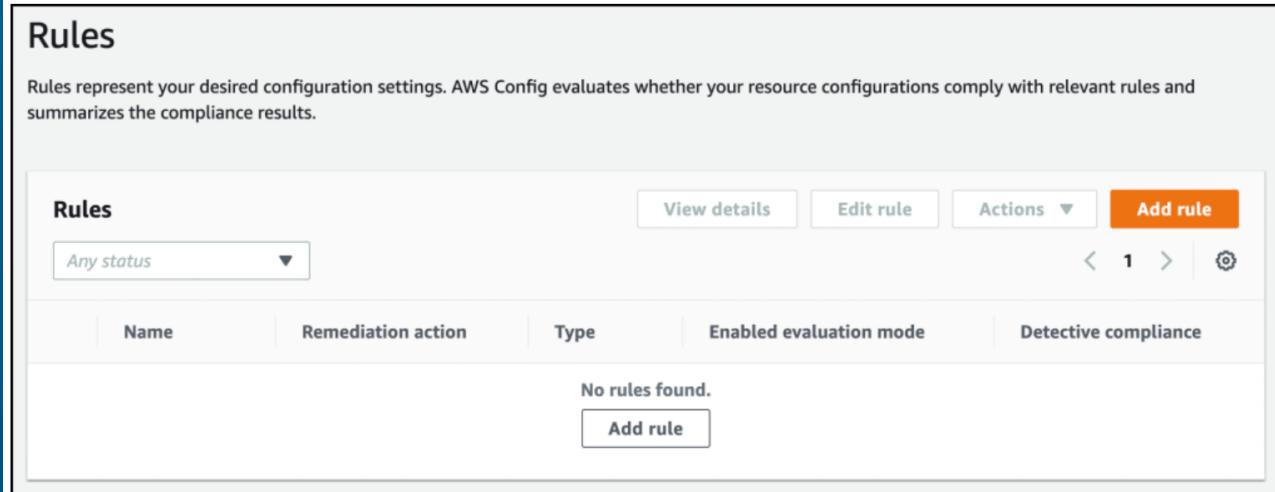
**Rules**

Rules represent your desired configuration settings. AWS Config evaluates whether your resource configurations comply with relevant rules and summarizes the compliance results.

**Rules**

Name	Remediation action	Type	Enabled evaluation mode	Detective compliance
No rules found.				

**Add rule**



- Proactively check for compliance with AWS Config rules prior to resource provisioning
- Run rules at any time before provisioning, saving time spent remediating non-compliant resources
- Incorporate AWS Config rules into infrastructure-as-code CI/CD pipelines to identify non-compliant resources before provisioning
- Use the AWS console or APIs to enable rules to run proactively

# AWS Control Tower – Comprehensive Controls Management

AWS Control Tower > Controls library: All controls

Controls (369) [Info](#)

Find controls

Enable control

Service	Name	Control objective	Implementation	Resource	Behavior	Release date
Amazon API Gateway	[CT.APIGATEWAY.PR.1] Require an Amazon API Gateway REST and WebSocket API to have logging activated	Establish logging and monitoring	CloudFormation guard rule	AWS::ApiGateway::Stage	Proactive	November 28, 2022
Amazon API Gateway	[CT.APIGATEWAY.PR.2] Require an Amazon API Gateway REST API stage to have AWS X-Ray tracing activated	Establish logging and monitoring	CloudFormation guard rule	AWS::ApiGateway::Stage	Proactive	November 28, 2022
Amazon API Gateway	[CT.APIGATEWAY.PR.3] Require that an Amazon API Gateway REST API stage has encryption at rest configured for cache data	Encrypt data at rest	CloudFormation guard rule	AWS::ApiGateway::Stage	Proactive	November 28, 2022

- Apply managed preventative, detective, and proactive controls to accounts and organizational units (OUs) by service, control objective, or compliance framework
- Reduce the time to vet AWS services from months or weeks to minutes
- Define map, and manage the controls required to meet the most common control objectives and regulations



Preview

# AWS Organizations – Delegation of Administrative accounts



In organizational units with different operational policies  
Sub-administrators can be authorized and easier to implement individual policies.

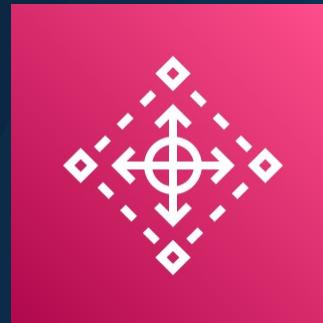
# Amazon Macie Automated Data Discovery

CONTINUAL VISIBILITY INTO WHERE YOUR SENSITIVE DATA RESIDES



- Discover and protect your sensitive data at scale
- Gain cost-efficient visibility into sensitive data stored in Amazon S3, with one-click
- Use the interactive S3 data map to continually strengthen your data security posture
- Reduce triage time with actionable reporting of sensitive data and sensitivity score for each bucket

# AWS Control Tower Account Factory Customization (AFC)



AWS Control Tower



Additional settings can now be implemented when adding AWS accounts to AWS Control Tower.

Previously, only standard settings were available for VPCs, etc., and customization required a combination of Customization for Control Tower, etc.

Service Catalog products can now be specified when creating an account. The product is automatically deployed when an account is created, and the initial setup of the account is performed.

Service Catalog products are defined in CloudFormation templates, allowing for flexible initial setup.

# AWS CloudTrail Lake AWS Config integration

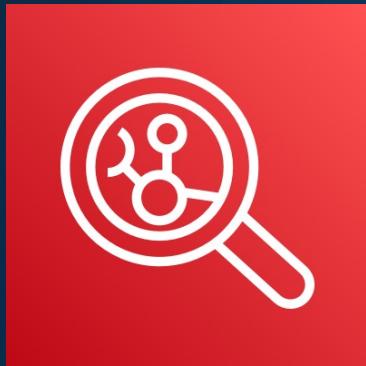


AWS CloudTrail Lake can now import configuration items from AWS Config.

CloudTrail logs and AWS Config-derived configuration information can now be centrally collected and analyzed, facilitating security and compliance investigations

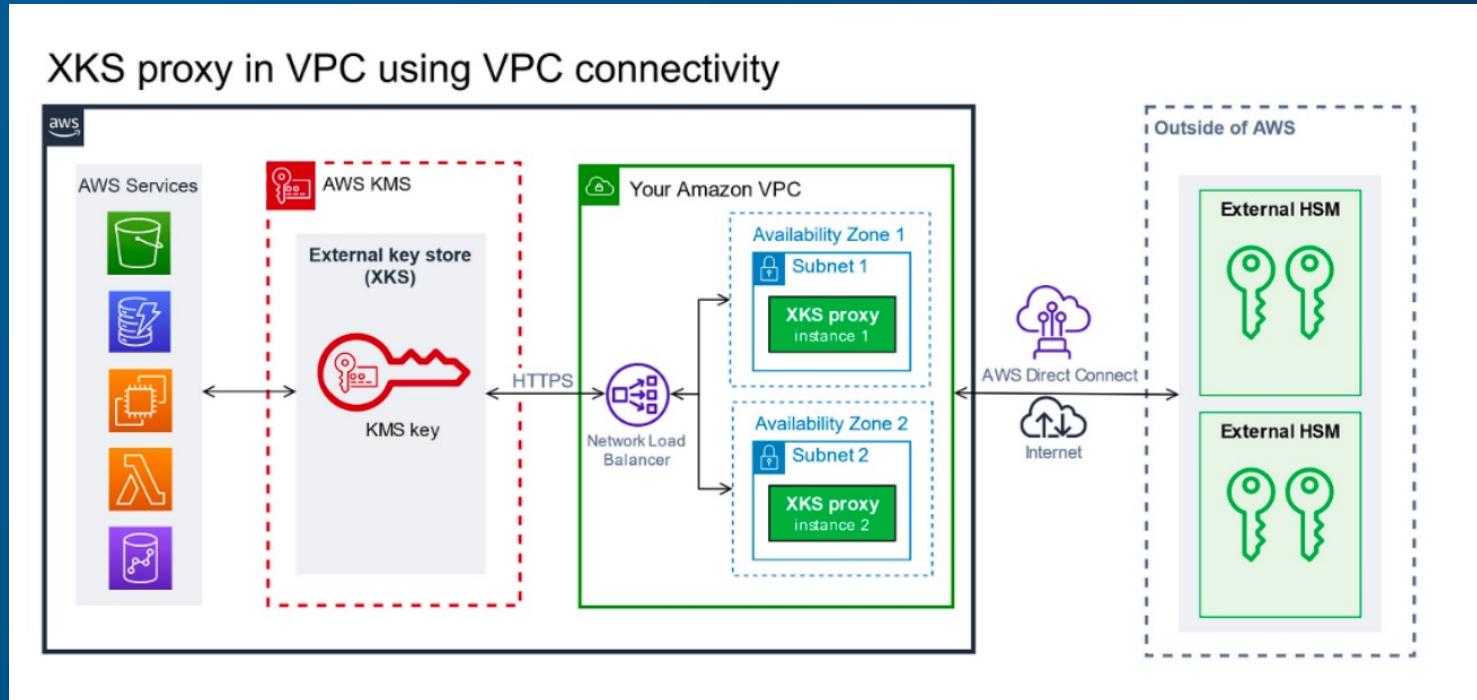
# Amazon Inspector for Lambda Functions

AUTOMATED CONTINUAL VULNERABILITY MANAGEMENT AT SCALE



- Quickly discover and assess running Lambda functions for software vulnerabilities
- Automatically map vulnerabilities detected in software dependencies used in AWS Lambda functions to the underlying Lambda layers
- Consolidate your vulnerability management solutions for EC2, Lambda functions, and ECR container images into one fully managed service

# AWS KMS external key store (XKS)



- Extends existing AWS KMS custom key store feature beyond AWS CloudHSM (customer controlled, single-tenant HSM inside AWS datacenters) to keys in on-premises HSM

# Amazon GuardDuty RDS Protection

THREAT DETECTION FOR DATA STORED IN AMAZON AURORA



- Threat detection for Amazon Aurora databases enabled with a few clicks in the GuardDuty console
- Identify potential threats to data stored in your Amazon Aurora databases using machine learning
- Continuously monitor existing and new Amazon Aurora databases in your organization
- Designed to have no database performance impact or modifications needed

# Other



# Amazon Omics

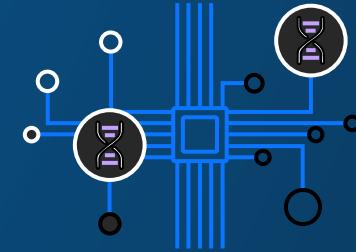
Store, query, analyze, and generate insights from genomics and other omics data to improve human health and advance scientific discoveries



**Multiomic and  
multimodal analysis**



**Population-level scale**

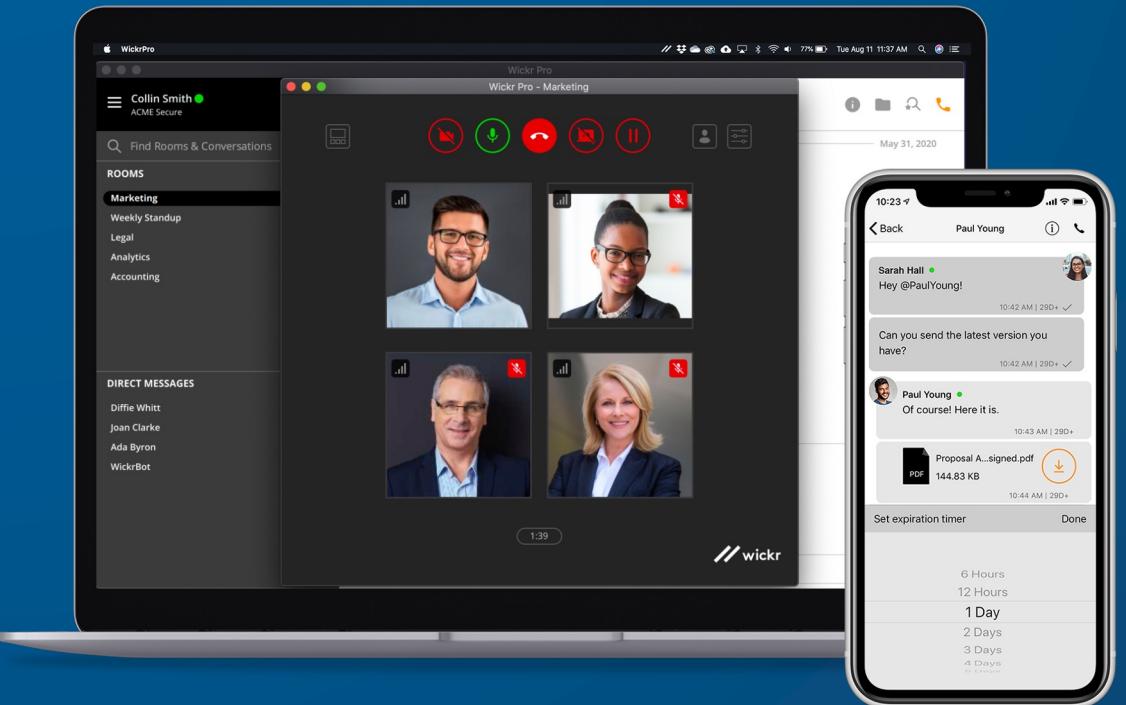


**Fully managed  
bioinformatics  
computation**



**Built-in security,  
privacy, and  
compliance**

# AWS Wickr



Single product with full suite of **collaboration** capabilities



**Multi-device** (mobile, desktop) access with ability to function in low-bandwidth environments



Enterprise management **administrative control** and IT integration



**Data retention** service supports archiving and data privacy protection



Federated SaaS, self-hosted, and air-gapped **deployment options**



Advanced **end-to-end encryption (E2EE)**



Enhanced security on personal devices **without the need for VPN** or special software

# AWS IoT Core Updates



AWS IoT Core

- **MQTT 5** - Message headers for faster message processing
- **Device Location** - Obtain device location without GPS
- **Scheduled Jobs** - Define a start and end time for an AWS IoT job

# AWS SimSpace Weaver

BUILD, OPERATE, AND MANAGE LARGE-SCALE SIMULATIONS ON AWS

- Fully managed compute service to help deploy large-scale spatial simulations
- Create seamless large-scale crowd simulations or virtual city environments
- Build using SimSpace Weaver Local Development environment to test hardware
- Run Unity, Unreal Engine 5 or your own custom simulation engine



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# AWS Supply Chain

INCREASE SUPPLY CHAIN RESILIENCE



Easily connect data across systems



Quickly harmonize into a unified view



View ML-powered insights and risk alerts



Accelerate mitigation with recommendations



Scale with pay-as-you-go pricing

# AWS Marketplace Announcements

- **Streamline Vendor Risk Assessments with AWS Marketplace Vendor Insights**

A unified web-based dashboard gives governance, risk, and compliance (GRC) teams access to security and compliance information, such as data privacy and residency, application security, and access control.

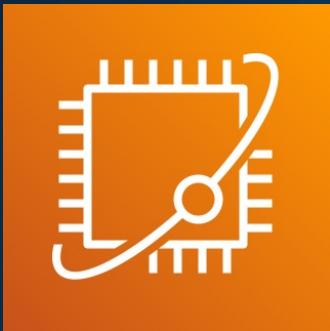
- **AWS Marketplace for Containers Supports Direct Deployment to EKS Clusters**

Amazon EKS add-ons allow you to consistently ensure your EKS clusters are secure and stable and reduce the amount of work you need to do in order to install, configure, and update Kubernetes software.

- **Integrating Third-Party Data into Your Data Mesh**

Data-driven organizations are increasingly using third-party data to gain insights into their competitive landscape, track changing consumer behaviours, develop real-time responses to market dynamics, and optimize their operations with sustainability in mind

# Amazon Braket Algorithm Library



## Amazon Braket

Algorithm library

A catalog of pre-built quantum algorithms written in Python. Each quantum algorithm is available as ready-to-run code that can be integrated into more complex algorithms. Open or create a managed Jupyter Notebook to run the algorithm locally, on a managed simulator, or a quantum computer.

**Algorithms (11)**

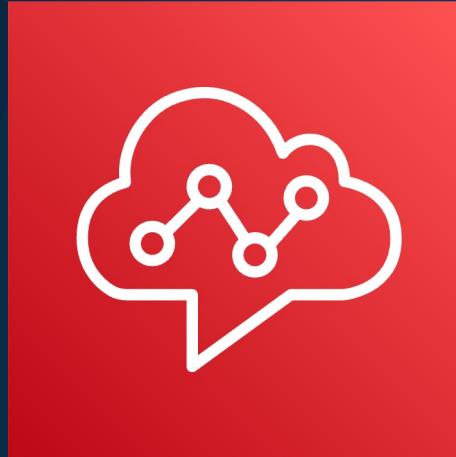
Filter algorithms Open notebook ▾

<b>Bernstein-Vazirani Algorithm</b> <span>GitHub</span>	<b>Deutsch-Jozsa Algorithm</b> <span>GitHub</span>
The Bernstein-Vazirani algorithm is the first quantum algorithm that solves a problem more efficiently than the best known classical algorithm. It was designed to create an oracle separation between BQP and BPP. Tags: <span>Textbook</span>	One of the first quantum algorithm's developed by pioneers David Deutsch and Richard Jozsa. This algorithm showcases an efficient quantum solution to a problem that cannot be solved classically but instead can be solved using a quantum device. Tags: <span>Textbook</span>
<b>Grover's Search</b> <span>GitHub</span>	<b>Quantum Approximate Optimization Algorithm</b> <span>GitHub</span>
Grover's algorithm is arguably one of the canonical quantum algorithms that kick-started the field of quantum computing. In the future, it could possibly serve as a hallmark application of quantum computing. Grover's algorithm allows us to find a particular register in an unordered database.	The Quantum Approximate Optimization Algorithm (QAOA) belongs to the class of hybrid quantum algorithms (leveraging both classical as well

Python implementations of well-known algorithms such as quantum phase estimation, quantum circuit Bourne machines, and quantum walks are available as open source on Github.

Direct code loading with Jupyter notebooks

# Amazon Connect Forecasting, Capacity planning, and Scheduling



## Machine Learning powered Contact Centre capabilities

- Uses ML to forecast demand and capacity
- Contact centre managers can determine optimal staffing levels
- Managers can create “what-if” scenarios to plan for staff absence, increased call time, and other metrics

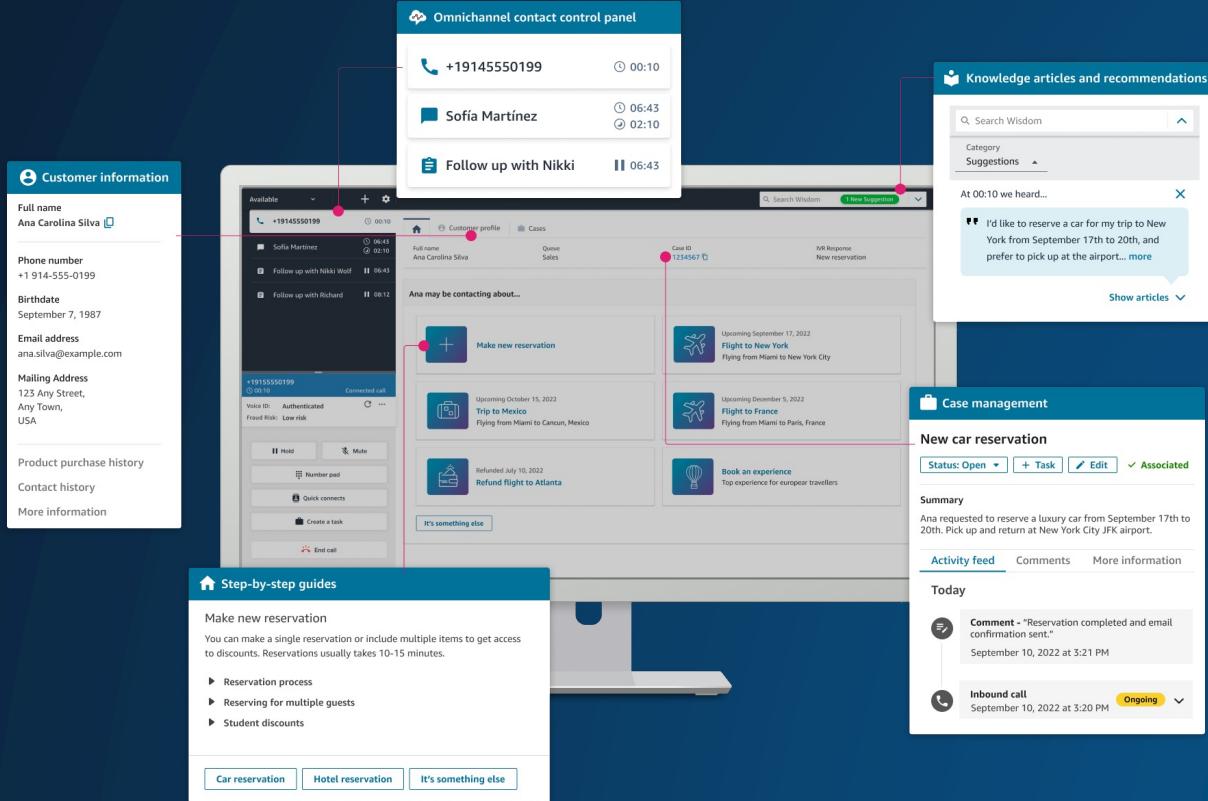
## Contact centre agent management

- Agents can access their work schedule through the Amazon Connect agent workspace
- Request breaks, time off or overtime without requiring manual management approval

## Completely integrated into end-user tools

- Managers and staff can administer, review and manage their workloads via a graphical user interface.

# Amazon Connect Agent Workspace Guides

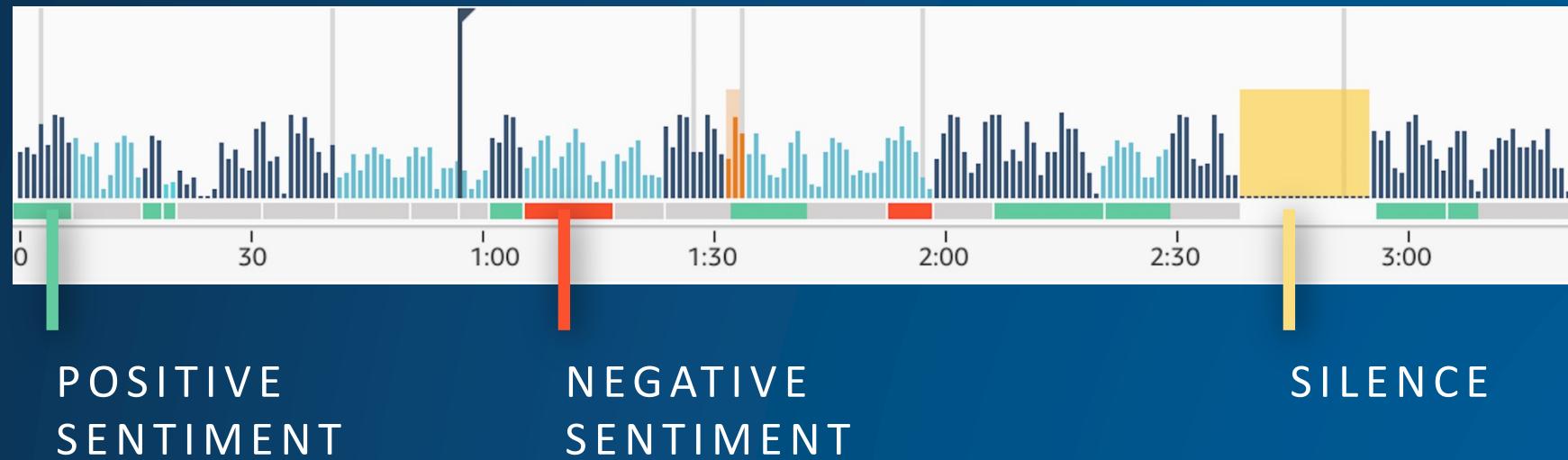


- Empowering agents with a unified experience including step-by-step guides.
- Provided experiences to drive recommended remedial actions
- All necessary information provided to agents on case and customer
- Real time recommendations
- Agents can become more productive and decrease training time

# Amazon Connect Contact lens chat support

Enables monitoring of operator performance.

Evaluation can be made on the basis of whether the operator is conducting the prescribed talk and whether the rules for receiving information are being followed.

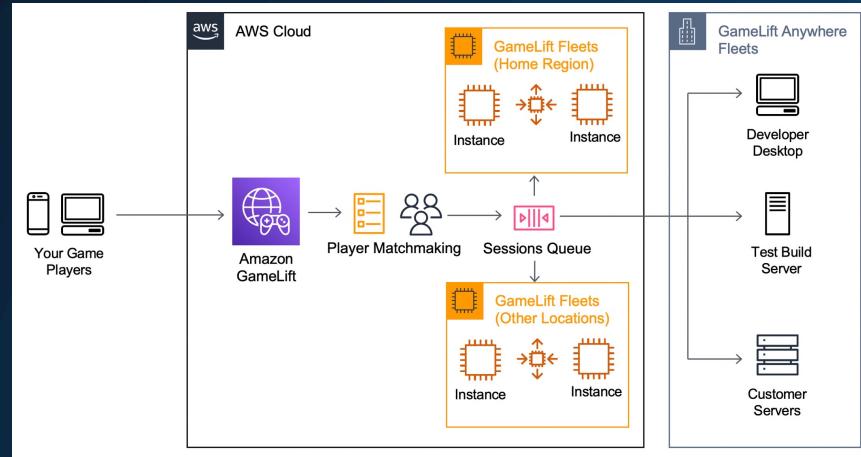


POSITIVE  
SENTIMENT

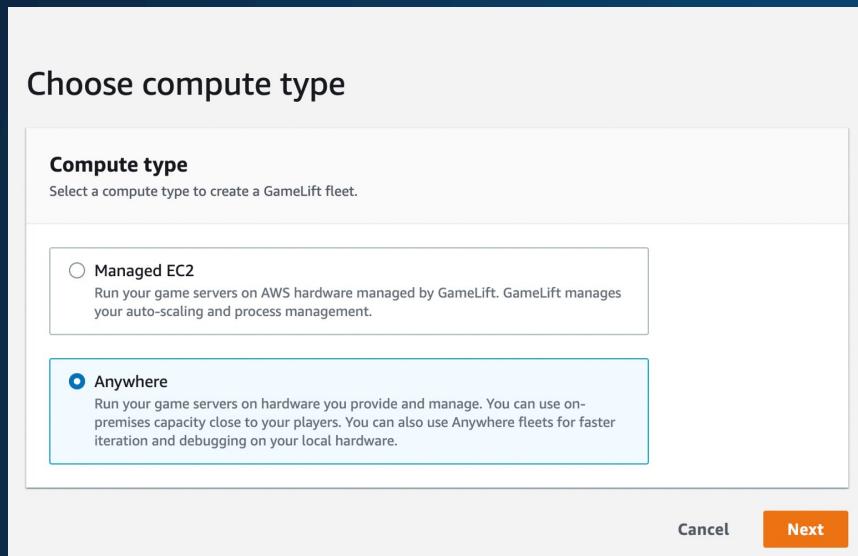
NEGATIVE  
SENTIMENT

SILENCE

# Amazon GameLift Anywhere



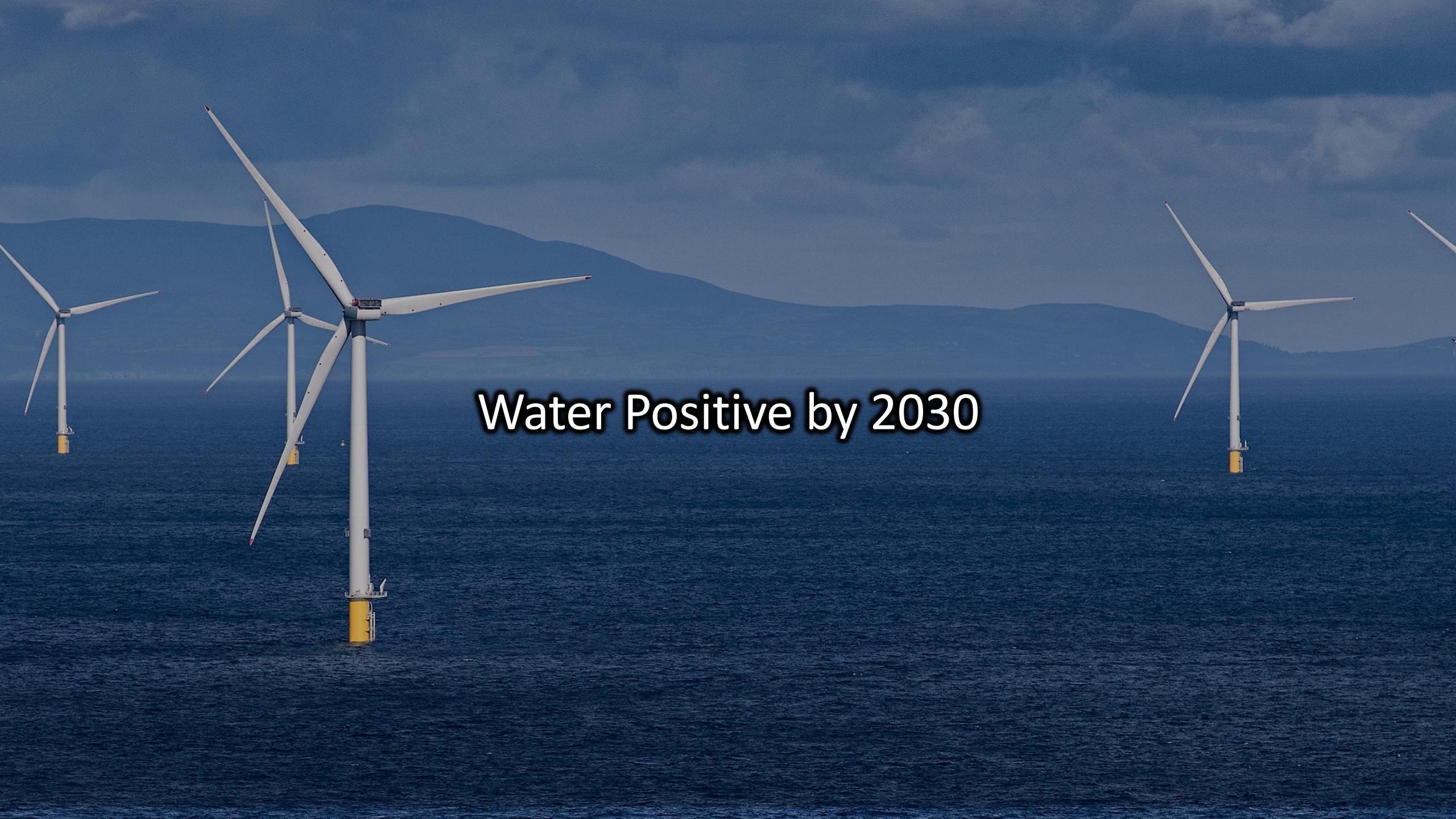
Amazon GameLift, which provides session management for multiplayer games, can now be run on a user's on-premise or other servers.



Register your own servers to run as an Anywhere Fleet, and integrate with GameLift FlexMatch, Queue Service, and other cloud-based functions via APIs.

A wide-angle photograph of an offshore wind farm. Numerous white wind turbines with three blades each stand on yellow cylindrical foundations in a dark blue sea. The turbines are scattered across the frame, with some in the foreground and others in the background. In the far distance, a range of mountains is visible under a sky filled with white and grey clouds.

100% Renewable energy 2025

The background image shows a vast offshore wind farm. In the foreground, a single wind turbine is prominent, facing right. Behind it, several more turbines are visible, some partially obscured by the horizon. The turbines have white blades and yellow bases. The water is a deep blue, and the sky above is filled with soft, grey clouds.

**Water Positive by 2030**

# Stay in touch and connect with the AWS Community





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# Events for Developers

Events hosted by AWS and the AWS Community to connect, collaborate, and learn from experts.

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IN-PERSON EVENT LEVEL 200

Nepal

AWS Community Day

With the overwhelming response & support from the community, we are proud to announce AWS Community Day in Nepal for the first time ever. AWS Community Day Nepal, the community's flagship event, will encompass success stories, use cases, and much more. For more information, visit [aws.amazon.com/nepal](#).

December 10, 2022 | 8 hours

IN-PERSON EVENT LEVEL 200

India | Pune

AWS Community Day

AWS Community Days are community-organized cloud education events, featuring technical discussions and demos led by expert AWS users and industry leaders from around the world. Community-based learning is the best way to enhance the concepts being discussed by connecting with each other.

December 10, 2022 | 9 hours

IN-PERSON EVENT LEVEL 200

India | Ahmedabad

AWS Community Day

AWS User Group Ahmedabad (AWSUGAHM) is back with a bang to host the most awaited event, AWS Community Day Ahmedabad 2022, unveiling success stories, use cases & much more from industry leaders.

[Learn more »](#)

December 17, 2022



Welcome back!

[aws.amazon.com/developer/events/](https://aws.amazon.com/developer/events/)



The image shows the Twitter profile of the official AWS Developers account. The header features a dark blue background with white line-art icons representing various AWS services like Lambda, S3, CloudWatch, and others. Below the header is the AWS logo. To the right of the logo is a black "Follow" button. The profile information includes the handle @awsdevelopers, a blue verified checkmark, and the word "Official". A bio message reads: "We're here to connect developers with AWS experts, share dev-focused content & resources, and celebrate the #AWSCommunity". It also indicates the account joined in June 2021, follows 191 accounts, and has 21K followers. At the bottom, there are tabs for "Tweets", "Tweets & replies" (which is selected), "Media", and "Likes".

**AWS Developers** 

@awsdevelopers

Official

We're here to connect developers with AWS experts, share dev-focused content & resources, and celebrate the [#AWSCommunity](#)

Joined June 2021

191 Following 21K Followers

Tweets Tweets & replies Media Likes



[twitter.com/awsdevelopers](https://twitter.com/awsdevelopers)

00:49:22      05:07:30

7 days ago  
Build On Live @ AWS re:Invent 2022  
Software and Game Development • 3,876 views

AWS last live 7 hours ago

**Code Editor View:**

```

TS dad-joke-api.ts ✘ TS dadjoke.ts U
lib > ts dad-joke-api.ts > DadJokeApi > constructor > dadJokeLambda
1 import * as cdk from "aws-cdk-lib";
2 import { Construct } from "constructs";
3 import * as path from "path";
4
5 export class DadJokeApi extends cdk.Stack {
6   constructor(scope: Construct, id: string, props?: cdk.StackProps) {
7     super(scope, id, props);
8
9     const dadJokeLambda = new cdk.aws_lambda_nodejs.NodejsFunction(
10       this,
11       "DadJokeLambda",
12       {
13         runtime: cdk.aws_lambda.Runtime.NODEJS_18_X,
14         handler: "handler",
15         entry: path.join(__dirname, "../functions/dadjoke.ts"),
16       },
17     );
18
19   new cdk.aws_lambda.CfnUrl(this, "lambdaUrl", {
20     ...
21   });
22
23   new cdk.CfnResource(this, "lambdaPermission", {
24     ...
25   });
26 }
27
28
29
30
31
32
33
34
35
36

```

00:49:22      05:07:30

Share

**Chat on Videos:**

- 46:38 ADARTA: Almost as useful as a todo app 😂
- 46:59 MarcCloudArc: Hey, we would like to see a test layer(unit) for the Infra part.
- 47:15 devopsjacquie: i SO HAPPY TO SEE THIS HAPPENING OMG
- 47:31 devopsjacquie: 10k not enough
- 47:41 derekawsanz: @Dennis\_Traub I have one too - lol
- 48:18 developersteve\_: Why do astronauts use Linux.... they can't open windows in space 😂
- 48:25 devopsjacquie: @Developer\_Steve omg I love it
- 48:27 KunalB: lol
- 48:33 jakeprogramming: Lol
- 48:49 developersteve\_: Does anyone know how to make a 4d printer? Take a 3d printer and give it some time 😂
- 48:54 CuriousOrbit: somebody has to build it right? 🤔
- 48:54 MarcCloudArc: We would love to see that "JOKES\_API\_KEY" being called from an AWS Secret manager and integrated into this code(TS).
- 48:55 KunalB: What do you call a skinny ghost... a boolean!
- 48:59 devopsjacquie: what does a security team do on a boat for vacation?
- 49:17 developersteve\_: @devopsjacquie haha what?
- 49:19 mookeymonkee: Pro wheel inventor club



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Build On AWS • 390 views • 1 month ago

We invited 130+ APAC & Japan (APJ) Community Leaders from AWS Heroes, Community Builders, User Groups and Dev/Cloud Alliance programs for a two day summit in Bangkok, Thailand between 15th...

APAC Community Summit 2022 2:32



[youtube.com/@BuildOnAWS](https://youtube.com/@BuildOnAWS)

# Questions?



# Thank you!