



Amazon Web Services 101

AWS Introduction

Why are enterprises choosing AWS?

What are enterprises using AWS for?

How are enterprise getting started with AWS?

AWS Provides Broad and Deep Services to Support Any Cloud Workload

Deployment & Administration

Application Services

Compute

Storage

Database

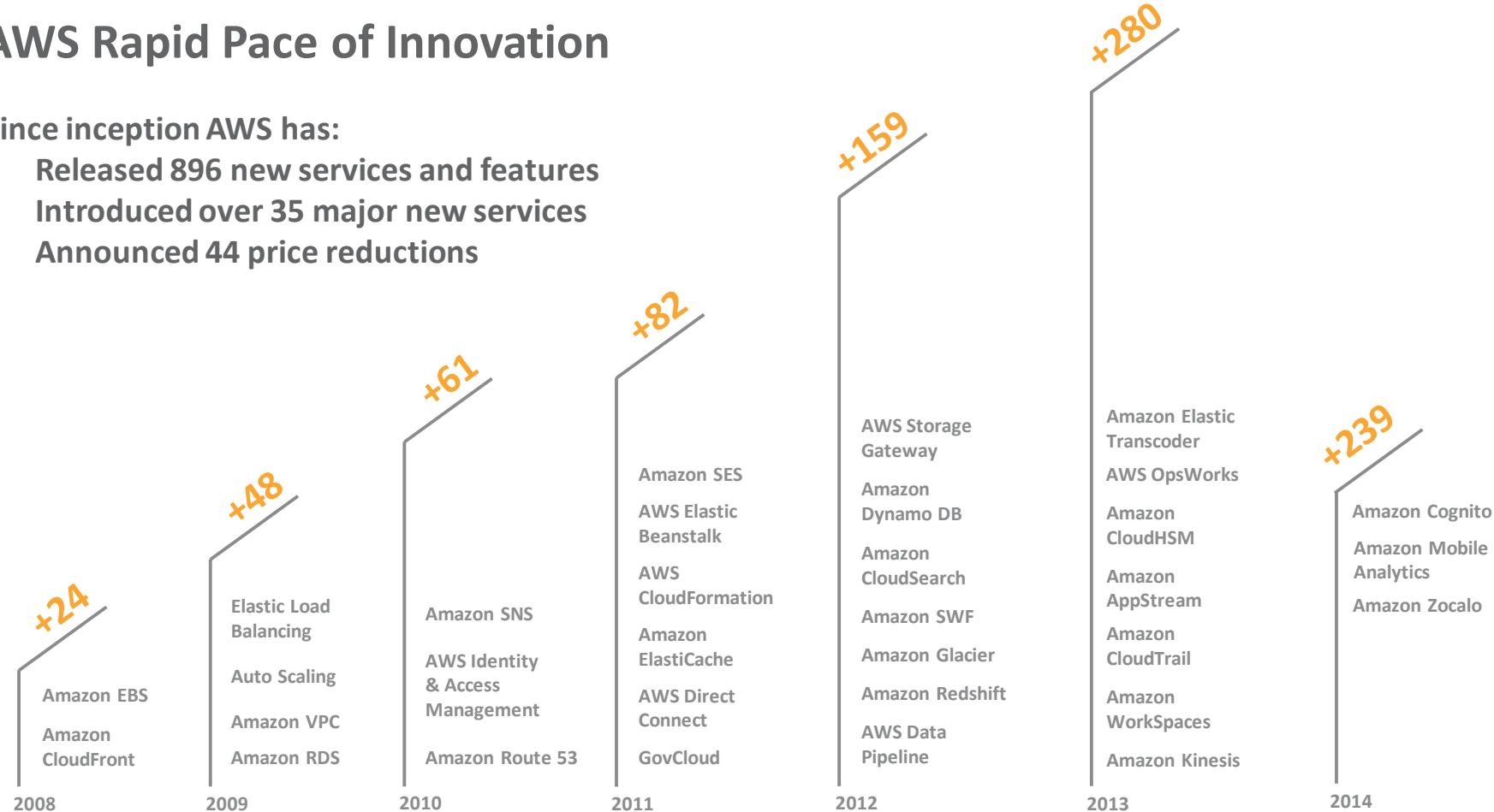
Networking

AWS Global Infrastructure

AWS Rapid Pace of Innovation

Since inception AWS has:

- Released 896 new services and features
- Introduced over 35 major new services
- Announced 44 price reductions



239

New features in 2014 so far including...

33

Jan 2014

24

Feb 2014

35

March 2014

34

April 2014

56

May 2014

38

June 2014

19

July 2014

Aug 2014

Sept 2014

Oct 2014

Nov 2014

Dec 2014

Amazon **AppStream** available to all customers

March 12, 2014

Amazon **WorkSpaces** available to all customers

March 26, 2014

Introduced T2, the New Low-Cost, General Purpose Instance Type for **Amazon EC2**

July 1, 2014

Introduced **Amazon Mobile Analytics**

July 10, 2014

Introduced **Amazon Zocalo**

July 10, 2014



AWS Global Infrastructure

10 Regions*

26 Availability Zones*

53 Edge Locations



*China (Beijing) Region – in limited preview

Trusted by Enterprises Around the World



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htc

SHARP

TOSHIBA
Leading Innovation >>>



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TATA MOTORS

CONDÉ NAST

LIONSGATE

News International

ticketmaster

Bristol-Myers Squibb



Schneider
Electric

Newsweek

The Washington Post

SHAW) MEDIA

NOVARTIS



Used by Government Agencies & Educational Institutions Worldwide



“AWS is the overwhelming market share leader, with **more than five times the compute capacity** in use than the aggregate total of the other fourteen providers.”



Source: Gartner (May 2014)

Gartner “Magic Quadrant for Cloud Infrastructure as a Service,” Lydia Leong, Douglas Toombs, Bob Gill, Gregor Petri, Tiny Haynes, May 28, 2014. This Magic Quadrant graphic was published by Gartner, Inc. as part of a larger research note and should be evaluated in the context of the entire report.. The Gartner report is available upon request from [Steven Armstrong \(asteen@amazon.com\)](mailto:asteen@amazon.com). 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. 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.



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Lower Costs with AWS Up-Front and Increase Savings as Your Usage Grows

1

Replace up-front capital expense with low variable cost

“Average of 400 servers replaced per customer”

2

Economies of scale have allowed us to consistently lower costs

44 Price Reductions

3

Pricing model choice to support variable & stable workloads

On-demand
Reserved
Spot

4

Save more money as you grow bigger

Tiered Pricing
Volume Discounts



Source: IDC Whitepaper, sponsored by Amazon, “The Business Value of Amazon Web Services Accelerates Over Time.” July 2012



4X More Reliable & 1/4 the Cost of On-Premises Infrastructure

END USERS BENEFITED FROM FEWER SERVICE DISRUPTIONS AND QUICKER RECOVERY ON AMAZON CLOUD INFRASTRUCTURE,
REDUCING DOWNTIME BY 72%

AMAZON CLOUD INFRASTRUCTURE
REPRESENTS A
70% SAVINGS
COMPARED WITH
ON-PREMISE SOLUTIONS



WHITE PAPER

The Business Value of Amazon Web Services Accelerates Over Time

Sponsored by: Amazon

Randy Perry Stephen D. Hendrick
July 2012

EXECUTIVE SUMMARY

In early 2012, IDC interviewed 11 organizations that deployed applications on Amazon cloud infrastructure services. The purpose of the IDC analysis was to understand the economic impact of Amazon cloud infrastructure services over time, beyond the well-documented benefits of reduction in capex and opex. Specifically, IDC set out to understand the long-term economic implications of moving workloads onto Amazon cloud infrastructure services, the impact of moving applications on developer productivity and business agility, and the new opportunities that businesses could address by moving resources onto Amazon cloud infrastructure services. The organizations interviewed ranged from small and medium-sized companies to companies with as many as 160,000 employees. Organizations in our study had been Amazon Web Services (AWS) customers for as few as seven months to as many as 5.3 years. Our interviews were designed to elicit both quantifiable information and anecdotes so that IDC could interpret the full return-on-investment (ROI) impact of Amazon cloud infrastructure services on these organizations. The study represents a broad range of

Business Value Highlights: Applications Running on AWS

- Five-year ROI: 625%
- Payback period: 7.1 months
- Software development productivity increase: 507%
- Average savings per application: \$518,990
- Downtime reduction: 72%
- IT productivity increase: 52%
- Five-year TCO savings: 70%



["Source: IDC Study.](#) In early 2012, AWS commissioned IDC to interview 11 organizations that deployed applications on AWS."

Architected for Enterprise Security Requirements

Certifications and accreditations for workloads that matter



AWS CloudTrail - AWS API call logging for governance & compliance

Log and review user activity

Stores data in Amazon S3, or archive to Amazon Glacier



Increased agility has become the
#1 reason businesses use the AWS
cloud



Enterprises Can't Afford to be Slow

Old World: Infrastructure in Weeks



AWS: Infrastructure in Minutes



- Add New Dev Environment
- Add New Prod Environment
- Add New Environment in Japan
- Add 1,000 Servers
- Remove 1,000 servers
- Deploy 2 PB Data warehouse
- Shut down 2 PB Data warehouse

Everything changes with this kind of agility

A Culture of Innovation: Experiment Often and Fail Without Risk



On-Premises

Experiment Infrequently

Failure is expensive

Less Innovation



Experiment Often

Fail quickly at a low cost

More Innovation



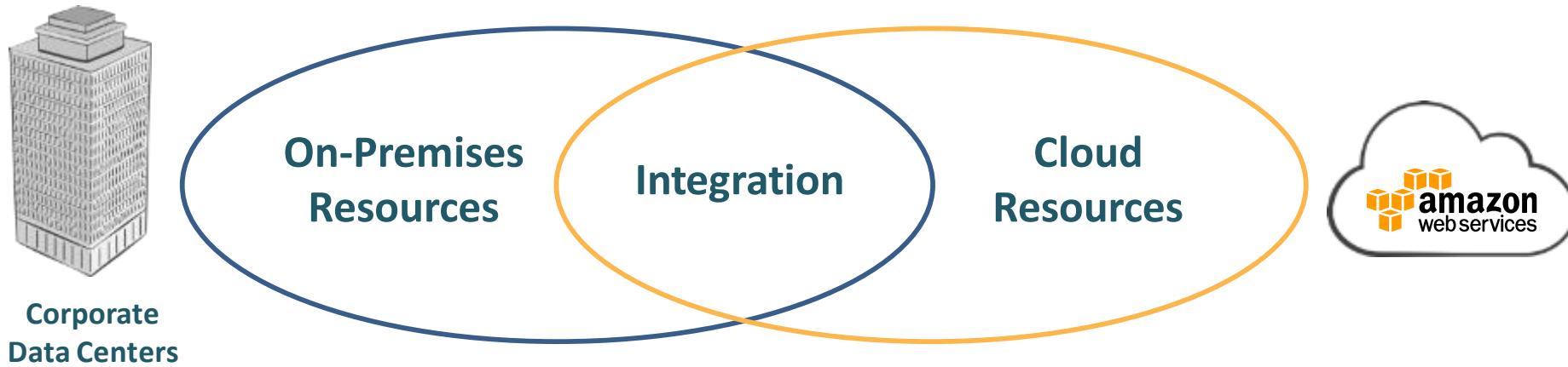
Many Enterprises Worry That These are the Only Two Choices

Build a
“private”
cloud

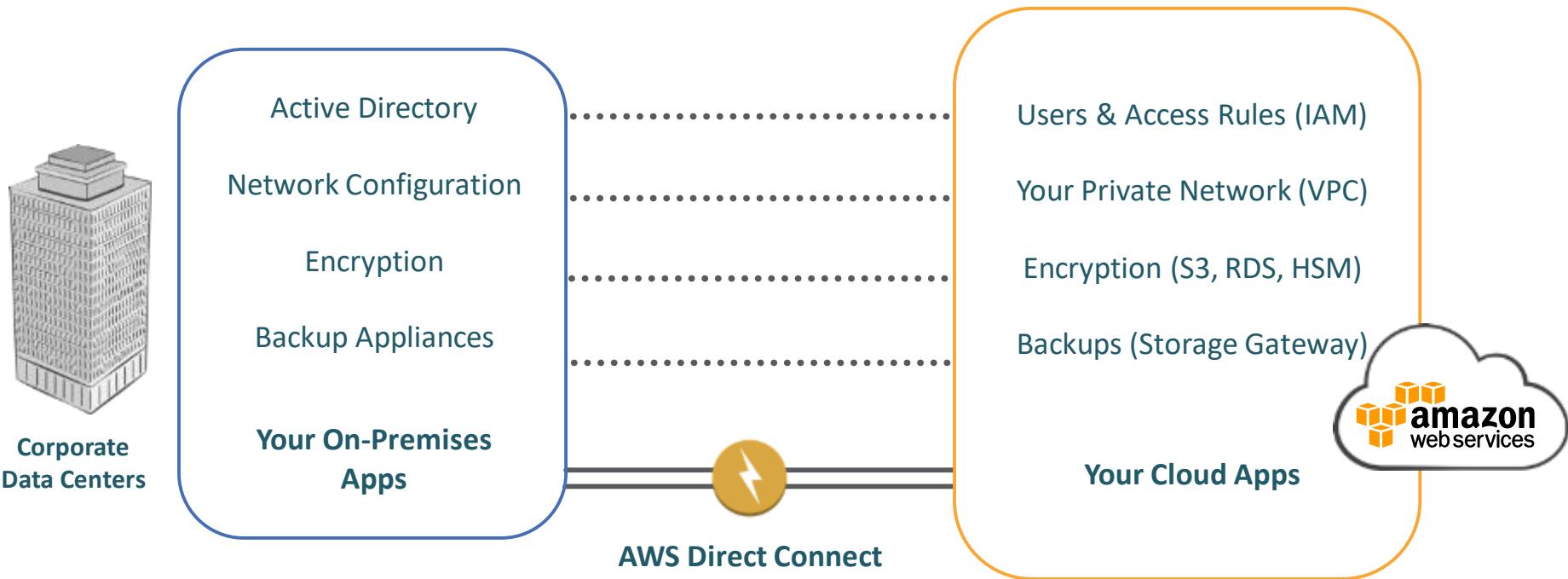


Rip everything out
and move to
AWS

The Good News is that Cloud isn't an 'All or Nothing' Choice



Integrating AWS with Your Existing On-Premises Infrastructure



Tools to Help Customers Manage Resources Across Environments



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Enterprises Use Cases on AWS

**Enterprise Apps
and Dev./Test**

**Big Data and
HPC**

**Storage, Backup
and Archival**

**Web, Mobile, and
Social Apps**

**Disaster
Recovery**

**Virtual
Desktops**

...Including Entire Data Center Migrations



Moved out of Hong Kong Data Center into AWS for all WSJ.com production traffic in Asia



Operations, finance and accounting, and training services in AWS today.

Moving entire infrastructure to AWS and closing its Geneva data center.



Currently running tens of thousands of servers on AWS.



25% of servers running on AWS with plans to exceed 75% within the next three years.



Enterprise Applications



- Amazon RDS for Oracle provides managed Oracle database deployments
- Oracle Applications are fully supported on AWS
- Oracle licenses owned by customers are fully portable to AWS

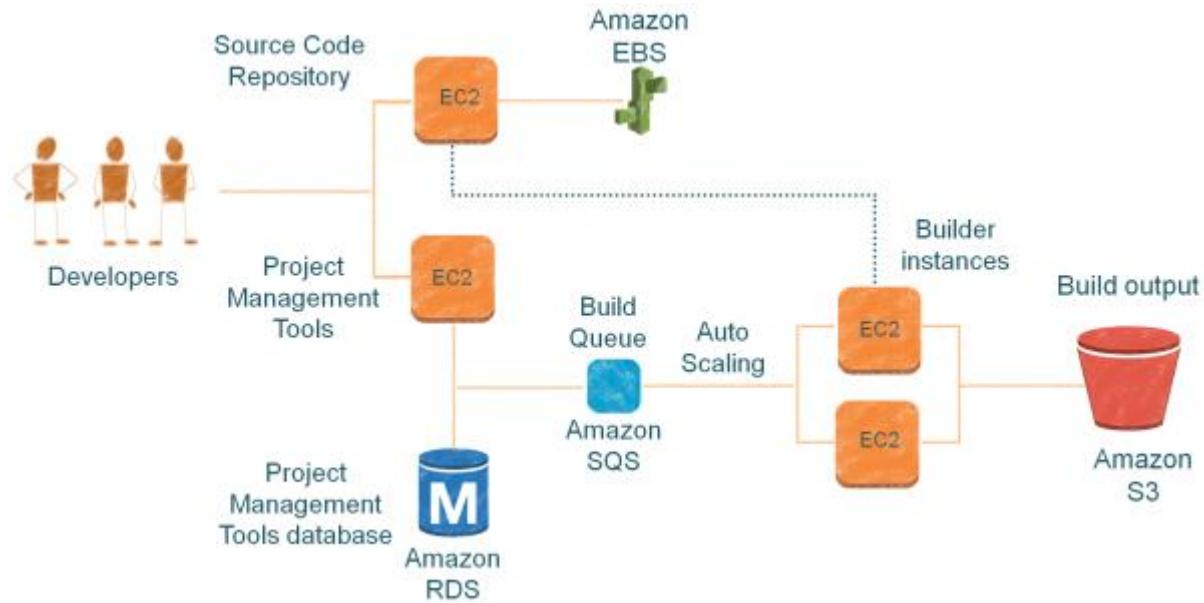


- AWS is an SAP-certified Global Cloud Services Partner and Global Technology Partner
- Most SAP products are now certified for production deployment on AWS



- Full, real, licensed Windows Server OS on AWS
- Easily install services that you know - AD, ADFS, SCOM, SQL, Exchange, SharePoint etc.
- Use your existing MS licenses on AWS using BYOL

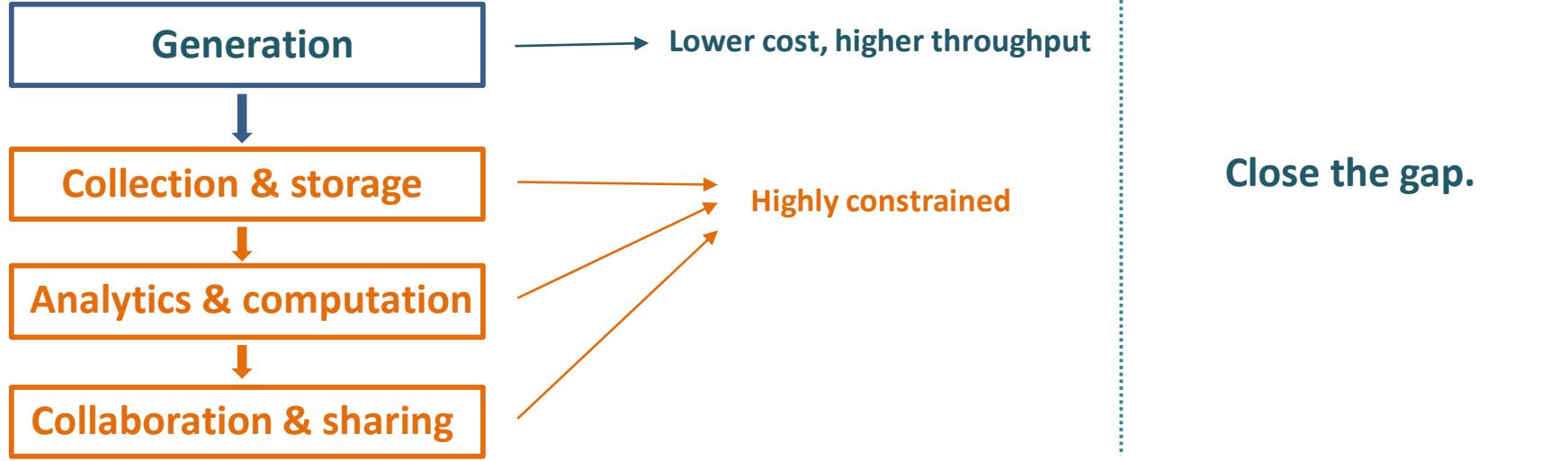
Development and Test Environments



AWS Dev./Test Scenarios

- On-demand Dev. environments
- On-Demand Builds
- Automated Test environments
- Load Testing

Big Data



Technologies and techniques for working productively with data, **at any scale**

Elastic and highly scalable + No upfront CapEx + Only pay for what you use + Available on-demand = **Remove constraints**

Big Data

Amazon EMR (Elastic MapReduce)

Managed Hadoop Service

Easily launch, customize, and resize your managed Hadoop cluster



Amazon Redshift

Petabyte-scale data warehouse service



AWS Data Pipeline

More data among AWS Services and on-premises data sources



Amazon Kinesis - Fully-managed service for real time processing of streaming data, at any scale.

Plug and play with a simple, pre-built client library

Deploy Amazon Kinesis-enabled applications to Amazon EC2

Integrates with Amazon Redshift, Amazon DynamoDB, Amazon EMR, and Amazon

High Performance Computing (HPC)

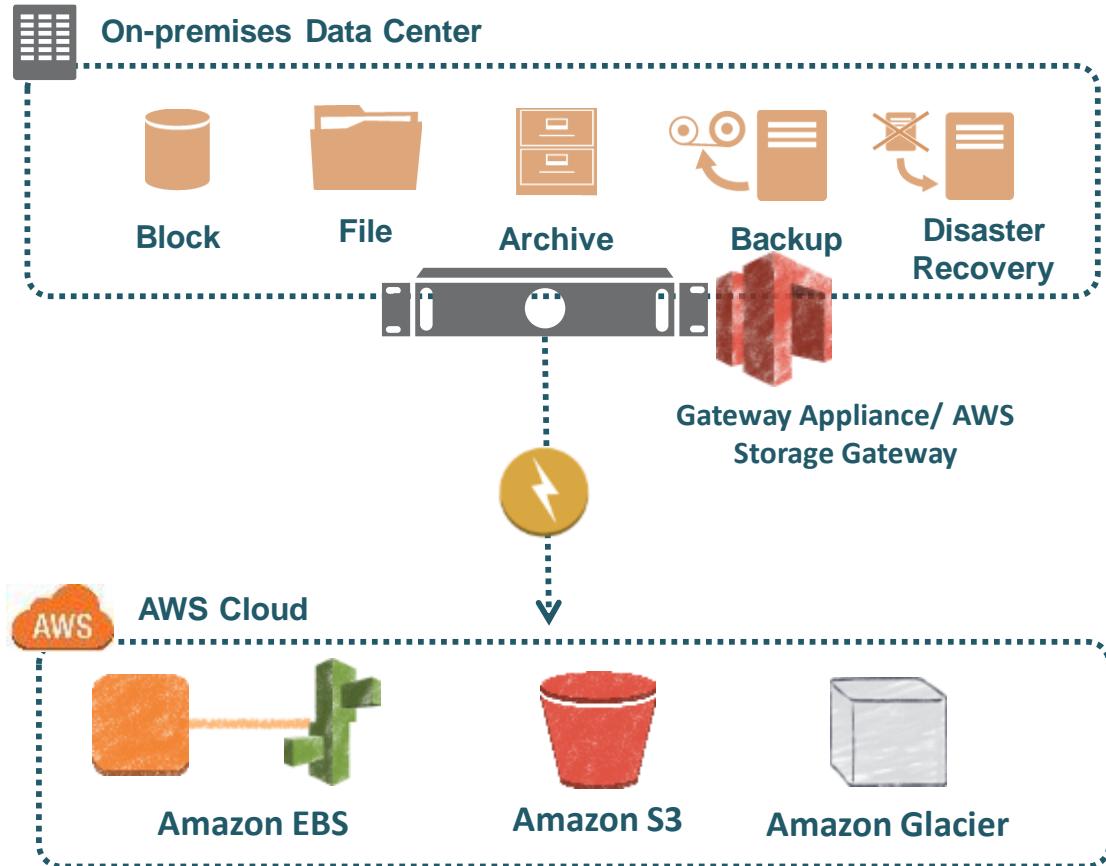


C3 instances

Instance Name	vCPU Count	Total ECU	RAM	Local Storage
c3.large	2	7	3.75 GiB	2 x 16 GB SSD
c3.xlarge	4	14	7 GB	2 x 40 GB SSD
c3.2xlarge	8	28	15 GiB	2 x 80 GB SSD
c3.4xlarge	16	55	30 GiB	2 x 160 GB SSD
c3.8xlarge	32	108	60 GiB	2 x 320 GB SSD

Improved Network Performance
SSD based Platform

Storage, Backup, and Archival



AWS Storage Gateway

Corporate File Sharing & seamless backup of enterprise data to Amazon S3

Amazon Elastic Block Store

Persistent Block Storage for EC2

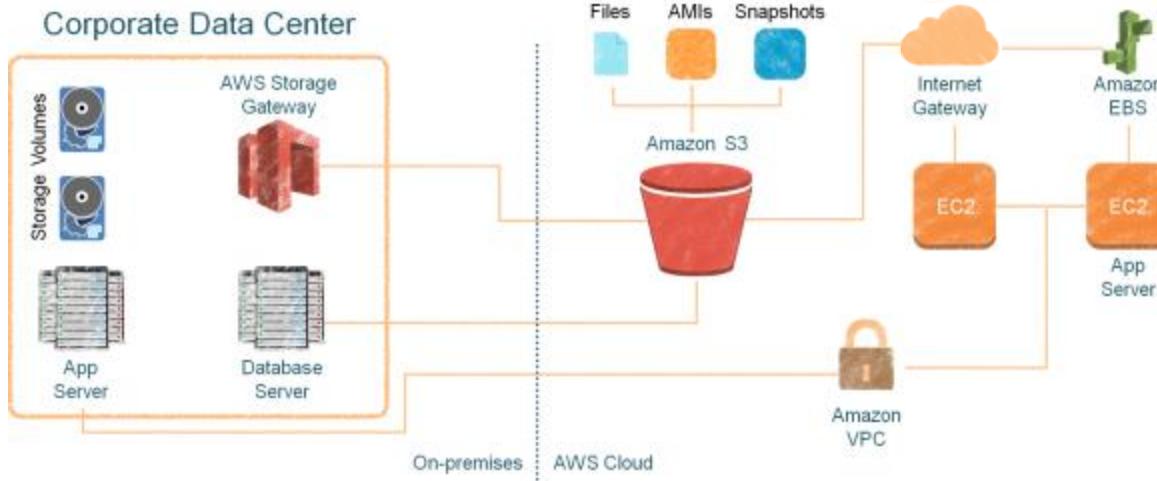
Amazon S3

Redundant, High-Scale Object Store

Amazon Glacier

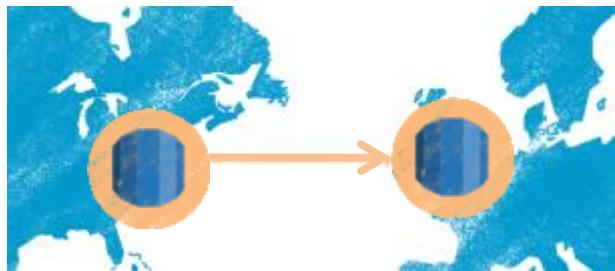
Low-cost Archive Storage in the Cloud

Disaster Recovery



AWS DR Scenarios

Backup and Restore
Pilot Light for Simple Recovery into AWS
Warm Standby Solution
Multi-site Solution

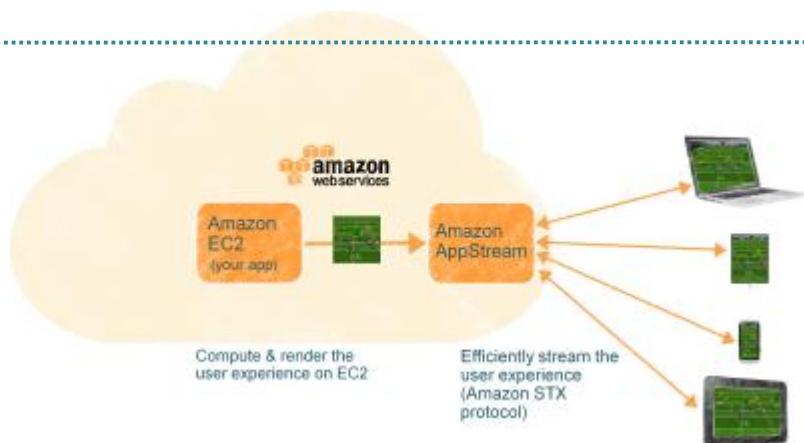
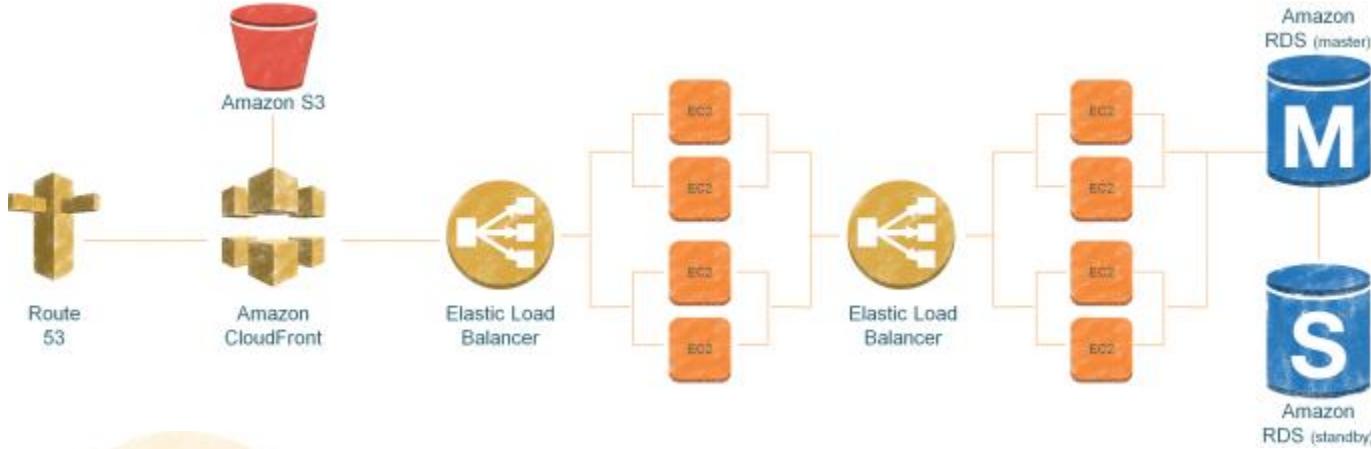


Amazon RDS – Cross Region Read Replicas

Improved disaster recovery operations.
Readable copies for cross-region applications.
Easy migration between regions



Web, Mobile, and Social Apps



Amazon AppStream
HD Video Quality Application Streaming
Captures user input to send back to the cloud. Responsive and consistent experience across devices

Virtual Desktops - Half the Price of On-Premises VDI



Amazon WorkSpaces

No hardware or virtualization software

Access through browser or tablet device

Monthly pricing—no long-term commitments

License software from us or bring your own licenses

Easy integration with MS Active Directory

No Server Hardware



No Storage Infrastructure



No VDI Software



No VDI Administration



Today's “Cloud Native” Applications



Deployed and managed,
automatically



Cost aware



Globally distributed



Composed and
orchestrated



Encrypted,
end to end



Content follows
you across devices

Sync state and data across devices, offline access, customer identity and login

Continual improvement based on customer usage

**Building feature-rich, engaging apps is
“increasingly reliant” on “back end”
services**

Safeguard customer data and credentials, Interact with broad set of AWS services

Overcome the Challenge of Multiple Devices



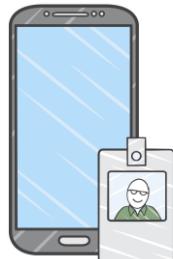
Amazon Cognito new

Fully managed user identity and data synchronization service

Manage unique identities & support multiple login providers
Seamlessly sync across devices & work offline via local data store

Safeguard AWS credentials

Identity



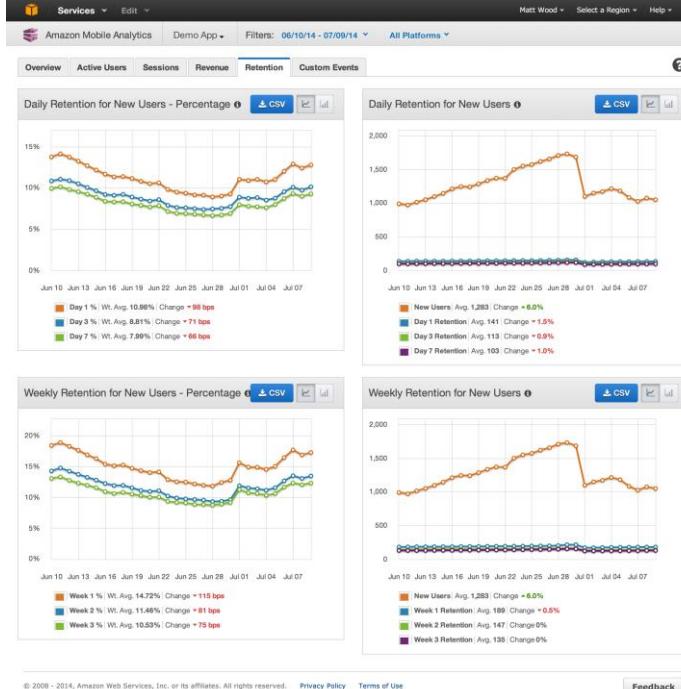
Synchronization



Security



Fast, Reliable, User Engagement Metrics



Amazon Mobile Analytics



Fast: get your data within an hour

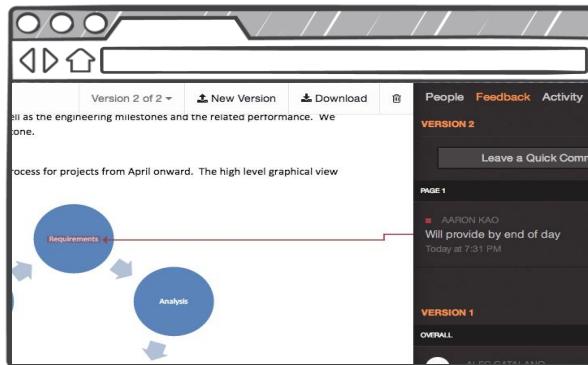
Automatic MAU, DAU, session and retention reports

Design and track custom app events

Data is not mined or sold by Amazon



Document Sharing and Collaboration – The Next Enterprise IT Problem AWS is Solving



Amazon Zocalo

Fully managed, secure document storage and sharing

Simple document feedback

Access from any device

Secure and reliable

Integrate your corporate directory

Easy sharing

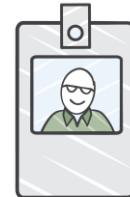
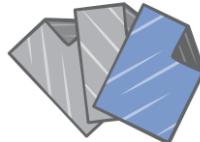
Simple document feedback

Access from any device

Integrate your corporate directory

Secure

Low cost



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Strategy 1: Cloud for Development & Test Environments

LIONSGATE

SAP

Reduced deployment time from weeks to days



Oracle Enterprise Applications

Reduced test environment costs



SAP

70% reduction in operational costs

Strategy 2: Build New Apps in the Cloud



Financial record archiving



Global deals engine



Product Prototyping & Design



Hotel booking engine



Video streaming



App streaming



Firmware upgrades

Faster to build



Bristol-Myers Squibb

Clinical trial simulations



Global web properties



Audience management & creative design



Biological data research



SIM card credit



News distribution



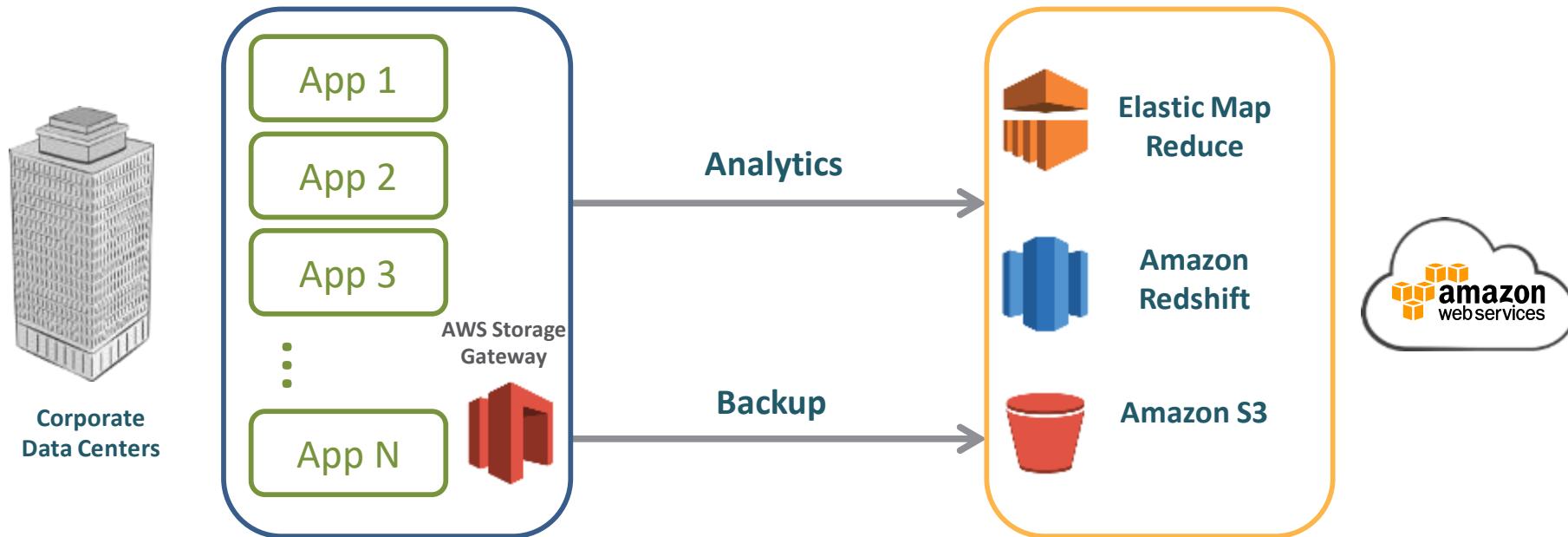
Mobile games

Easier to manage

Less expensive to run

Distributed architectures for high availability

Strategy 3: Use Cloud to Make On-Premises Apps Better



Strategy 3: Use Cloud to Make On-Premises Apps Better



Big Data Analytics

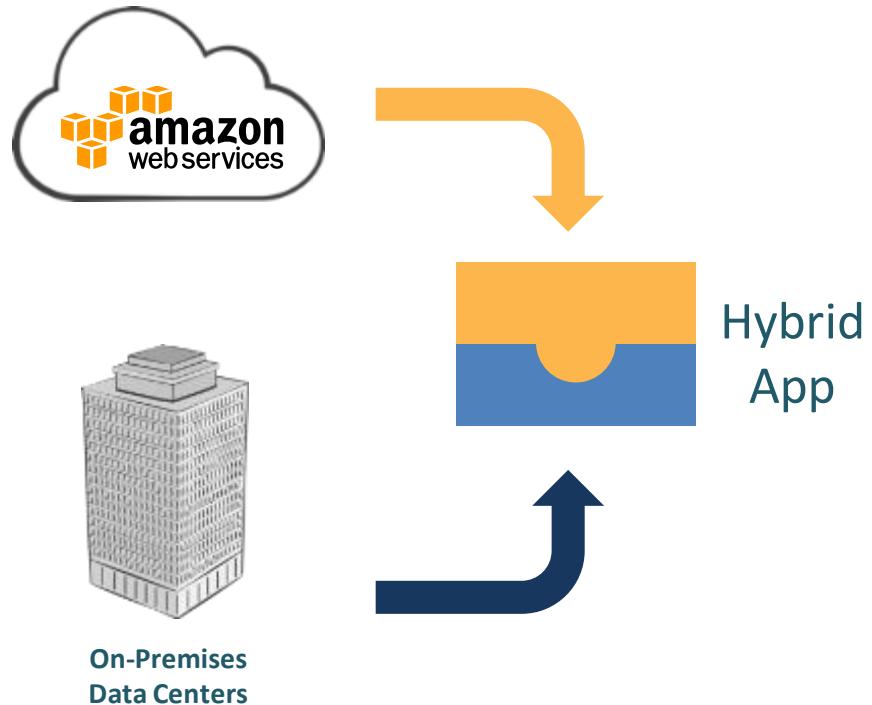
Export operational data to AWS for analytics processing



Big Data Analytics

50% cost reduction with 2x faster queries using Amazon Redshift

Strategy 4: Cloud Apps that Integrate with On-Premises Apps



AWS serves application content & data

Integration to Samsung data centers for financial transactions

Strategy 5: Migrate Existing Apps to the Cloud



On-Premises
Data Centers

News International

1/3 of servers
migrated to AWS

Saved
£1.5 Million



Migrated 500 web
properties in 5
months

New product web
sites live in 2 days vs.
2 weeks



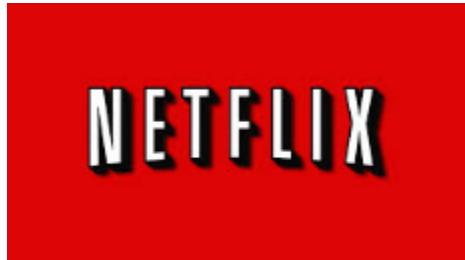
Bristol-Myers Squibb

Migrated clinical
trials simulations
platform

Simulations in 1.2hrs
vs. 60hrs
64% reduction in costs



Strategy 6: All In



100s of applications supporting 33M+ global members

10,000s of EC2 instances in multiple regions & zones

At peak consumes 1/3 of US Internet bandwidth

Spotlight Customer: DowJones News Intl



From over **40** data centers down to **6**

Planning to migrate 3000 Apps by January 2015; Saving 100M over 3 Years

Evaluate infrastructure



VS



Make business case



Move to the cloud



Engage with us if...

You're facing a tech refresh in the next year

You need to add capacity for growing workloads

You have a new application project

You plan to launch a technology driven business initiative

You're considering outsourcing part or all of your IT environment

You're outsourced and aren't getting the results you want