What’s New at AWS?

A selection of some new stuff

Constantin Gonzalez, Principal Solutions Architect, Amazon Web Services
Speed of Innovation
AWS has been continually expanding its’ services to support virtually any cloud workload and now has more than 70 services that range from compute, storage, networking, database, analytics, application services, deployment, management and mobile. AWS has launched a total of 706 new features and/or services year to date* - for a total of 2,601 new features and/or services since inception in 2006.

* As of 1 October 2016
2,601

*As of 1 October 2016
Deploy faster wherever you like

14 geographic regions
38 availability zones
Including out of Frankfurt

Launched in the past 11 months:

- Amazon VPC NAT Gateway
- AWS Service Catalog
- Amazon Cognito
- Amazon EC2 Container Service
- AWS IoT
- Amazon API Gateway
- AWS Lambda
- AWS Config Rules
- AWS Lambda
- AWS Certificate Manager
- AWS Import/Export Snowball
- Amazon WorkSpaces
- AWS Directory Service (including AWS Directory Service for Microsoft Active Directory (Enterprise Edition))
- X1 Instances
- AWS Import/Export Snowball
Innovation, driven by our customers’ feedback:
Running new workloads in the cloud
X1 instance family

The largest Amazon EC2 memory-optimized instance with up to 2 TB of memory

Powering use cases like:

• big data processing engines like Apache Spark or Presto
• high performance computing (HPC) applications
• in-memory databases like SAP HANA
• certified by SAP to run production environments of the next-generation Business Suite S/4HANA, Business Suite on HANA (SoH), Business Warehouse on HANA (BW), and Data Mart Solutions on HANA on the AWS cloud.
P2 instance family

P2 instances, designed for general-purpose GPU compute applications using CUDA and OpenCL

**Powering use cases like:**

- machine learning
- high performance databases
- computational fluid dynamics,
- computational finance,
- seismic analysis
- and other server-side workloads requiring massive parallel floating point processing power.

- molecular modeling
- genomics
- rendering
Amazon Elastic File System

Simple, scalable, and reliable file storage for the AWS Cloud

Powering use cases like:

• Big Data Analytics
• Media Workflow Processing
• Web Serving
• Content Management
• Home Directories
AWS Storage is a Platform

Amazon EFS
File

Amazon EBS
Block

Amazon EC2 Instance Store

Amazon S3
Object

Amazon Glacier

Data Transfer

Internet/VPN
AWS Direct Connect
Amazon CloudFront
S3 Transfer Acceleration
ISV Connectors
Storage Gateway
AWS Snowball
Amazon Kinesis Firehose
Bringing analytics to the next level
Big Data building blocks on AWS

- Big Data Storage
- Data Warehousing
- Real-time Streaming & Analytics
- Distributed Analytics (Hadoop, Spark, Presto)
- NoSQL Databases
- Business Intelligence
- Relational Databases
- Internet of Things (IoT)
- Machine Learning
- Server-less Compute
Amazon Kinesis: Streaming Data Made Easy

Services make it easy to capture, deliver and process streams on AWS

**Amazon Kinesis Streams**
*For Technical Developers*
Collect and stream data for ordered, replay-able, real-time processing

**Amazon Kinesis Analytics**
*For all developers, data scientists*
Easily analyze data streams using standard SQL queries

**Amazon Kinesis Firehose**
*For all developers, data scientists*
Easily load massive volumes of streaming data into Amazon S3, Redshift, ElasticSearch
Use SQL to build real-time applications

Connect to streaming source

Easily write SQL code to process streaming data

Continuously deliver SQL results
Amazon EMR release 5.0

Use the latest versions of all 16 supported open-source applications with Amazon EMR release 5.0, including upgrades such as:

- Apache Spark 2.0
- Apache Hive 2.1
- Presto 0.150
- Apache Zeppelin 0.6.1 (Snapshot)
- Pig 0.16
- Hue 3.10

Enable encryption for data at-rest and in-transit for Apache Spark, Apache Tez, and Apache Hadoop MapReduce on Amazon EMR.
Establishing a new way of compute
No server is easier to manage than no server

Earlier this year....

AWS Lambda + Amazon VPC

... access Resources in a VPC from Your Lambda Functions
An Example: Event-driven Extract, Transform, Load (ETL)

Zillow uses AWS Lambda and Amazon Kinesis to manage a global ingestion pipeline and produce quality analytics in real-time without building infrastructure.
Another Example: Smart Applications mastering uncertainties

“Amazon Machine Learning democratizes the process of building predictive models. It's easy and fast to use, and has machine-learning best practices encapsulated in the product, which lets us deliver results significantly faster than in the past.”
Serverless Computing is gaining momentum

Executable Reference Architectures For Serverless Applications

github.com/awslabs
Reference Architecture Serverless
Web Application

Twilio Phone Number or Shortcode

API Gateway

Lambda Function 1

DynamoDB

Streams

S3

Static HTML/JS Website

www.mydashboard.com

Route 53
A Growing Ecosystem Of Serverless Frameworks

- Serverless Framework
- Apex
- Sparta
- DEEP Framework
- Zappa
- Claudia
Python Serverless Microframework For AWS

The Architecture

Code (app.py)
Dependencies (requirements.txt)

$ chalice deploy

Python Serverless Application

API GATEWAY  LAMBDA  IAM  CLOUDWATCH

$ chalice logs
Easier to stay secure and compliant
Staying in control

- **Amazon Inspector** - Automated security assessment service to help improve the security and compliance of applications deployed on AWS

- **AWS Web Application Firewall** - a web application firewall that helps protect your web applications from common web exploits

- **AWS Config Rules** - cloud governance capabilities that allow IT Administrators to define guidelines for provisioning and configuring AWS resources and then continuously monitor compliance

- Deeper AWS CloudTrail and AWS Config integration across more services

- …
Accelerate your way into the cloud
You are not alone and not the first

Tools and Services

- **AWS Database Migration Service** - Migrate your databases to AWS with zero downtime. Supports migrations between similar and different database platforms

- **AWS Application Discovery** - Discover on-premises application inventory and dependencies. Simplify your application migration planning process

- **AWS Marketplace** – more and more stellar solutions provided for fast and easy consumption and integration
You are not alone and not the first

...but much more important → People Power

- **Develop your team!** – build up know how and empower your colleagues and excitement and innovation will follow – more options than ever to learn about cloud computing and get certified

- **Ever growing community** – be part of it!
Stay up to date

What’s New at AWS – Cloud Innovation & News

- Subscribe to the RSS feed and get the latest news every day
- Follow Amazon Web Service on social media
- Frequently talk to your AWS team and understand what those news can mean for your solutions

How do use all the new features and service?

- Establish a culture of innovation
- Focus on your innovative power and not technology that we can lift for you
- Try and apply right away!
Stay tuned for more at AWS re:Invent 2016
Questions?

Thank you!!