



PLM on the Amazon Web Services Cloud

Abhishek Sinha
Amazon Web Services



How did Amazon...

?

...get into cloud computing?



7 Years Young

Amazon S3 launched: March 14th 2006

The screenshot shows the Amazon.com website interface from March 14, 2006. The top navigation bar includes the Amazon logo, a sign-in prompt, and links for account management. Below this is a search bar and a shopping cart icon. The main content area features a left sidebar with navigation links, a central press release titled "Amazon Web Services Launches 'Amazon S3,' a Simple Storage Service for Software Developers", and a right sidebar with contact information for Amazon PR.

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Press Releases

[Amazon Web Services Launches "Amazon S3," a Simple Storage Service for Software Developers](#)

S3 Provides Application Programming Interface for Highly Scalable Reliable, Low-Latency Storage at Very Low Costs

SEATTLE--(BUSINESS WIRE)--March 14, 2006-- Amazon Web Services today announced "Amazon S3(TM)," a simple storage service that offers software developers a highly scalable, reliable, and low-latency data storage infrastructure at very low costs. Amazon S3 is available today at <http://aws.amazon.com/s3>.

Amazon S3 is storage for the Internet. It's designed to make web-scale computing easier for developers. Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web. It gives any developer access to the same highly scalable, reliable, fast, inexpensive data storage infrastructure that Amazon uses to run its own global network of web sites. The service aims

Contact Amazon PR
contact by email:
[Amazon.com PR](#)
[Amazon Web Services PR](#)
[Kindle PR](#)
contact by phone:
(206) 266-7180
For non-media inquiries:
[Amazon Customer Service](#)
For Kindle Marketing/Brand inquiries:
[Kindle Brand Use Guidelines](#)

Broad & Deep Services to Support Virtually Any Cloud Workload

Compute

Amazon EC2
Amazon EMR
Amazon ELB

Networking

Amazon Route 53
Amazon VPC
AWS Direct Connect

Storage & CDN

Amazon S3
Amazon Glacier
Amazon EBS
AWS Import/Exp

Database

Amazon RDS
Amazon DynamoDB
Amazon ElastiCache
Amazon Redshift

App Services

Amazon CloudSearch
Amazon SWF
Amazon SQS
Amazon SNS
Amazon SES
Amazon Elastic Transcoder

Management

AWS IAM
Amazon CloudWatch
AWS Elastic Beanstalk
AWS CloudFormation
AWS Data Pipeline
AWS OpsWorks
AWS CloudHSM
AWS Trusted Advisor
AWS Marketplace

AWS Premium
Support

AWS Professional
Services

AWS Training

AWS Global Infrastructure

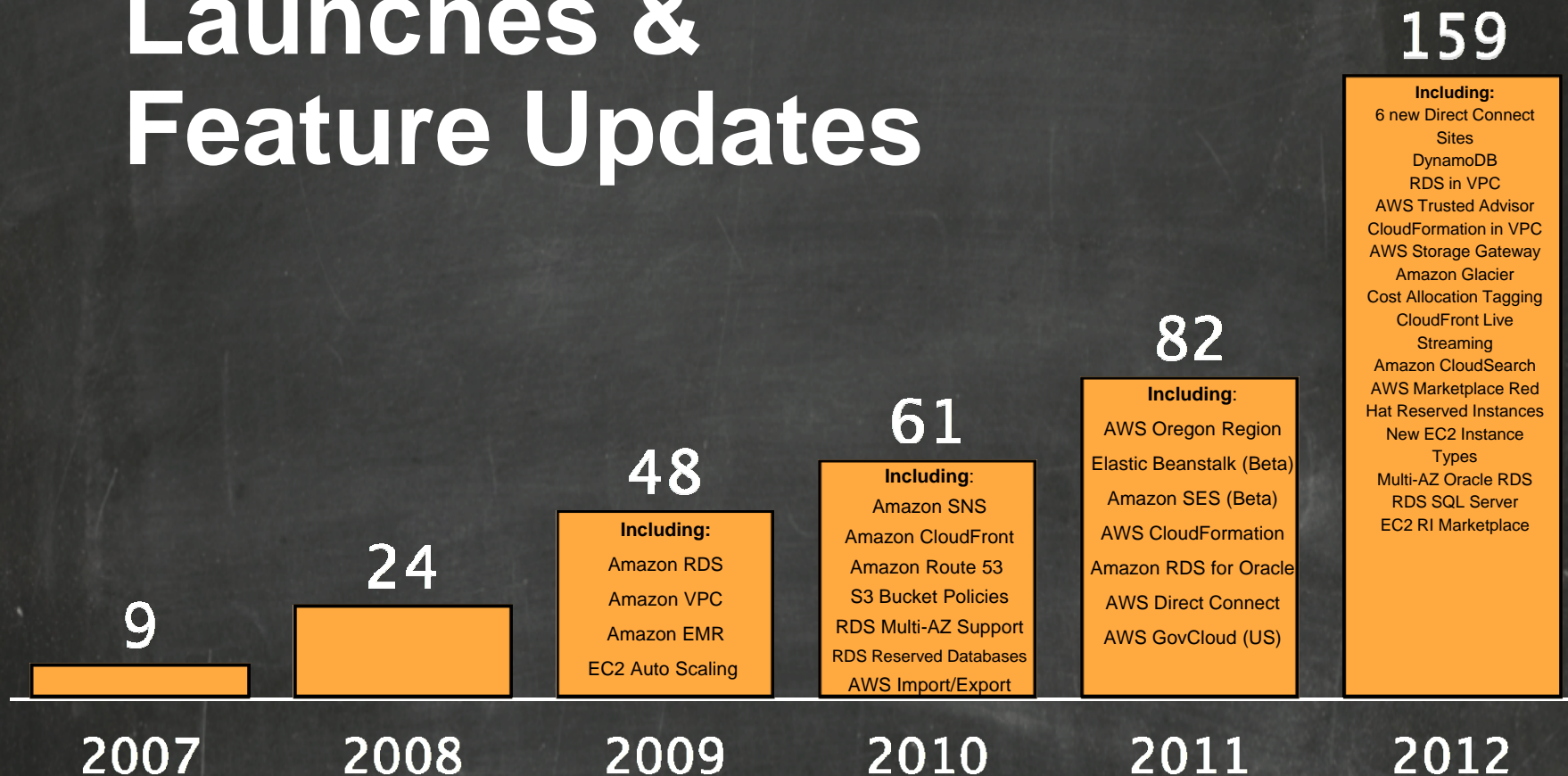
9 regions

25 availability zones

40 edge locations



AWS Service Launches & Feature Updates



53 AWS Service Launches & Feature Updates in Q1 2013

14

Including:

- AWS Management Console Tablet and Mobile Support
- Elastic Transcoder
- Price reduction for Amazon EC2, global expansion of M3 Standard Instances, and reduced data transfer pricing.

January

18

Including:

- Amazon Redshift Available to All Customers
- AWS OpsWorks
- IAM Role and Auto Scaling Support for Amazon
- CloudWatch Monitoring Scripts for Linux
- Amazon SQS and SNS Announce Lower Prices and Expanded Free Tiers, 50% price drop for SQS

February

21

Including:

- Lower Pricing for Amazon EC2 Reserved Instances
- Added ElastiCache to Free Usage Tier
- Amazon DynamoDB Reduced Prices
- AWS Elastic Beanstalk for Node.js
- Amazon RDS now supports 3TB and 30,000 Provisioned IOPS per database instance
- Announcing EBS-Optimized Support for Additional Instance Types

March

2003

amazon.com

\$5.2B retail
business

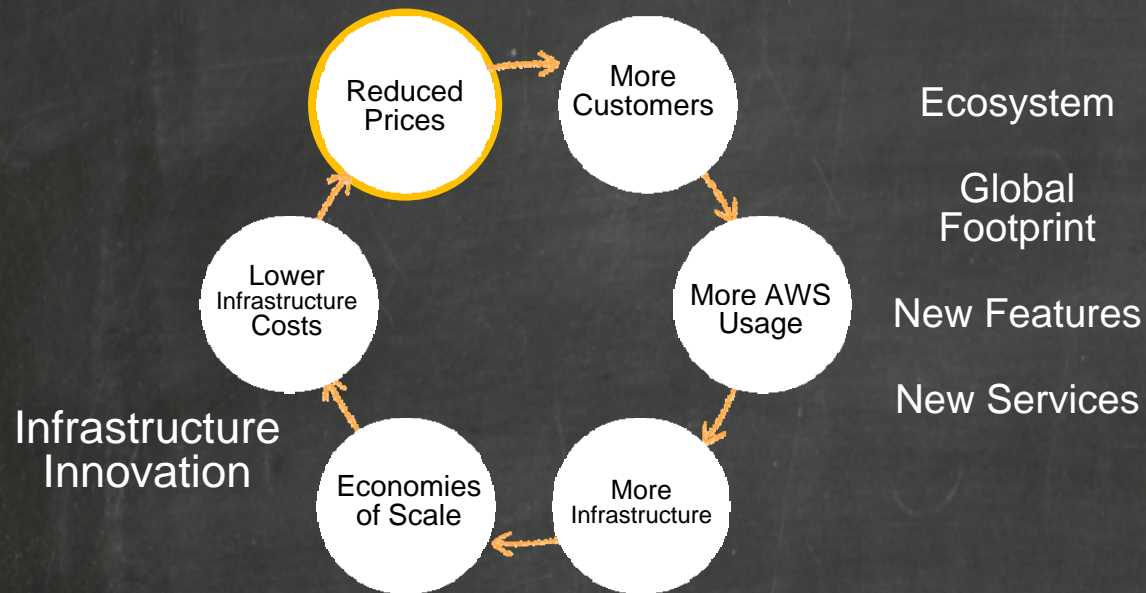
7,800
employees

A whole lot
of servers

2012

Every day,
AWS adds
enough
server
capacity to
power this
\$5B
enterprise

The AWS Price Reduction Philosophy



**31 Price
Reductions
Since 2006**

Obsessed with Helping Customers Save Money

AWS Trusted Advisor

Cost optimizations

Security & Availability checks

Performance recommendations

To: AWS Customer
From: Amazon Web Services
Subject: Potential Cost Savings

Dear Customer,
We have identified **\$49,000 of potential savings** in your current AWS deployment.

-Amazon Web Services

-Amazon web Services

-Amazon web Services

329,000
recommendations

\$22M
in annualized savings

Hundreds of Thousands of Customers in 190 Countries



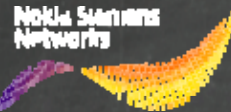
SHARP

The Washington Post

Newsweek

HITACHI

ERICSSON



LIONSGATE



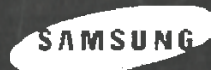
S&P
CAPITAL IQ



bankinter.



NASDAQ



ticketmaster



News International



TOSHIBA

The New York Times



Every Imaginable Use Case



Free steak campaign



Facebook page



Mars exploration ops



Consumer social app



Ticket pricing optimization

LIONSGATE

SAP & Sharepoint



Securities Trading Data Archiving



Gene sequencing



Marketing web site



Interactive TV apps



Financial markets analytics



R&D data analysis



Consumer social app



Big data analytics



Web site & media sharing



Washington Trust Bank

Disaster recovery



Media streaming



RED LION HOTELS CORPORATION

Web and mobile apps



THOMSON REUTERS
Streaming webcasts

The Washington Post

Facebook app



Flipboard
Consumer social app

Shell uses AWS to **Develop Software** Faster and Cheaper

THE AWS CLOUD
BRINGS BUSINESS
AGILITY AS SHELL
IS ABLE TO DEPLOY
SERVICES MUCH MORE QUICKLY

- Johan Krebbers
VP of Architecture



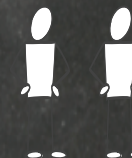
Core
Development
Team



Extra
Development
Resources



Remote Team



Contractor Team

Cloud delivers critical enterprise applications

LIONSGATE

SAP

Reduced
deployment time
from weeks to days



TOKYO
STOCK EXCHANGE

Oracle

Reduced dev &
test environment
costs


Galata Chemicals

SAP

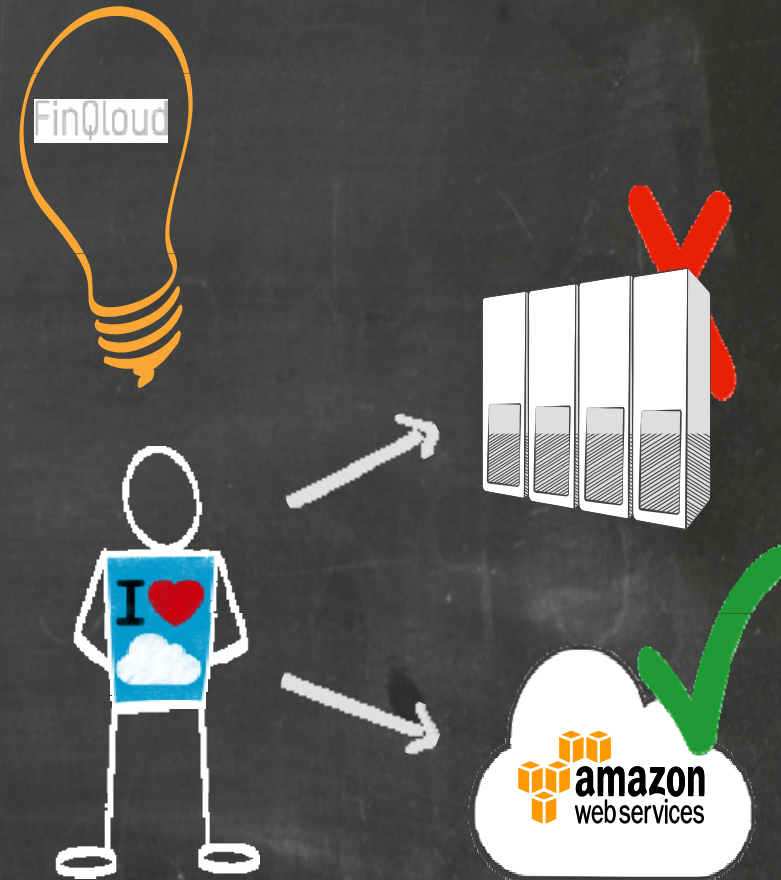
70% reduction in
operational costs

Nasdaq used AWS to Build a New Line of Business



WITH **FINCLOUD** WE LEVERAGE THE **SECURE, FLEXIBLE, AND COST-EFFECTIVE AWS CLOUD INFRASTRUCTURE** WHICH ENABLES **NASDAQ OMX** TO DELIVER A SOLUTION THAT IS **TAILORED** TO OUR CLIENTS' UNIQUE REQUIREMENTS IN A **SECURE, CONFIDENTIAL, COMPLIANT MANNER**.

- **Ted Myerson**
SVP and Global Head
of Access Services



Samsung Improved their Product Experience with AWS



WITH AWS CLOUD, WE MET OUR RELIABILITY AND PERFORMANCE OBJECTIVES AT A FRACTION OF THE COST; WE WOULD HAVE SPENT \$34 MILLION DOLLARS IN HARDWARE AND MAINTENANCE EXPENSES DURING THE FIRST TWO YEARS

- Chun Kang
Principal Engineer,
Visual Display Division



Saved \$34 Million

85% savings versus
traditional hosting

Now, the Cloud Brings You the World's Biggest Events



Thriving Partner Ecosystem

Consulting Partners



Technology Partners



Certifications & Accreditations for Workloads that Matter



FISMA



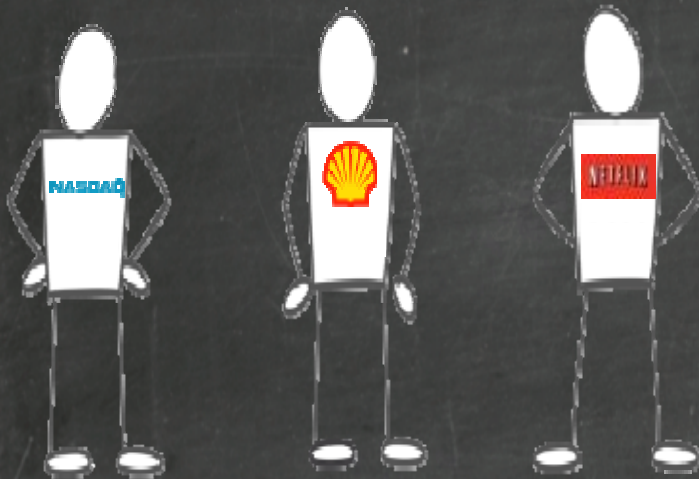
Motion Picture Association of
America

“Amazon Virtual Private Cloud offers an additional level of security and an ability to integrate with other aspects of our infrastructure.”

Dr. Michael Miller,
Head of HPC for
R&D



The Whole Customer Community Benefits from Security Improvements



Everyone's Applications

NASDAQ

Requirements

Shell

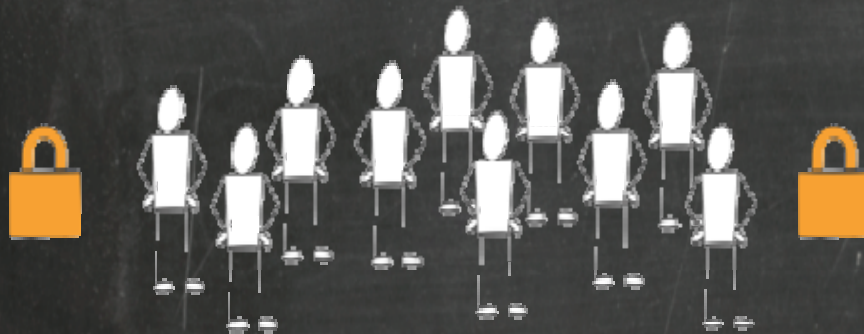
Requirements

NETFLIX

Requirements



Security Infrastructure



PLM SOLUTIONS ON THE AWS CLOUD



Dassault Systemes



“Moving PLM to the cloud is a **giant step in giving back our customers** the freedom, the power and the agility that they have been longing for. Amazon Web Services made it possible thanks to the **quality of its global, reliable, scalable and cost-effective cloud infrastructure,**”

Bernard Charlès, President and CEO, Dassault Systèmes.”.

Autodesk (Autodesk Seek)



“Together, Autodesk Seek and Amazon Web Services infrastructure provide a completely scalable and low cost solution for building data- and processing-intensive web-based applications,” said Haley. “In previous years this required significant upfront investment in physical infrastructure. Now, both **our time-to-market and risk have been significantly reduced.**”

Siemens PLM – Teamcenter on the cloud

Siemens PLM Software

SIEMENS

“The key benefit of **Teamcenter on the cloud** is the business flexibility it provides,”

**Eric Sterling, Senior Vice President,
Lifecycle Collaboration Software,
Siemens PLM Software. “**

“In today’s ever changing global landscape, the **flexibility** to **dynamically manage infrastructure** on the cloud gives customers the ability to **scale up computing resources with demand** and more importantly, **scale down costs if demand decreases**. This enables organizations to effectively manage IT budgets as an operating expense versus capital expense **which can improve profitability**.

PTC



Amazon Web Services is a **fully supported** deployment option on PTC WindChill

Why are customers
adopting cloud
computing?



1. Trade Capital Expense for Variable Expense

On-Premises



\$0 to get started

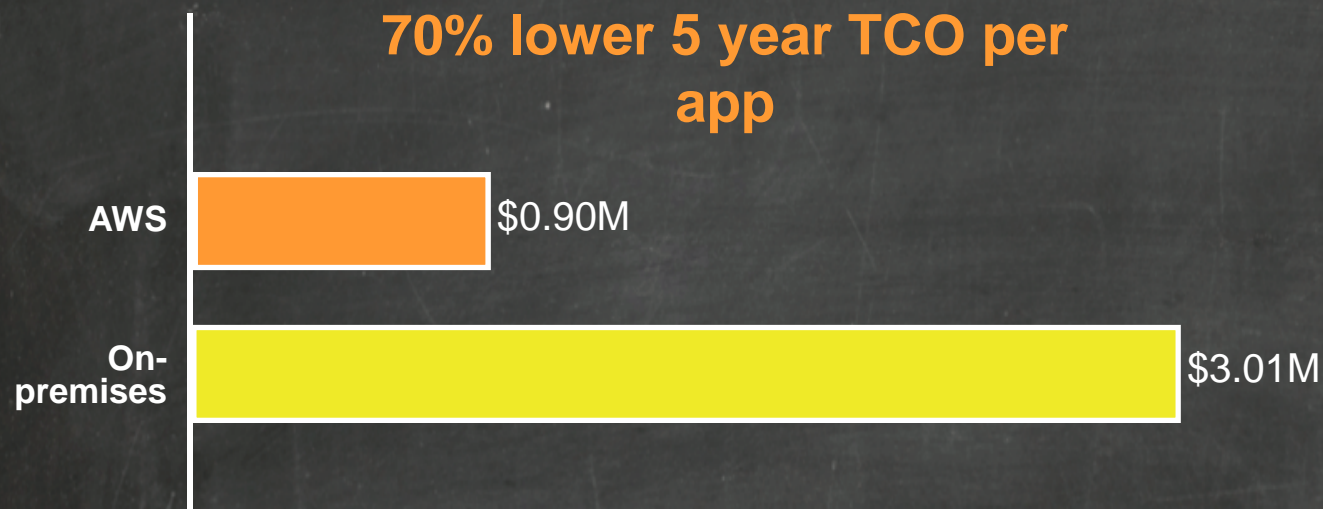
Pay as you go

Average of
400 servers
replaced per
customer



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

2. Lower Variable Expense Than Companies Can Do Themselves



50% reduction in analytics costs



Saved \$34M on SmartHub app

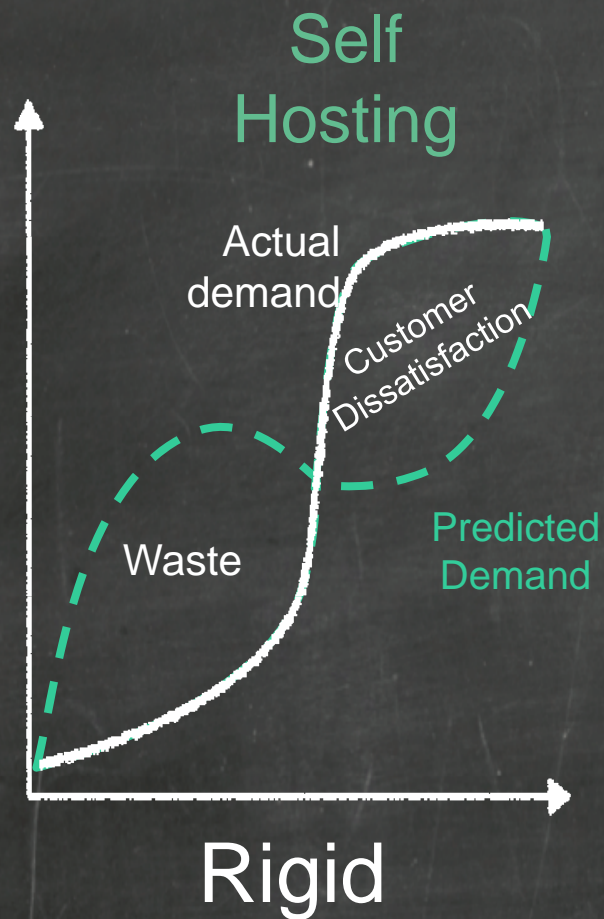


Commonwealth Bank

10's of millions of \$ saved with first 12 apps migrated to AWS

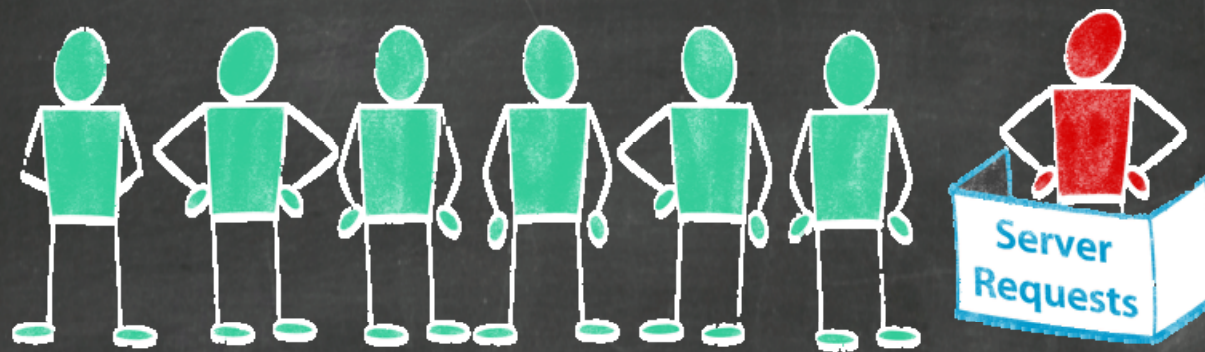
Source: IDC Whitepaper, sponsored by Amazon, "The Business Value of Amazon Web Services Accelerates Over Time." July 2012

3. You Don't Need to Guess Capacity



4. Dramatically Increase Speed & Agility

Old World: Infrastructure in **Weeks**



4. Dramatically Increase Speed & Agility

Old World: Infrastructure in **Weeks**



AWS: Infrastructure in **Minutes**

A screenshot of the AWS Management Console showing the 'Launch' button for a new instance. The console displays the following configuration: Instance Type: M3 Extra Large, Number of Instances: 1,000, Availability Zone: US-West-2b. The 'Launch' button is highlighted with a red box.

Add New Dev Environment
Add New Production Environment
Add New Environment in Japan
Add 1,000 Servers
Remove 1,000 servers

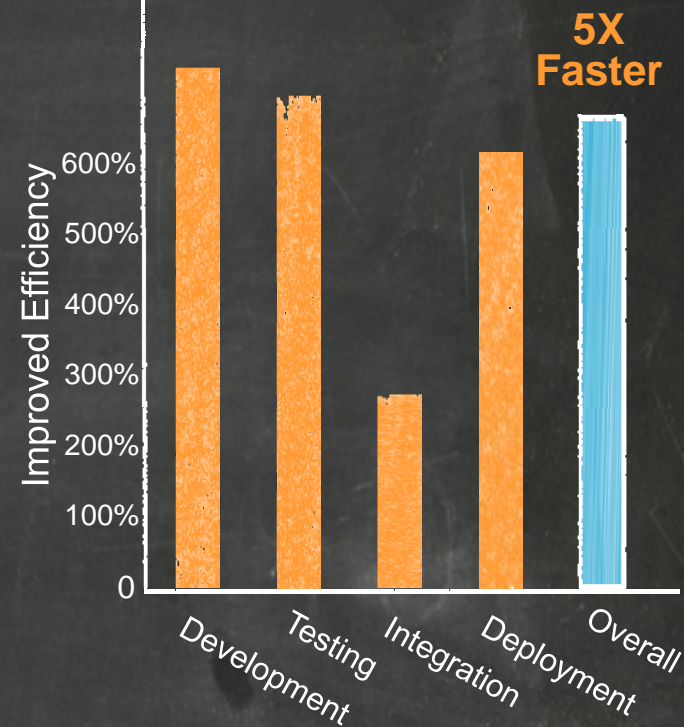
“We reduced application deployment times from **2 months to 3 days.**”

 **News International**

“Time to deploy went from **weeks to hours.**”

LIONSGATE

Comparison of developer efficiency with AWS and in-house alternatives



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

Increase Innovation When Experimentation Is Fast and Low Risk

Old world:

Experiment infrequently

Failure is expensive

Less innovation



AWS:

Experiment often

Fail quickly at a low cost

More innovation



5. Stop Spending Money on Undifferentiated Heavy Lifting

We take care of... so you don't have to...

Data Centers

Power

Cooling

Cabling

Networking

Racks

Servers

Storage

Labor

buy and install new hardware

set up and configure new software

build new data centers



6. Go Global in Minutes



The Benefits of Cloud Computing

Replace
CapEx with
OpEx

Lower
Overall
Costs

No More
Guessing
Capacity


Agility /
Speed /
Innovation

Shift Focus to
Differentiation

Go
Global in
Minutes



The Benefits Of The Cloud Are Only Possible IN THE CLOUD

	Replace CapEx with OpEx	Lower Overall Costs	No More Guessing Capacity	Agility / Speed / Innovation	Shift Focus to Differentiation	Go Global in Minutes
	✓	✓	✓	✓	✓	✓
"Private Cloud"	✗	✗	✗	✗	✗	✗

Customers are Struggling to Deliver on Promises of the “Private Cloud” Vendors

	Self-service Portals	Resource Automation	Resource Tracking	Cost Chargeback
Have you implemented these cloud features?	24%	27%	29%	14%

FORRESTER®

Forrester Foresights
Survey data , Q3 2012

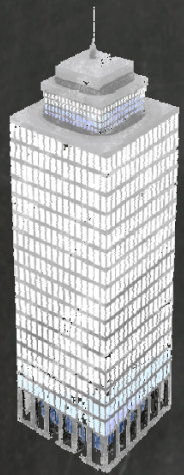
Many Enterprises Worry that These are the Only Two Choices

Build a
“private”
cloud

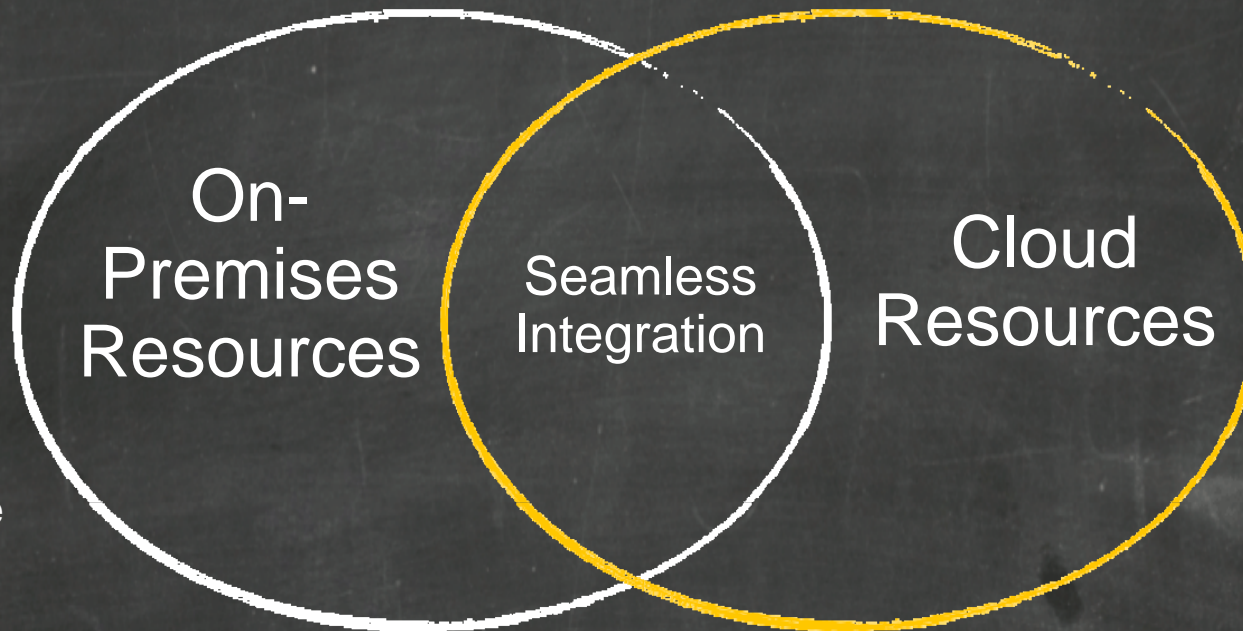


Rip and
replace with
AWS

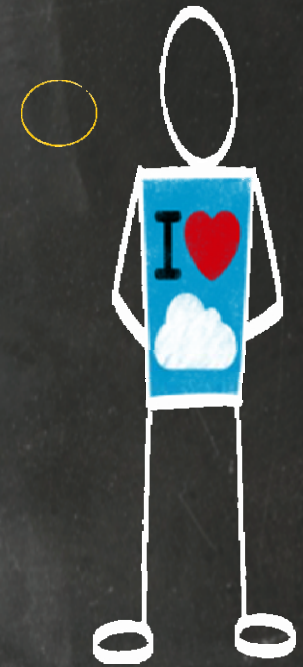
The Good News is that the Cloud isn't an 'All or Nothing' Choice



Corporate
Data
Centers



4 REASONS WHY YOU SHOULD THINK ABOUT **PLM ON THE CLOUD**



Reason #1 – Design for everyone



- Provide the same tools to more teams globally
- Don't need heavy upfront IT investment from small design houses or department

Reason #2 – Focus on your core skills



- Leave the undifferentiated heavy lifting to us
- Spend more time designing and customizing products your customers love
- Replicate best practices easily

Reason #3 – Accelerate Time to value



- Deploy infrastructure in minutes instead of months
- Delivery fully capable proof of concept with zero capital outlay and instant provisioning
- Collaborate globally on the same platform
- Iterate over design quickly

Reason #4– Utilize our investment in security



FISMA



Thank You

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Abhishek Sinha

Amazon Web Services