



AWS re:Invent 2024

Documentation of AWS re:Invent



WHAT IS AWS RE:INVENT



AWS re:Invent is Amazon Web Services' (AWS) flagship annual conference, designed to showcase the latest advancements in cloud computing and AWS products, services, and solutions. The event draws a global audience of developers, IT professionals, business leaders, and cloud enthusiasts who gather to learn, network, and explore innovations in cloud technology.

Here's what the event typically includes:

1. Keynote Sessions

- AWS executives, including CEO Matt Garman, present keynote speeches that highlight AWS's vision, new product launches, and updates to existing services.
- Guest speakers from prominent companies often share how they use AWS to innovate and scale their businesses.

2. Breakout Sessions and Workshops

- Over 2,000 technical sessions, including deep dives, hands-on labs, and certification opportunities.
- Topics range from artificial intelligence, machine learning, and serverless computing to data analytics, DevOps, and security.

3. Product Announcements

- AWS re:Invent is known for unveiling new products, features, and updates include advancements in cloud infrastructure, developer tools, machine learning services, or improvements to compute and storage solutions.

4. Networking Opportunities

- Attendees can connect with peers, AWS experts, and industry leaders.

5. Partner and Customer Stories

- AWS partners and customers showcase their innovative solutions built on AWS.
- Case studies and success stories highlight how companies across industries leverage AWS for digital transformation.

TOP ANNOUNCEMENTS OF AWS RE:INVENT 2024

1) Analytics

- [Simplify analytics and AI/ML with new Amazon SageMaker Lakehouse.](#)



Unifying data silos, Amazon SageMaker Lakehouse seamlessly integrates S3 data lakes and Redshift warehouses, enabling unified analytics and AI/ML on a single data copy through open Apache Iceberg APIs and fine-grained access controls.

- [Solve complex problems with new scenario analysis capability in Amazon Q in QuickSight](#)

Find solutions to your most critical business challenges with ease. Amazon Q in QuickSight enables business users to perform complex scenario analysis up to 10x faster than spreadsheets.

- [New Amazon DynamoDB zero-ETL integration with Amazon SageMaker Lakehouse](#)

Effortlessly analyze operational data in Amazon SageMaker Lakehouse, freeing developers from building custom pipelines and enabling seamless insights extraction.

- [AWS Clean Rooms now supports multiple clouds and data sources](#)

With expanded data sources, AWS Clean Rooms helps customers securely collaborate with their partners' data across clouds, eliminating data movement, safeguarding sensitive information, promoting data freshness, and streamlining cross-company insights.

2)Application Integration

- Securely share AWS resources across VPC and account boundaries with PrivateLink, VPC Lattice, EventBridge, and Step Functions

Orchestrate hybrid workflows accessing private HTTPS endpoints – no more Lambda/SQS workarounds. EventBridge and Step Functions natively support private resources, simplifying cloud modernization.

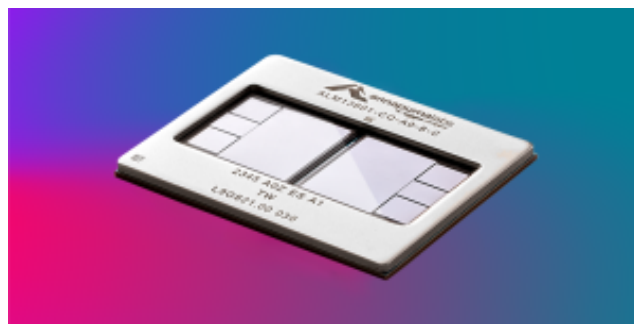
3)Business Applications

- Newly enhanced Amazon Connect adds generative AI, WhatsApp Business, and secure data collection

Use innovative tools like generative AI for segmentation and campaigns, WhatsApp Business, data privacy controls for chat, AI guardrails, conversational AI bot management, and enhanced analytics to elevate customer experiences securely and efficiently.

4)Compute

- Amazon EC2 Trn2 Instances and Trn2 UltraServers for AI/ML training and inference are now available



With 4x faster speed, 4x more memory bandwidth, 3x higher memory capacity than predecessors, and 30% higher floating-point operations, these instances deliver unprecedented compute power for ML training and gen AI.

Amazon EC2 P5en instances deliver up to 3,200 Gbps network bandwidth with EFAv3 for accelerating deep learning, generative AI, and HPC workloads with unmatched efficiency.

- Introducing storage optimized Amazon EC2 I8g instances powered by AWS Graviton4 processors and 3rd gen AWS Nitro SSDs

Elevate storage performance with AWS's newest I8g instances, which deliver unparalleled speed and efficiency for I/O-intensive

- Now available: Storage optimized Amazon EC2 I7ie instances

New AWS I7ie instances deliver unbeatable storage performance: up to 120TB NVMe, 40% better compute performance and up to 65% better real-time storage performance.

5)Containers

- Use your on-premises infrastructure in Amazon EKS clusters with Amazon EKS Hybrid Nodes

Unify Kubernetes management across your cloud and on-premises environments with Amazon EKS Hybrid Nodes – use existing hardware while offloading control plane responsibilities to EKS for consistent operations.

- Streamline Kubernetes cluster management with new Amazon EKS Auto Mode

With EKS Auto Mode, AWS simplifies Kubernetes cluster management, automating compute, storage, and networking, enabling higher agility and performance while reducing operational overhead.

6)Database

- Amazon MemoryDB Multi-Region is now generally available

Build highly available, globally distributed apps with microsecond latencies across Regions, automatic conflict resolution, and up to 99.999% availability.

7)Developer Tools

- New Amazon Q Developer agent capabilities include generating documentation, code reviews, and unit tests



Enhancing coding productivity, Amazon Q Developer agents now offer capabilities for auto-generating documentation, conducting code reviews, and creating unit tests within IDEs and GitLab.

- [Announcing Amazon Q Developer transformation capabilities for .NET in IDE \(preview\)](#)

Unlock Linux's power with Amazon Q Developer's transformation capabilities for .NET porting – effortlessly modernize .NET applications from Windows to cross-platform .NET in your familiar IDE.

- [Announcing Amazon Q Developer transformation capabilities for .NET, mainframe, and VMware workloads in a web experience \(preview\)](#)

Amazon Q Developer streamlines large-scale transformations using generative AI agents supervised by teams through a unified web experience, accelerating .NET porting, mainframe modernization, and VMware migration.

- [Investigate and remediate operational issues with Amazon Q Developer \(in preview\)](#)

Amazon Q Developer can now help you investigate and remediate operational issues quickly from anywhere in the AWS Management Console, accelerating the troubleshooting process for operators of all experience levels.

- [Introducing GitLab Duo with Amazon Q](#)

GitLab Duo with Amazon Q streamlines software development across tasks and teams by embedding advanced AI agent capabilities into the GitLab workflows developers already know.

8)Education & Training

- [AWS Education Equity Initiative: Applying generative AI to educate the next wave of innovators](#)

Amazon commits \$100M to empower education equity initiatives, enabling socially-minded organizations to create AI-powered digital learning solutions. This aims to reach underserved students globally through innovative platforms, apps, and assistants.

9)Generative AI / Machine Learning

- Introducing the next generation of Amazon SageMaker: The center for all your data, analytics, and AI




Unify data engineering, analytics, and generative AI in a streamlined studio with enhanced capabilities of Amazon SageMaker.

- Use Amazon Q Developer to build ML models in Amazon SageMaker Canvas

Q Developer empowers non-ML experts to build ML models using natural language, enabling organizations to innovate faster with reduced time to market.

- Amazon Bedrock Guardrails now supports multimodal toxicity detection with image support (preview)

Build responsible AI applications  Safeguard them against harmful text and image content with configurable filters and thresholds.

- New Amazon Bedrock capabilities enhance data processing and retrieval

Amazon Bedrock enhances generative AI data analysis with multimodal processing, graph modeling, and structured querying, accelerating AI application development.

- Reduce costs and latency with Amazon Bedrock Intelligent Prompt Routing and prompt caching (preview)

Route requests and cache frequently used context in prompts to reduce latency and balance performance with cost efficiency.

- Amazon Bedrock Marketplace: Access over 100 foundation models in one place

Discover, test, and use over 100 emerging, and specialized foundation models with the tooling, security, and governance provided by Amazon Bedrock.

- [Meet your training timelines and budgets with new Amazon SageMaker HyperPod flexible training plans](#)

Unlock efficient large model training with SageMaker HyperPod flexible training plans – find optimal compute resources and complete training within timelines and budgets.

- [Maximize accelerator utilization for model development with new Amazon SageMaker HyperPod task governance](#)

Enable priority-based resource allocation, fair-share utilization, and automated task preemption for optimal compute utilization across teams.

- [Accelerate foundation model training and fine-tuning with new Amazon SageMaker HyperPod recipes](#)

Get started with training and fine-tuning popular publicly available foundation models, like Llama 3.1 405B, in just minutes with state-of-the-art performance.


- [Discover, govern, and collaborate on data and AI securely with Amazon SageMaker Data and AI Governance](#)

Manage data and AI assets through a unified catalog, granular access controls, and a consistent policy enforcement. Establish trust via automation – boost productivity and innovation for data teams.

- [Announcing the general availability of data lineage in the next generation of Amazon SageMaker and Amazon DataZone](#)

Realize visual traceability of data origins, transformations, and usage – bolstering trust, governance, and discoverability for strategic data-driven decisions.

- [Amazon Q Business is adding new workflow automation capability and 50 !\[\]\(32b3140000635d85b5fcc7ce37a1b40f_img.jpg\) action integrations](#)

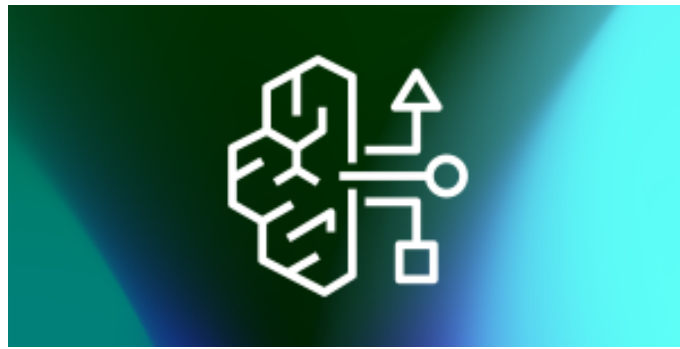
Amazon Q Business extends productivity with generative AI-powered workflow automation capability and 50  actions for

enterprise efficiency, enabling seamless task execution across tools like ServiceNow, PagerDuty, and Asana.

- New capabilities from Amazon Q Business enable ISVs to enhance generative AI experiences

New Amazon Q Business capabilities help ISVs integrate with the Amazon Q index to retrieve data from multiple sources through a single API and customize the design of their Amazon Q embedded assistant.

- Introducing Amazon Nova foundation models: Frontier intelligence and industry leading price performance



Amazon Nova foundation models deliver frontier intelligence and industry leading price-performance, with support for text and multimodal intelligence, multimodal fine-tuning, and high-quality images and videos.

- Introducing multi-agent collaboration capability for Amazon Bedrock (preview)

With multi-agent collaboration on Amazon Bedrock, developers can build, deploy, and manage multiple specialized agents working together seamlessly to tackle more intricate, multi-step workflows.

- Prevent factual errors from LLM hallucinations with mathematically sound Automated Reasoning checks (preview)

Enhance conversational AI accuracy with Automated Reasoning checks – first and only gen AI safeguard that helps reduce hallucinations by encoding domain rules into verifiable policies.

- Build faster, more cost-efficient, highly accurate models with Amazon Bedrock Model Distillation (preview)

Automates the process of creating a distilled model for your specific use case by generating responses from a large foundation model and fine-tunes a smaller FM with the generated responses.

- [New RAG evaluation and LLM-as-a-judge capabilities in Amazon Bedrock](#)

Evaluate AI models and applications efficiently with Amazon Bedrock's new LLM-as-a-judge capability for model evaluation and RAG evaluation for Knowledge Bases, offering a variety of quality and responsible AI metrics at scale.

- [Enhance your productivity with new extensions and integrations in Amazon Q Business](#)

Seamlessly access AI assistance within work applications with Amazon Q Business's new browser extensions and integrations.

- [New APIs in Amazon Bedrock to enhance RAG applications, now available](#)

With custom connectors and reranking models, you can enhance RAG applications by enabling direct ingestion to knowledge bases without requiring a full sync, and improving response relevance through advanced reranking models.

- [Introducing new PartyRock capabilities and free daily usage](#)

Unleash your creativity with PartyRock's new AI capabilities: generate images, analyze visuals, search hundreds of thousands of apps, and process multiple docs simultaneously – no coding required.*

- [Amazon Q Business adds support to extract insights from visual elements within documents](#)

Users can now query information embedded in various types of visuals, including diagrams, infographics, charts, and other image-based content.

10) Management & Governance

- [Container Insights with enhanced observability now available in Amazon ECS](#)



With granular visibility into container workloads, CloudWatch Container Insights with enhanced observability for Amazon ECS enables proactive monitoring and faster troubleshooting, enhancing observability and improving application performance.

- New Amazon CloudWatch Database Insights: Comprehensive database observability from fleets to instances

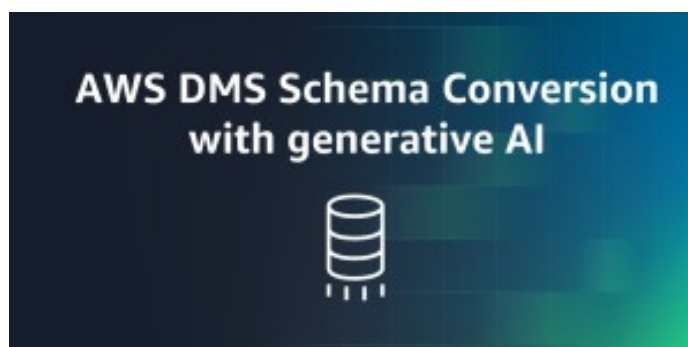
Monitor Amazon Aurora databases and gain comprehensive visibility into MySQL and PostgreSQL fleets and instances, analyze performance bottlenecks, track slow queries, set SLOs, and explore rich telemetry.

- New Amazon CloudWatch and Amazon OpenSearch Service launch an integrated analytics experience

Unlock out-of-the-box OpenSearch dashboards and two additional query languages, OpenSearch SQL and PPL, for analyzing CloudWatch logs. OpenSearch customers can now analyze CloudWatch Logs without having to duplicate data.

11) Migration & Transfer Services

- AWS Database Migration Service now automates time-intensive schema conversion tasks using generative AI



AWS DMS Schema Conversion converts up to 90% of your schema to accelerate your database migrations and reduce manual effort with the power of generative AI.

- [Announcing AWS Transfer Family web apps for fully managed Amazon S3 file transfers](#)

AWS Transfer Family web apps are a new resource that you can use to create a simple interface for authorized line-of-business users to access data in Amazon S3 through a customizable web browser.

- [Introducing default data integrity protections for new objects in Amazon S3](#)

Amazon S3 updates the default behavior of object upload requests with new data integrity protections that build upon S3's existing durability posture.

12) Partner Network

- [Introducing Buy with AWS !\[\]\(7a8011739ec4e250e2f89a547d75fb0a_img.jpg\) an accelerated procurement experience on AWS Partner sites, powered by AWS Marketplace](#)

Buy with AWS enables you to seamlessly discover and purchase products available in AWS Marketplace from AWS Partner websites using your AWS account.

13) Security, Identity, & Compliance

- [New AWS Security Incident Response helps organizations respond to and recover from security events](#)



AWS introduces a new service to streamline security event response, providing automated triage, coordinated communication, and expert guidance to recover from cybersecurity threats.

- Introducing Amazon GuardDuty Extended Threat Detection: AI/ML attack sequence identification for enhanced cloud security

AWS extends GuardDuty with AI/ML capabilities

to detect complex attack sequences across workloads, applications, and data, correlating multiple security signals over time for proactive cloud security.

- Simplify governance with declarative policies

With only a few steps, create declarative policies and enforce desired configuration for AWS services across your organization, reducing ongoing governance overhead and providing transparency for administrators and end users.

- AWS Verified Access now supports secure access to resources over non-HTTP[S] protocols (preview)

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policies and enforce desired configuration for AWS services across your organization, reducing ongoing governance overhead and providing transparency for administrators and end users.

- Introducing Amazon OpenSearch Service and Amazon Security Lake integration to simplify security analytics

Analyze security logs without data duplication; Amazon OpenSearch Service now offers zero-ETL integration with Amazon Security Lake for efficient threat hunting and investigations.

14) Storage

- Introducing queryable object metadata for Amazon S3 buckets (preview)



Unlock S3 data insights effortlessly with AWS' rich metadata capture; query objects by key, size, tags, and more using Athena, Redshift, and Spark at scale.

- New Amazon S3 Tables: Storage optimized for analytics workloads

Amazon S3 Tables optimize tabular data storage (like transactions and sensor readings) in Apache Iceberg, enabling high-performance, low-cost queries using Athena, EMR, and Spark.

- Announcing Amazon FSx Intelligent-Tiering, a new storage class for FSx for OpenZFS

Delivering NAS capabilities with automatic data tiering among frequently accessed, infrequent, and archival storage tiers, Amazon FSx Intelligent-Tiering offers high performance up to 400K IOPS, 20 GB/s throughput, seamless integration with AWS services.

- New physical AWS Data Transfer Terminals let you upload to the cloud faster

Rapidly upload large datasets to AWS at blazing speeds with the new AWS Data Transfer Terminal, secure physical locations offering high throughput connection.

- Connect users to data through your apps with Storage Browser for Amazon S3

Storage Browser for Amazon S3 is an open source interface component that you can add to your web applications to provide your authorized end users, such as customers, partners, and employees, with access to easily browse, upload, download, copy, and delete data in S3.