Matt Garman, Vice President of AWS Compute Services, will introduce the latest innovations in the Compute space. At this session, we will be announcing new Compute capabilities, as well as insights into some of the underlying thinking of what makes the AWS Compute business unique. This session will cover new announcements around capabilities for EC2 instances, EC2 networking, EC2 Spot Instances, Amazon Lightsail, Containers and Serverless. Matt will also be joined by executives from our customers and partners, including GE CTO Chris Drumgoole, Heroku CEO Adam Gross, and Autodesk Chief of Product and Cloud Security Reeny Sondhi, who will share valuable success stories of how Amazon EC2 has helped their journey to digital transformation.

AWS is the Market Leader for 7th consecutive year

AWS Positioned as a Leader in the Gartner Magic Quadrant for Cloud Infrastructure as a Service, Worldwide*

AWS is positioned highest in execution and furthest in vision within the Leaders Quadrant

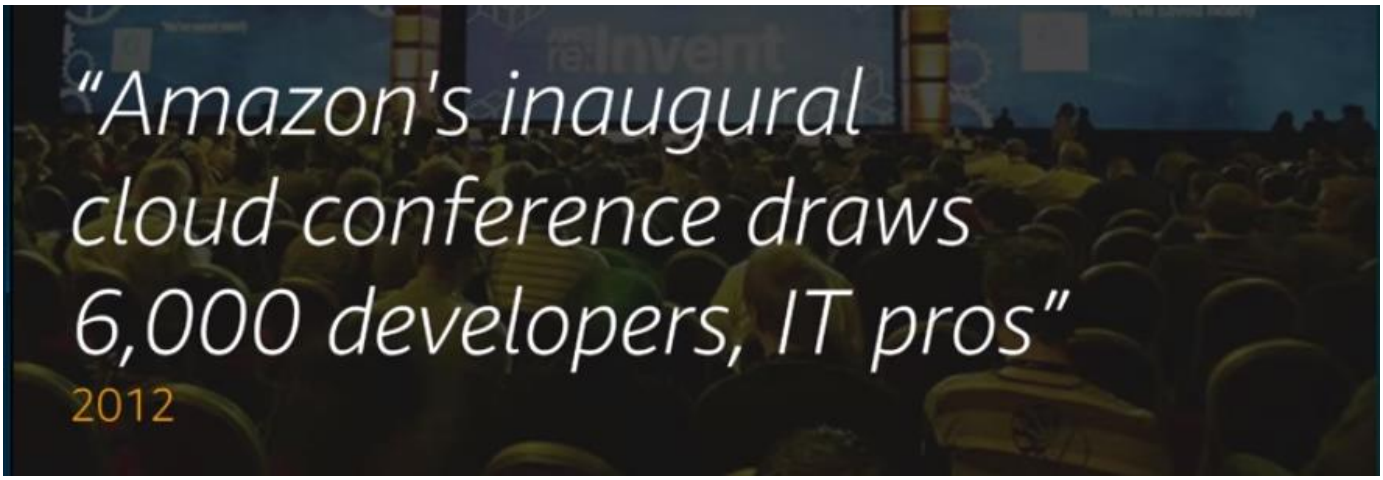
*Gartner, Magic Quadrant for Cloud Infrastructure as a Service, Worldwide, Leong, Lydia, Bala, Raj, Lowery, Craig, Smith, Dennis, June 2017 G00315215
This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. The Gartner document is available upon request from AWS : http://www.gartner.com/doc/reprints?id=1-2620SFO&ct=150519&st=sb
Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.

AWS Positioned as a Leader in the IDC MarketScape: Worldwide Infrastructure as a Service 2017 Vendor Assessment*

"AWS has effectively defined and led the core offering portfolio in the public cloud IaaS market."

*SOURCE: "IDC MarketScape: Worldwide Infrastructure as a Service 2017 Vendor Assessment", by Deepak Mohan, Erik Berggren and Laura Dubois, September 2017 IDC # US43073916

IDC MarketScape vendor analysis model is designed to provide an overview of the competitive fitness of ICT suppliers in a given market. The research methodology utilizes a rigorous scoring methodology based on both qualitative and quantitative criteria that results in a single graphical illustration of each vendor's position within a given market. The Capabilities score measures vendor product, go-to-market and business execution in the short-term. The Strategy score measures alignment of vendor strategies with customer requirements in a 3-5-year timeframe. Vendor market share is represented by the size of the circles. Vendor year-over-year growth rate relative to the given market is indicated by a plus, neutral or minus next to the vendor name.



The AWS Compute business,
5 years ago at 1st re:Invent

We had a single service focused on compute:

Amazon EC2

AWS re:Invent

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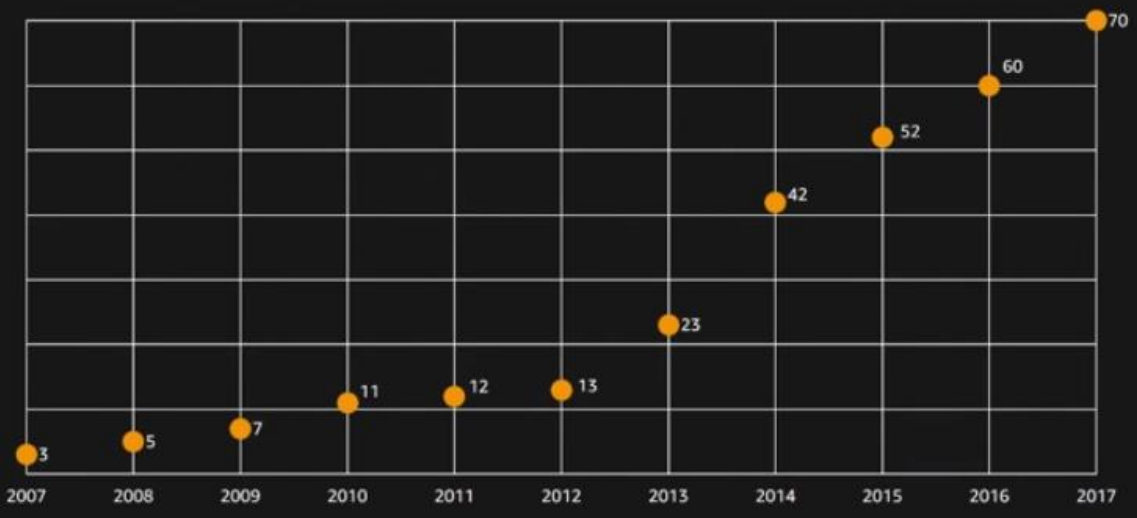
aws

EC2 Instance Type Growth—Increased Choice



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Compute Services are at the heart of this amazing pace of innovative growth

Instances

Containers

Serverless

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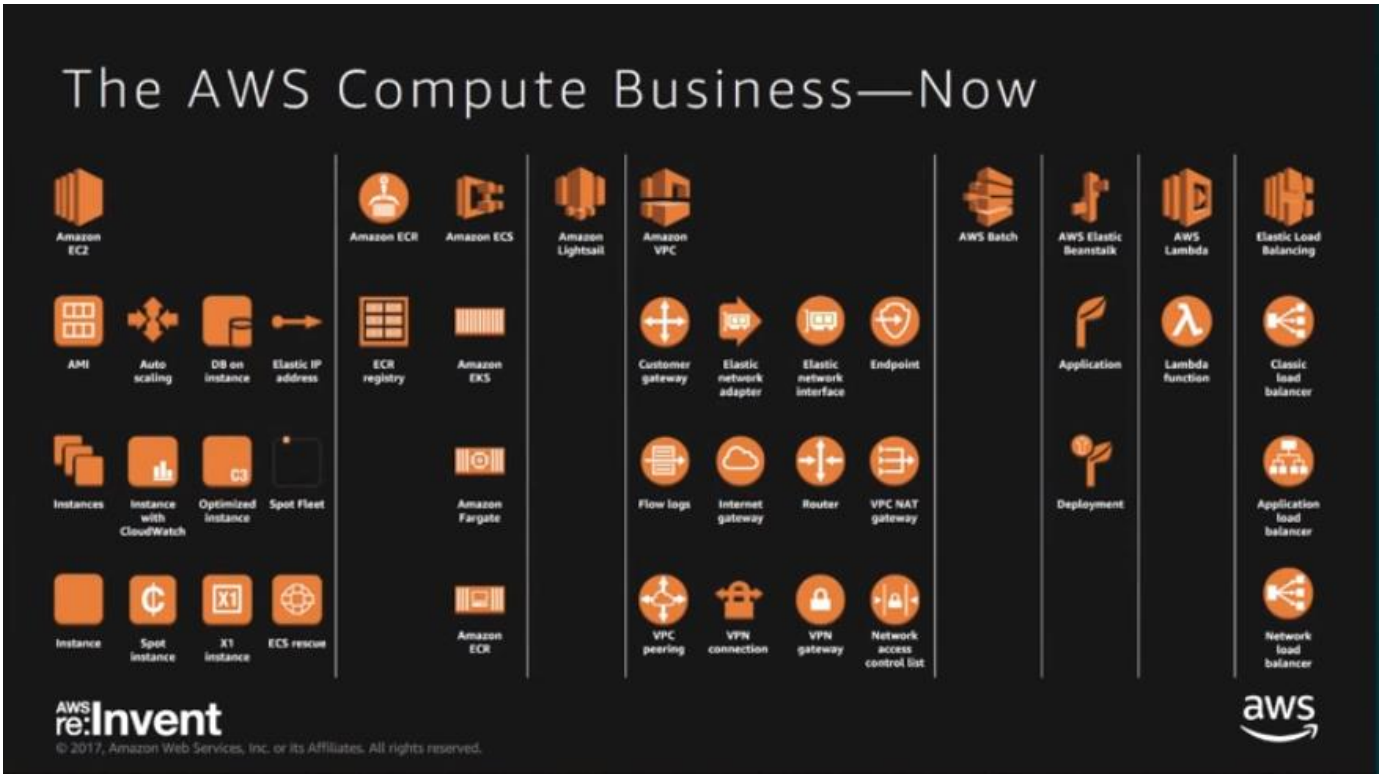
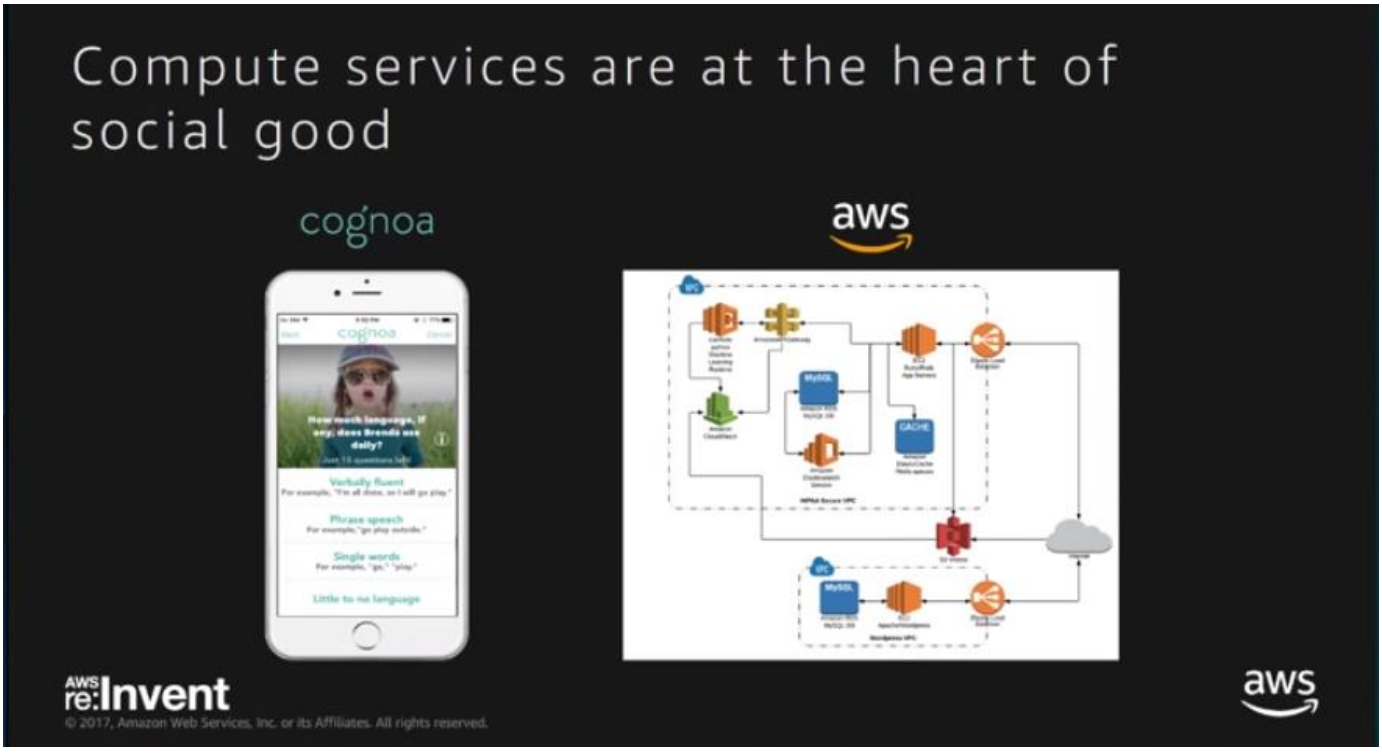
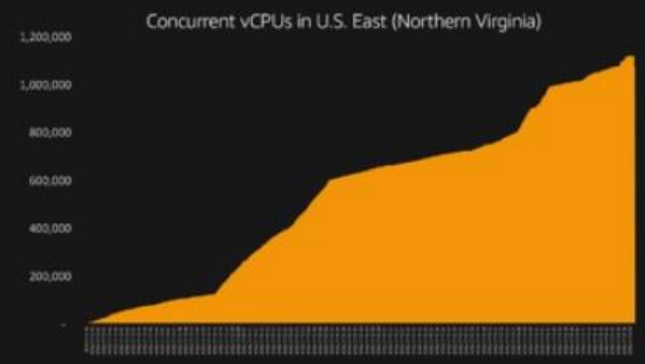




Cognoa is a startup that has a mobile app that uses AI to identify behaviors in children that are correlated with developmental issues in children

Compute services are at the heart of immense scale

CLEMSON UNIVERSITY



Natural Language Processing on **1.1 million concurrent vCPUs in less than 24 hours** using EC2 Spot instances

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Continuous Innovation Cloud

Continuous Innovation Cloud

Support Every Workload

- Security, Availability, and Performance
- Flexible Access to Compute Power
- Easy-to-Use and Broad Feature Set
- World Class Network Performance and Capabilities
- Seamless Access to New Technology Innovations

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Strengthen Your Security Posture

Over 50 global compliance certifications & accreditations

Benefit from AWS industry leading security teams 24/7, 365 days a year

Security infrastructure built to satisfy military, global banks, and other high-sensitivity organizations

World class network performance and capabilities

Capital One

"We work closely with AWS to develop a security model, which we believe enables us to operate more securely in the public cloud than we can in our own data centers."

Rob Alexander, CIO

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Access a Deep Set of Cloud Security Tools

Networking

Virtual private cloud
Isolated cloud resources
VPC Flow Logs

Web application firewall
Filter Malicious
Web Traffic

Shield
DDoS protection

Certificate manager
Provision, manage, and deploy SSL/TSL certificates

Encryption

Key management service
Manage creation and control of encryption keys
Support for KMS

CloudHSM
Hardware-based key storage

Server-side encryption
Flexible data encryption options
Encrypted Boot & EBS volumes

Identity & management

IAM
Manage user access and encryption keys

SAML federation
SAML 2.0 support to allow on-prem identity integration

Directory service
Host and manage Microsoft Active Directory

Organizations
Manage settings for multiple accounts

Compliance

New compliances added, especially government

Service catalog
Create and use standardized products

Config
Track resource inventory and changes

CloudTrail
Track user activity and API usage

CloudWatch
Monitor resources and applications

Inspector
Analyze application security

Artifact
Self-service for AWS' compliance reports

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Access a Deep Set of Cloud Security Tools

25% more certifications

than other cloud providers

10 years

of region & availability zone growth

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Architected at the Core for High Availability

Legend:
- Regions
- Availability Zones
- New Regions
- New Availability Zones

NEW!

Spread Placement:
Reduce likelihood of correlated failure to customer workloads

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Architected at the Core for High Availability

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Availability Expert Advice

- Quick starts
- Whitepapers & best practices
- Webinars
- Technical Account Managers
- Solution Architects
- SI Partner resources
  Accenture, Capgemini, CloudMas, Cloudnexa, Cognizant, Infosys, Logicworks, Mobiquity, Nordcloud, NRI, Slalom, Wipro, and many more!

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GE applications has 9 layers of resiliency and are spread across AZs and Regions to improve resiliency.

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Flexible Access to Compute Power— Per-second Billing

On-demand

Pay for compute capacity by the second with no long-term commitments

NEW! Per-second billing for EC2 Linux instances & EBS volumes

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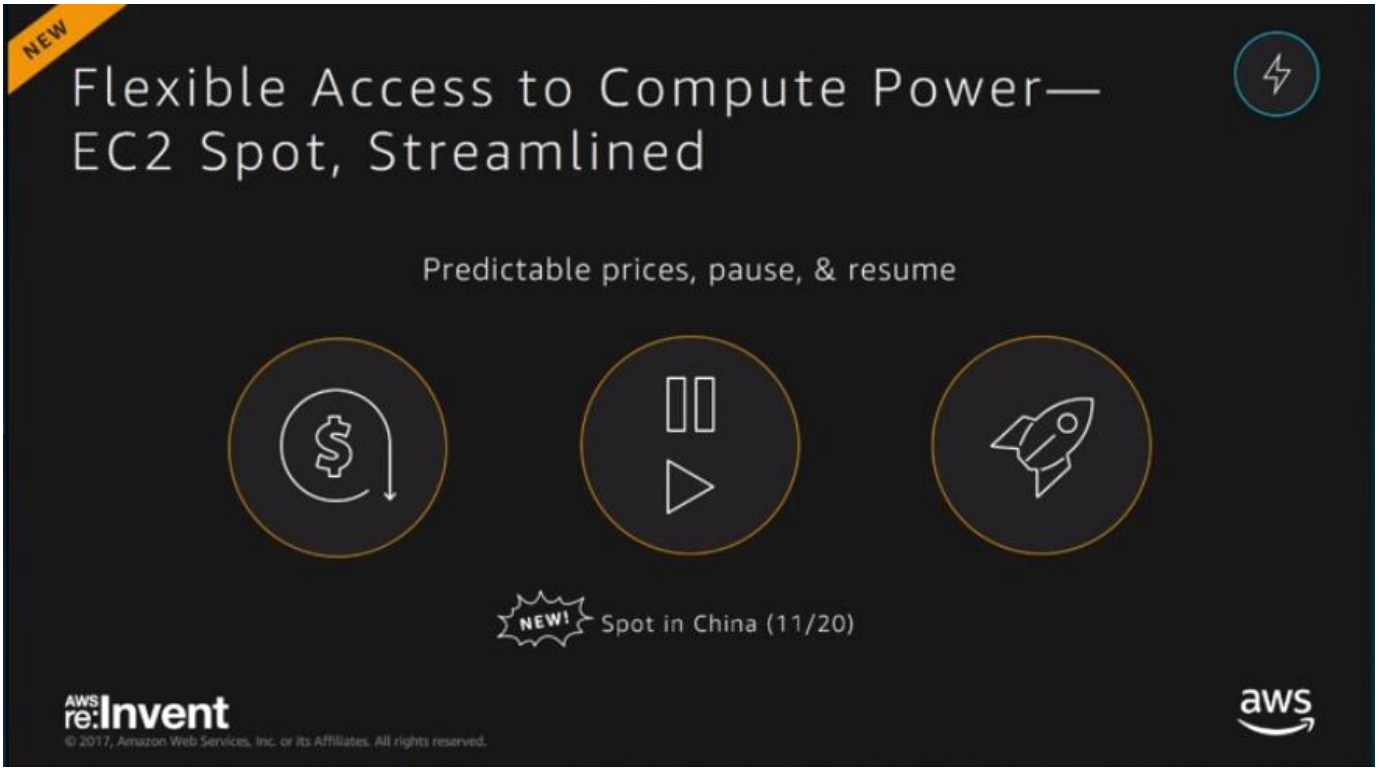

You can now use spot instances with the ***run instance*** command to launch a spot instance instantly, you can also hibernate your spot instances and resume them later

They use spot instances to parallelize their video re-rendering jobs

Joshua Burgin
GM, EC2 Spot

For more information

CMP202: Optimizing EC2 for Fun and Profit #bigsavings #newfeatures

- Wednesday, Nov 29, 3:15-4:15PM
  Venetian, Level 2, Venetian F
- Thursday, Nov 30, 11:30-12:30PM
  Venetian, Level 2, Titian 2204

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Customers Using Containers on AWS

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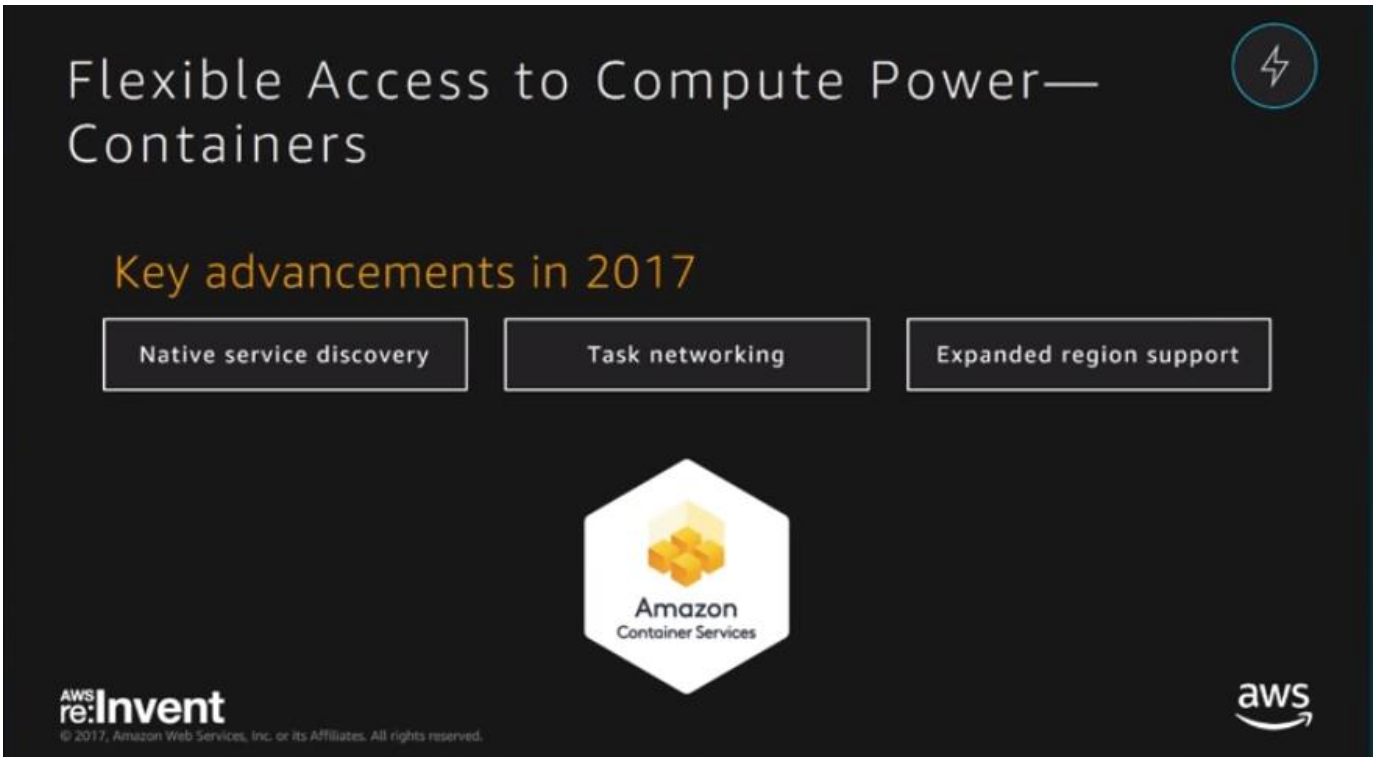
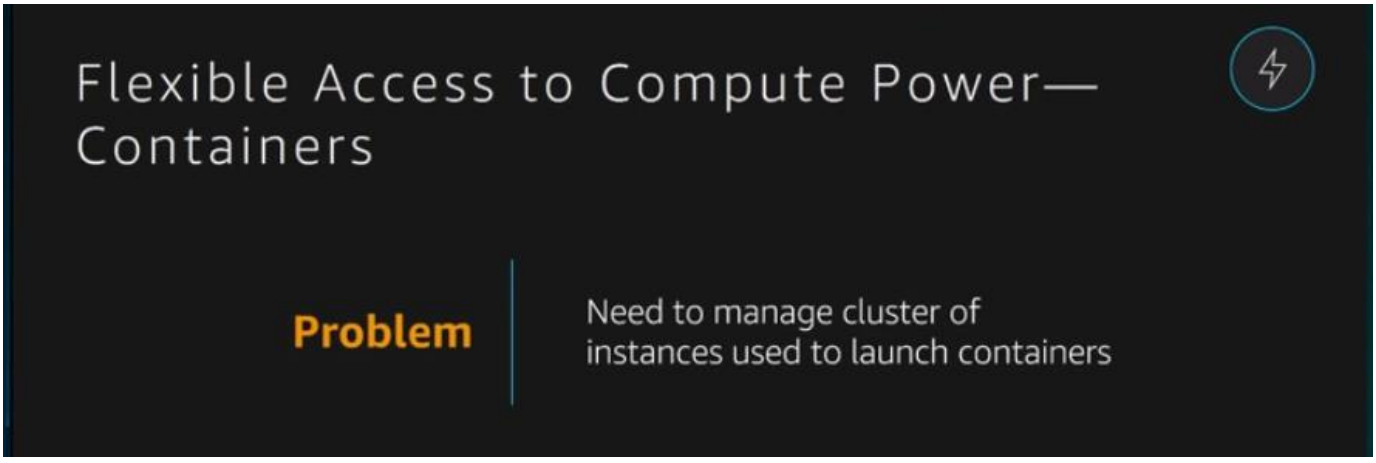
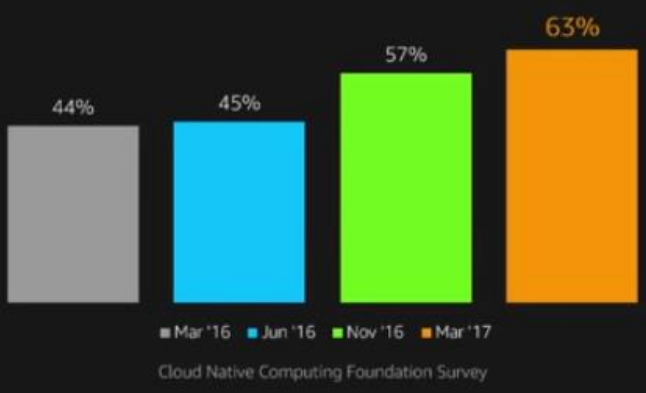




Allows you to simply just run a container task without worrying about cluster management

Most Kubernetes Clusters Run on AWS



Cloud Native Computing Foundation Survey

NEW

Most Kubernetes Clusters Run on AWS

Deepak Singh
GM, EC2 Container Services

For more information

CON201: Containers on AWS – State of the Union
Thursday, Nov. 30, 12:15-1:15PM
Aria, Level 1, Pinyon 5

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Customers Using AWS Lambda

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Flexible Access to Compute Power— AWS Lambda

Key advancements in 2017

- More accessible to more developers
- Make Lambda developers more productive
- Enable new application patterns

24 Feature launches in 2017

2 New languages – Python 3, Node 6

All Supported across all regions

ISO, PCI, HIPAA, and SOC compliances

AWS Green Grass

Lambda @Edge

X-Ray

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Tim Wagner
GM, AWS Serverless Applications

For more information

SRV305: What's New in Serverless
Thursday, Nov. 30, 3:30-4:30PM
co-present w/ FICO (Jeet Kaul, VP)
Aria, Level 1, Pinyon 5

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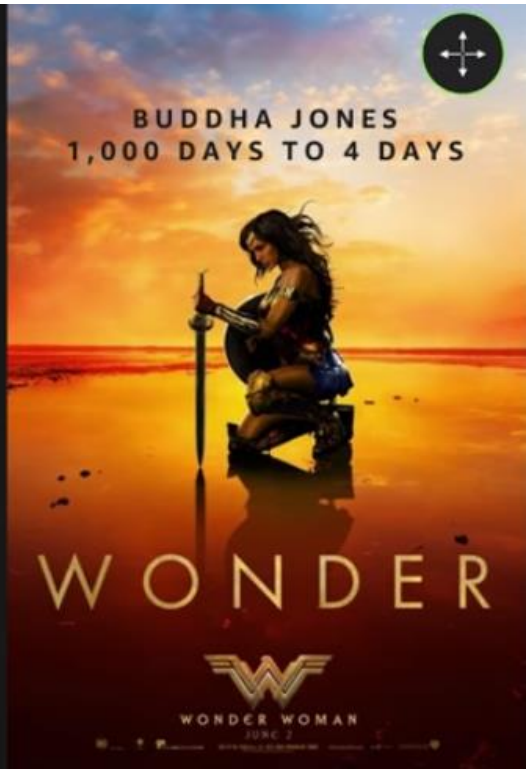
Easy-to-Use with Broad Feature Set— Media & Entertainment

thinkbox
an amazon company

DEADLINE®



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Easy-to-Use with Broad Feature Set— HPC Innovations & Technology

Batch

HPC Application Performance

EnginFrame

NEW! Array Jobs

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Easy-to-Use with Broad Feature Set—Developers

Amazon Lightsail — easy to launch, easy to grow

Bundled compute, storage, and networking	Low, predictable prices	Intuitive console	Access to AWS services

Rapid innovation in 2017

Use worldwide, support Windows workloads, and scale applications easily

10 regions

8 languages

Windows Server

Block storage add-on

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NEW

Introducing: Lightsail Load Balancing

Lightsail Load Balancer

Easy-to-use load balancing with free certificate management allows customers to create secure, high-availability web applications for a low, predictable price of $18 per month

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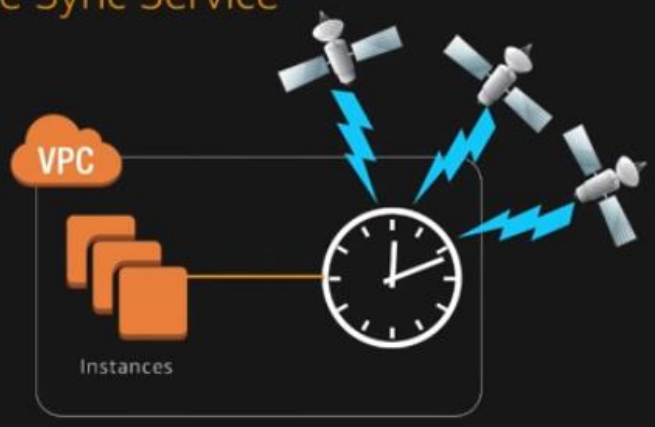
NEW

Expanding Features for Developers

Amazon Time Sync Service

Highly reliable service with redundant array of satellite and atomic clock sources

Available globally today!



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Expanding Features for Developers

To Launch an Instance:

- Instance Types
- EBS Volumes
- AMI IDs
- Network Interface
- Tags
- User Data
- Placement

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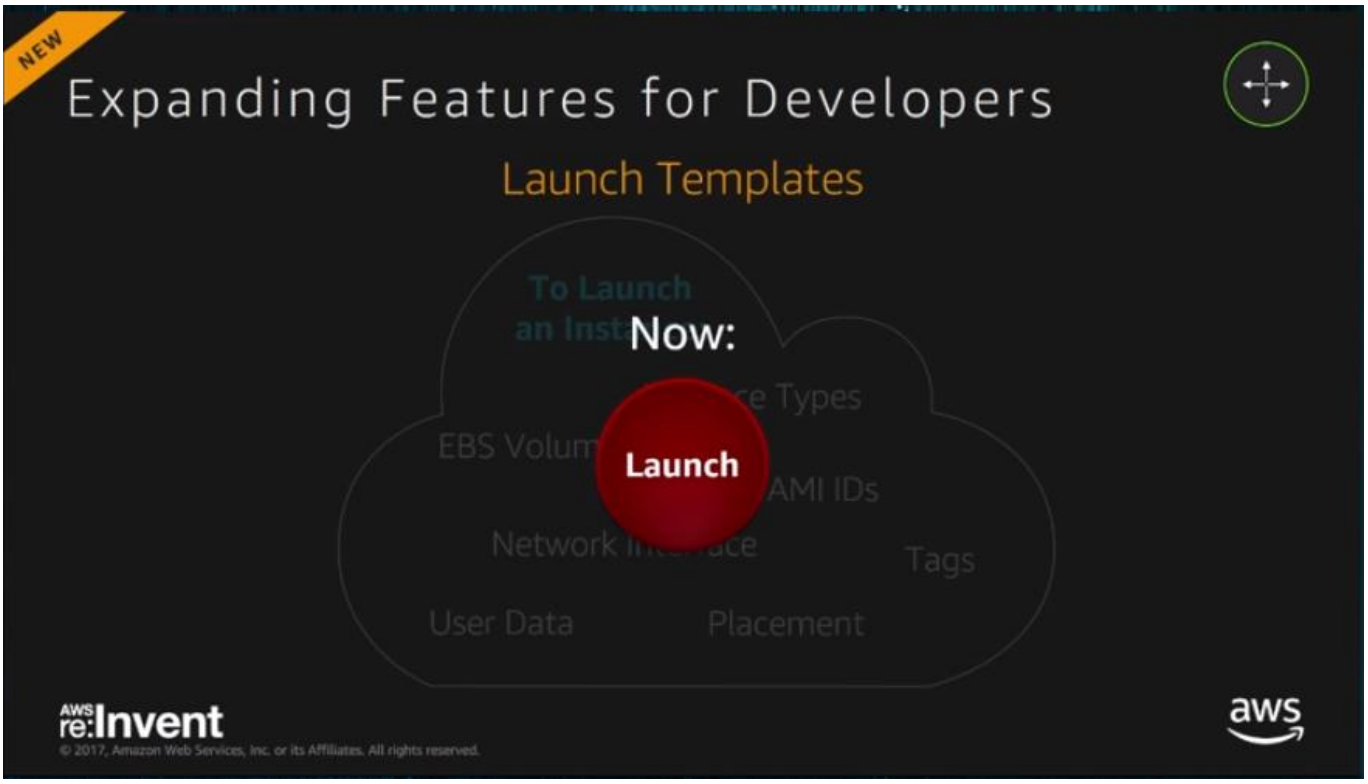

You can now define all your launch time parameters in a launch time template that is versioned.

Continuous Innovation Cloud

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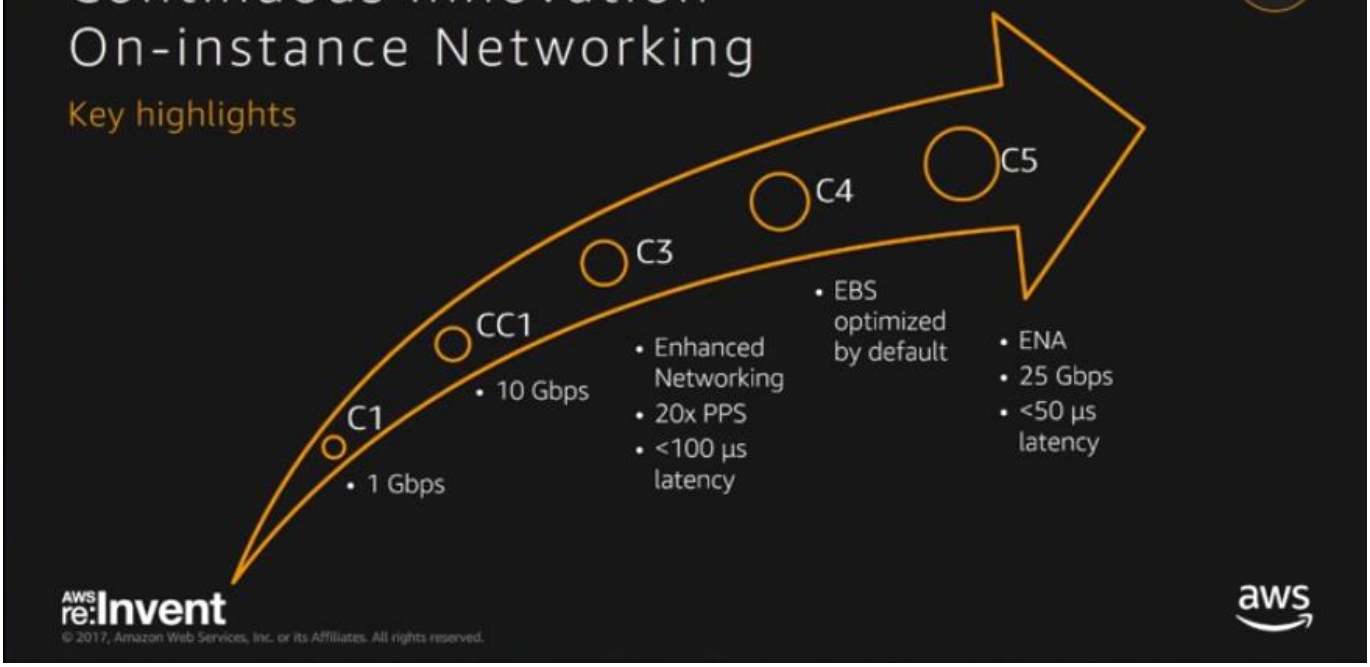
Continuous Innovation— On-instance Networking

Key highlights



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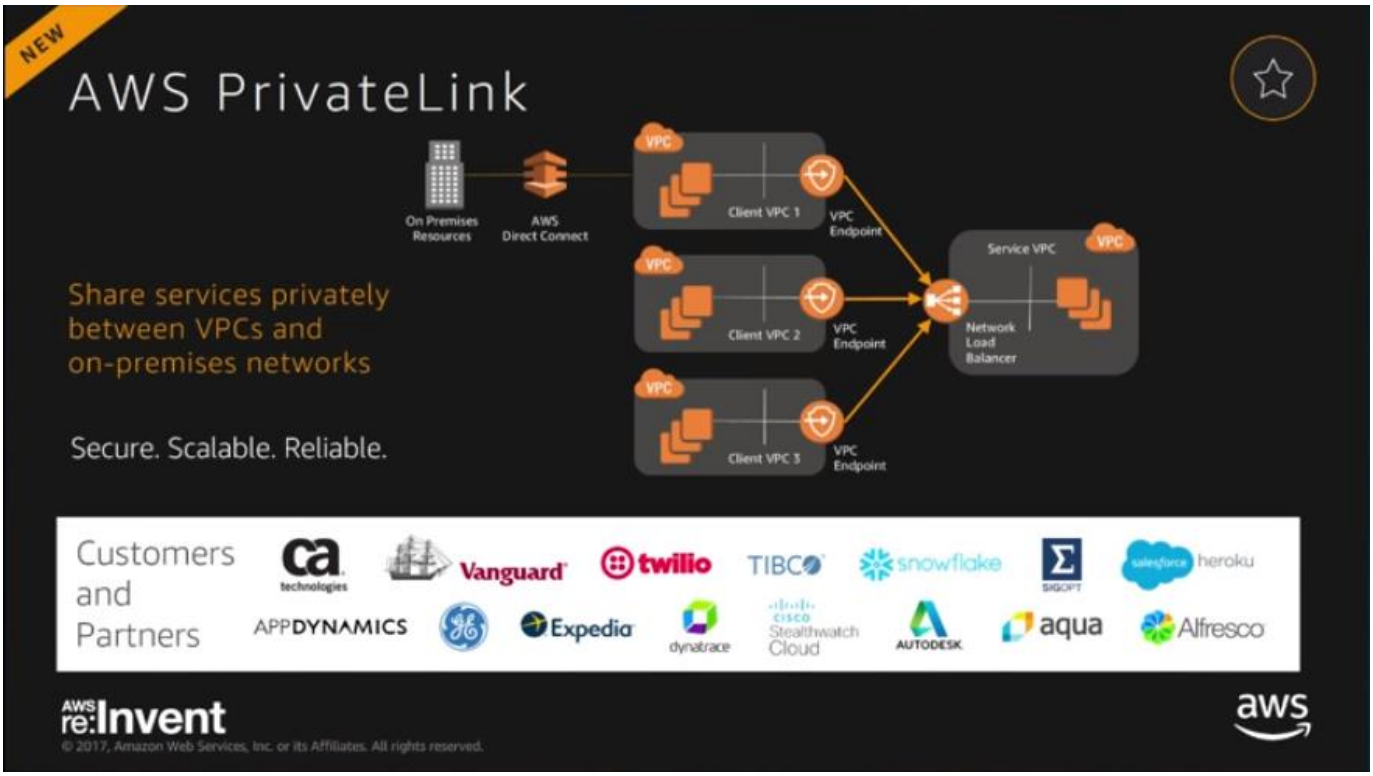
NEW
AWS PrivateLink
On Premises Resources
AWS Direct Connect
VPC
Client VPC 1
VPC Endpoint
Client VPC 2
VPC Endpoint
Client VPC 3
VPC Endpoint
Service VPC
Network Load Balancer
Share services privately between VPCs and on-premises networks
Secure. Scalable. Reliable.
Customers and Partners
ca technologies
Vanguard
twilio
TIBCO
snowflake
SIGOPT
salesforce heroku
APPDYNAMICS
Expedia
dynatrace
cisco Stealthwatch Cloud
AUTODESK
aqua
Alfresco
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AUTODESK.
Reeny Sondhi
Chief of Product Security

Dave Brown
Director, EC2 Networking

For more information

NET205: Networking State of the Union
Wednesday, Nov. 29, 3:15-4:15PM
Venetian, Level 3, Murano 3203

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Customer Obsessed

90%

of the items on the roadmap originate with customer requests and are designed to meet specific needs and requirements

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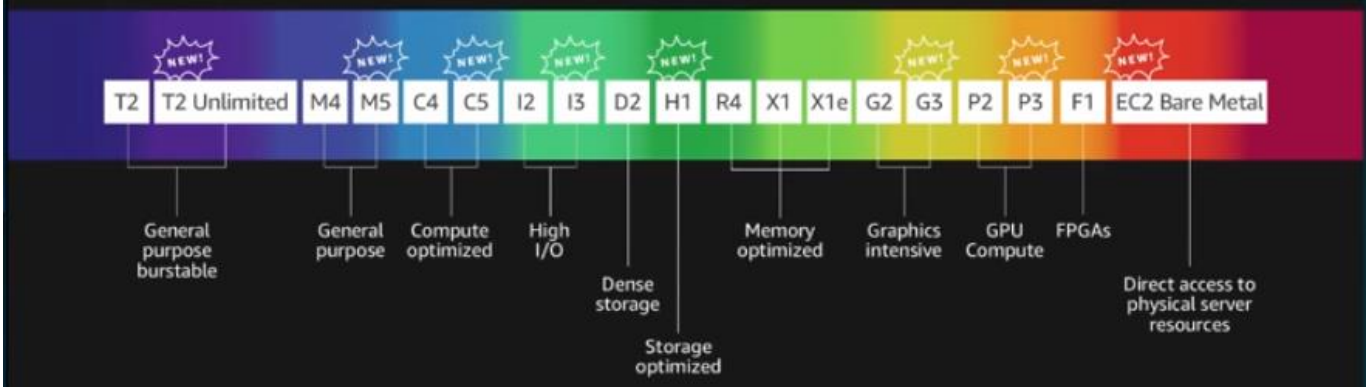
Continuous Innovation— Instance Types



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FPGAs—F1 Instance

edico genome

Children's Hospital of Philadelphia

Guinness World Record for fastest analysis of 1,000 Genomes, running on Amazon EC2 FPGA instances

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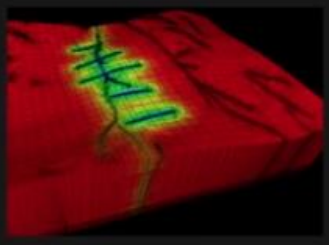
High-performance Graphics with G3

HALLIBURTON



Seismic exploration and analytics for Oil & Gas

"The exploration and production models are increasingly complex with very large datasets, 3D and dynamic algorithms, security, and global reach... Amazon EC2 G3 instances enable Landmark to deliver value to our clients in ways that were not possible before."

—Chandra Yeleshwarapu
Global Head of Services and Cloud Landmark, Halliburton

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NEW

New Technology Innovation—P3

SO MUCH DATA FOR MACHINE LEARNING & AI TO CONSUME!

By 2020, there will be **44** zettabytes of data[1]

1.2 trillion photos taken in 2017[2]

5.2TB per person of data[3]

Over **100k** chatbots today the chatbot market is growing at a compounded annual growth rate **(CAGR) of 37%**[4]

THE ANSWER: AMAZON EC2 P3 + MACHINE LEARNING & AI

Amazon EC2 P3s are available across

Oregon, Virginia, Dublin, and Tokyo

Up to **14X** faster for Machine Learning training than previous generation

One Amazon EC2 P3 instance provides **1 petaflop** of compute performance

41k images/second for image recognition/ inference per EC2 P3

Tesla V100 GPUs contains **5,120 CUDA cores** and **640 Tensor cores**

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NEW

Continuous Innovation—T2 Unlimited

NEW!

Cost-effective for most general-purpose workloads

Generous baseline performance, automatically burst to full-core

Now burst whenever you want, for as long as you want

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NEW

Continuous Innovation—H1

NEW!

H1

New Storage-optimized instance

Up to 16TB of locally attached HDD storage

Up to 25 Gbps network bandwidth with ENA

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NEW

Continuous Innovation— Purpose-built Virtualization Platform

NEW!

C5

Next-generation, Compute Optimized EC2 instance

NEW!

M5

Next-generation, General Purpose EC2 instance

25-50% price performance improvement

Introducing our custom built all new hypervisor – Nitro

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NEW

Continuous Innovation—EC2 Bare Metal

EC2 Bare Metal

Run bare metal workloads on EC2
with all the elasticity, security,
scale, and services of AWS

For public preview

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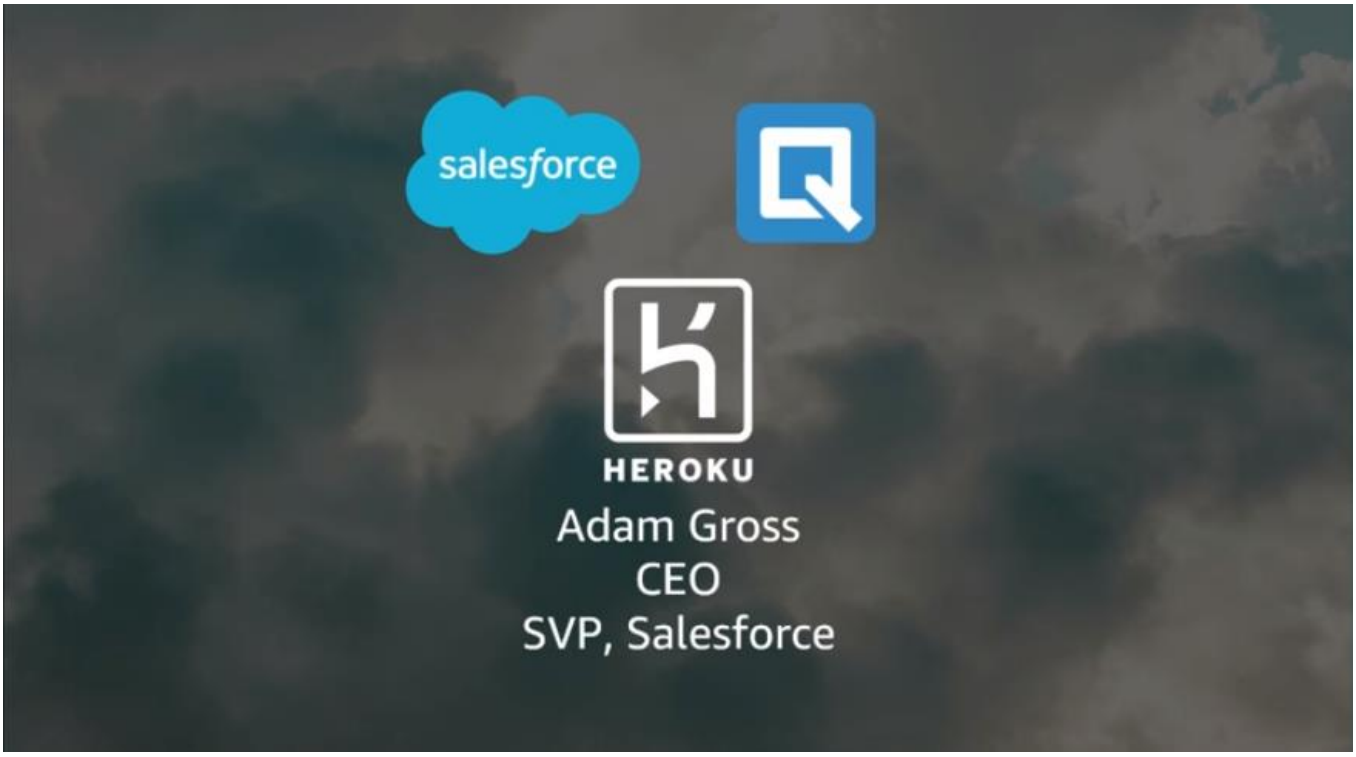
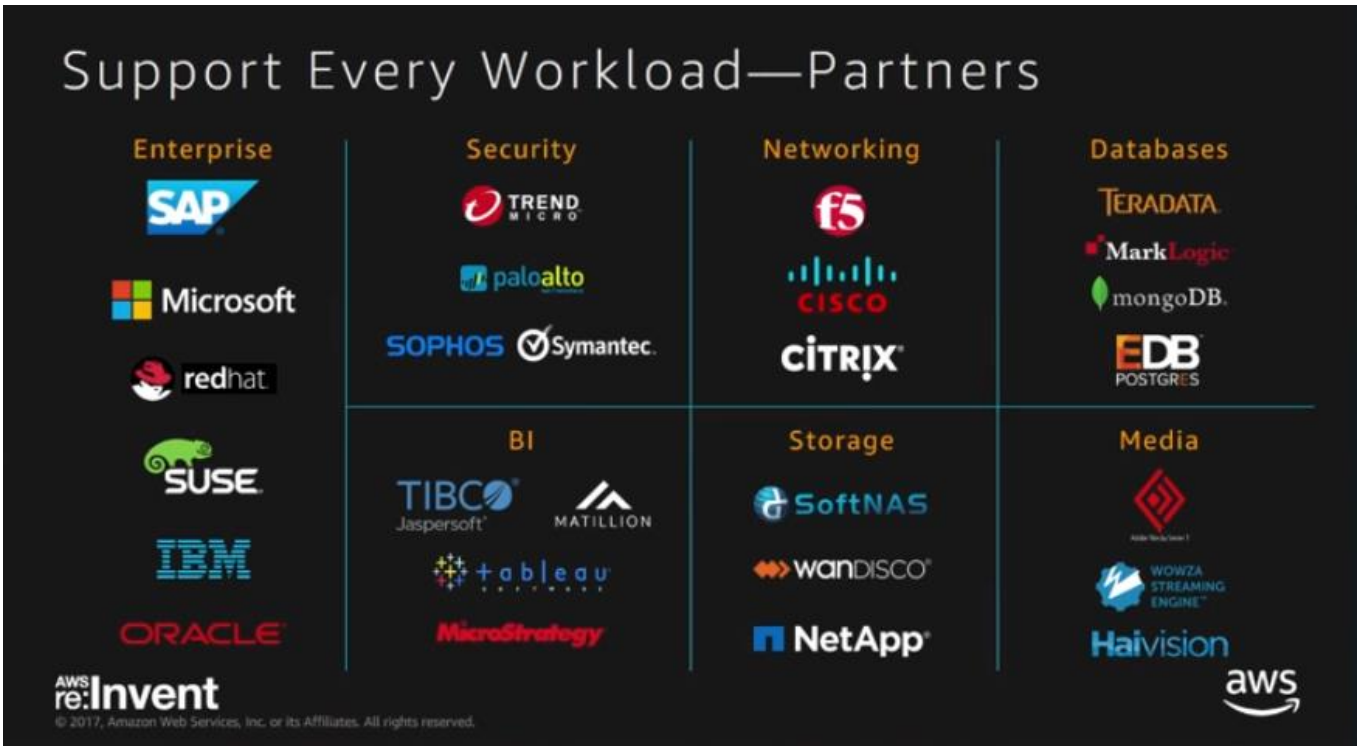

salesforce
HEROKU
Adam Gross
CEO
SVP, Salesforce


Support Every Workload—Partners
Enterprise
SAP
Microsoft
redhat
SUSE
IBM
ORACLE
Security
TREND MICRO
paloalto
SOPHOS
Symantec.
Networking
f5
CISCO
CITRIX
Databases
TERADATA
MarkLogic
mongoDB.
EDB POSTGRES
BI
TIBCO Jaspersoft
MATILLION
tableau
MicroStrategy
Storage
SoftNAS
wanDISCO
NetApp
Media
WOWZA STREAMING ENGINE
Haivision
aws
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Support Every Workload—Every Industry

Gaming

IoT

Healthcare & Life Sciences

Financial Services

Media & Entertainment

Education

Retail

Nonprofits

Government

And many more!

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Sandy Carter
VP, EC2

For more information
WIN201: EC2 Enterprise Workloads
State of the Union
Thursday, Nov. 30, 11:30-12:30PM
MGM, Level 1, Grand Ballroom 117

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What's Next?

Don't expect us to slow down anytime soon!

Recap of What We're Announcing Today

- Spot - Simplified Pricing Model
- Spot on RunInstances
- Instance Hibernation for Spot
- Amazon Fargate
- Amazon EKS
- Spread Placement

- Lightsail Load Balancer
- Array Jobs
- Amazon Time Sync Service
- Launch Templates
- PrivateLink for Customers & Partners

- T2 Unlimited
- H1
- C5
- M5
- EC2 Bare Metal Instances
- P3
- G3

Want to Learn More?

Compute Services announcement

aws.amazon.com/new/reinvent

Sign up for a new Lightsail account

amazonlightsail.com

Kickoff Spot instances

aws.amazon.com/ec2/spot

FREE for the first month!

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