

Amazon Web Services

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Amazon



Retail Business

**Tens of millions of
active customer
accounts**

**Seven countries:
US, UK, Germany,
Japan, France,
Canada, China**



Seller Business

**Sell on Amazon
websites**

**Use Amazon
technology for your
own retail website**

**Leverage Amazon's
massive fulfillment
center network**



Developers & IT Professionals

**On-demand
compute and
storage
infrastructure for
hosting IT solutions**

**Over 490,000
registered
developers**



Amazon Web Services

Custom Applications and Services

Database
Amazon SimpleDB

Content Delivery
Amazon CloudFront

Queues
Amazon Simple Queue
Service (SQS)

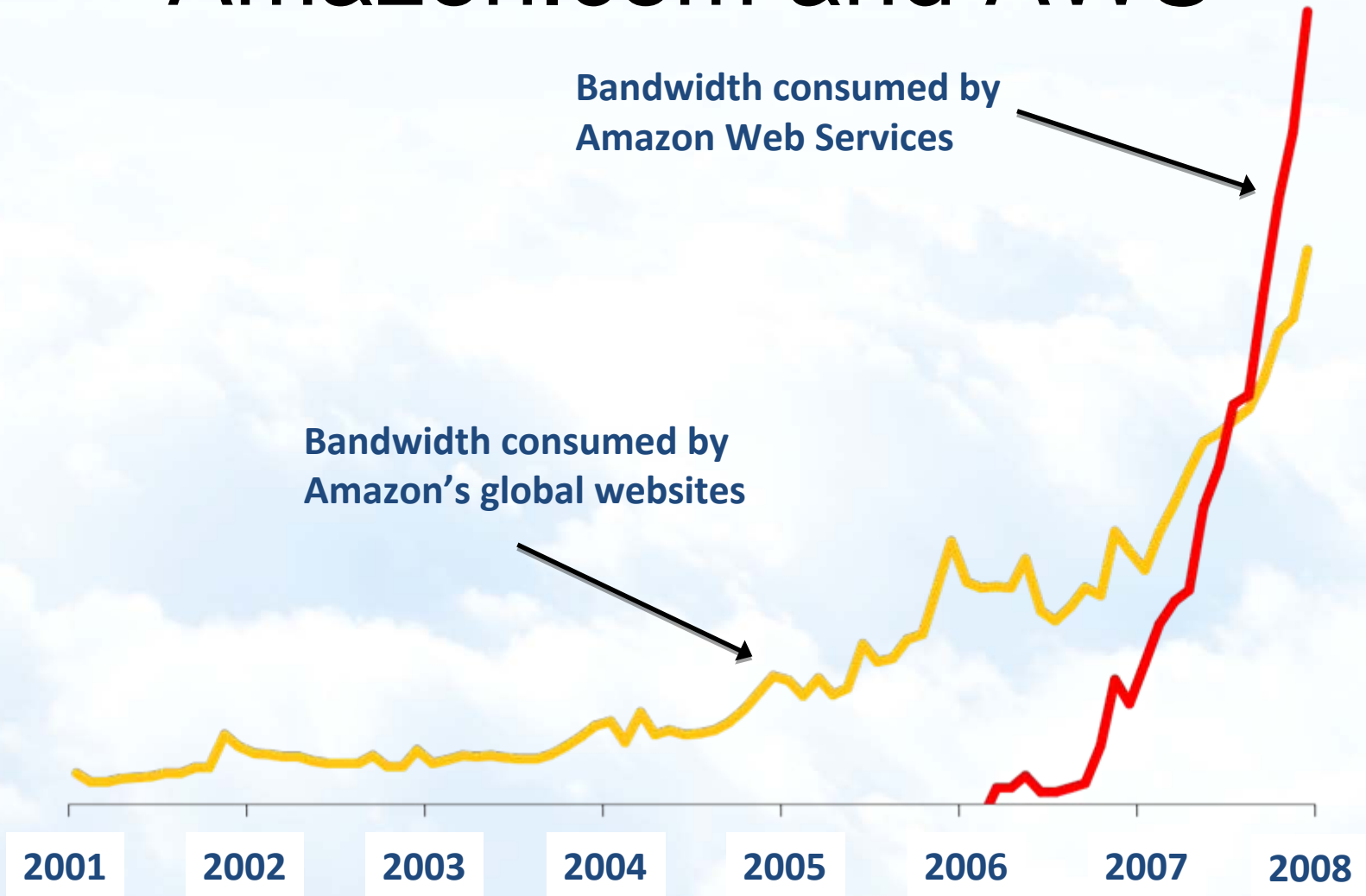
Compute Power
Amazon Elastic Compute Cloud (EC2)

Storage
Amazon Simple Storage Service (S3)

Amazon.com and AWS

Bandwidth consumed by
Amazon Web Services

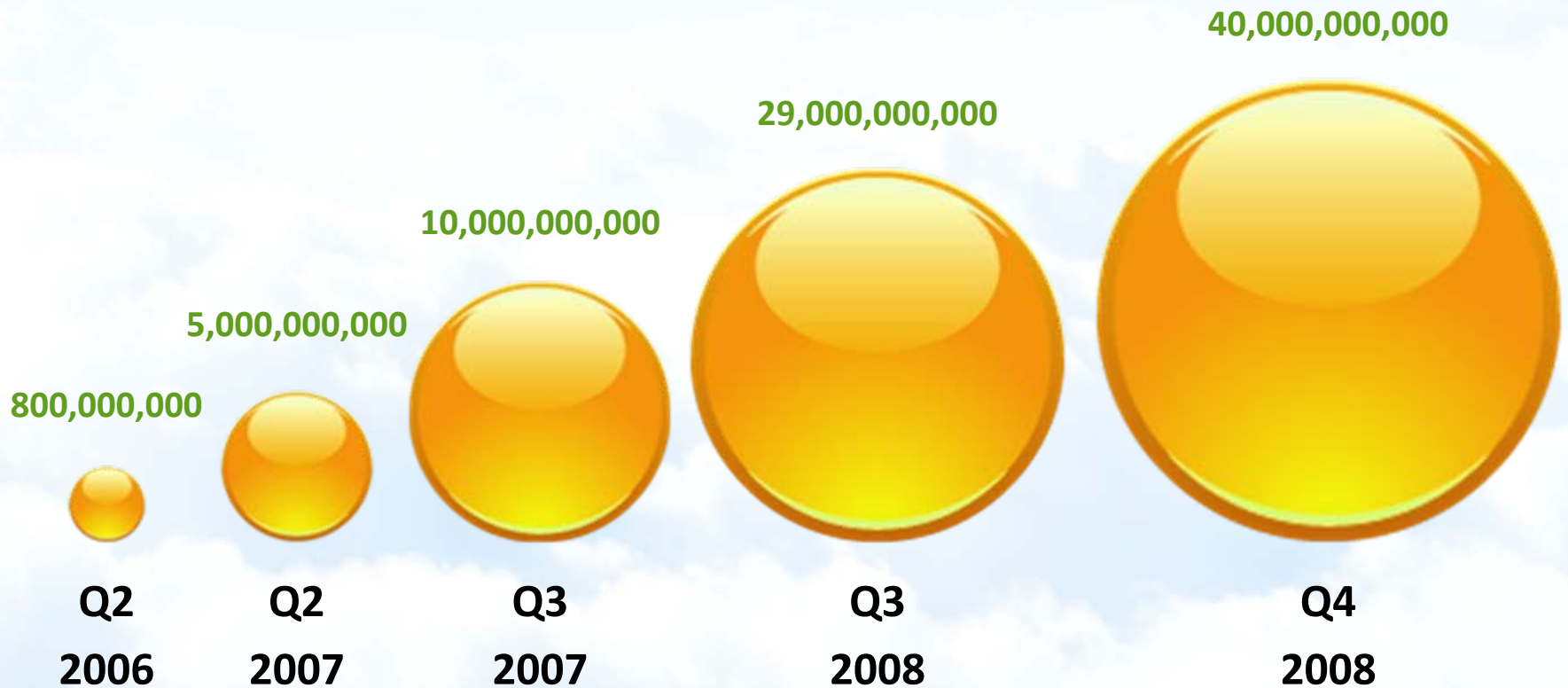
Bandwidth consumed by
Amazon's global websites



AWS Customer Momentum



Amazon S3 Momentum



Total Objects Stored in Amazon S3

AWS Global Reach



 Amazon EC2

 Amazon S3

North America and Europe

 Amazon CloudFront

Ashburn, VA / Dallas, TX /
Los Angeles, CA / Miami, FL / Newark, NJ /
Palo Alto, CA / Seattle, WA / St. Louis, MO /
Amsterdam / Dublin / Frankfurt /
London / Hong Kong / Tokyo

Why Are People So Excited?

What You Want

Your Idea



**Successful
Product**

Reality



Heavy Lifting = Price of Admission

Server hosting

Contract negotiation

Bandwidth management

Purchase decisions

Moving facilities

Scaling and managing physical growth

Heterogeneous hardware

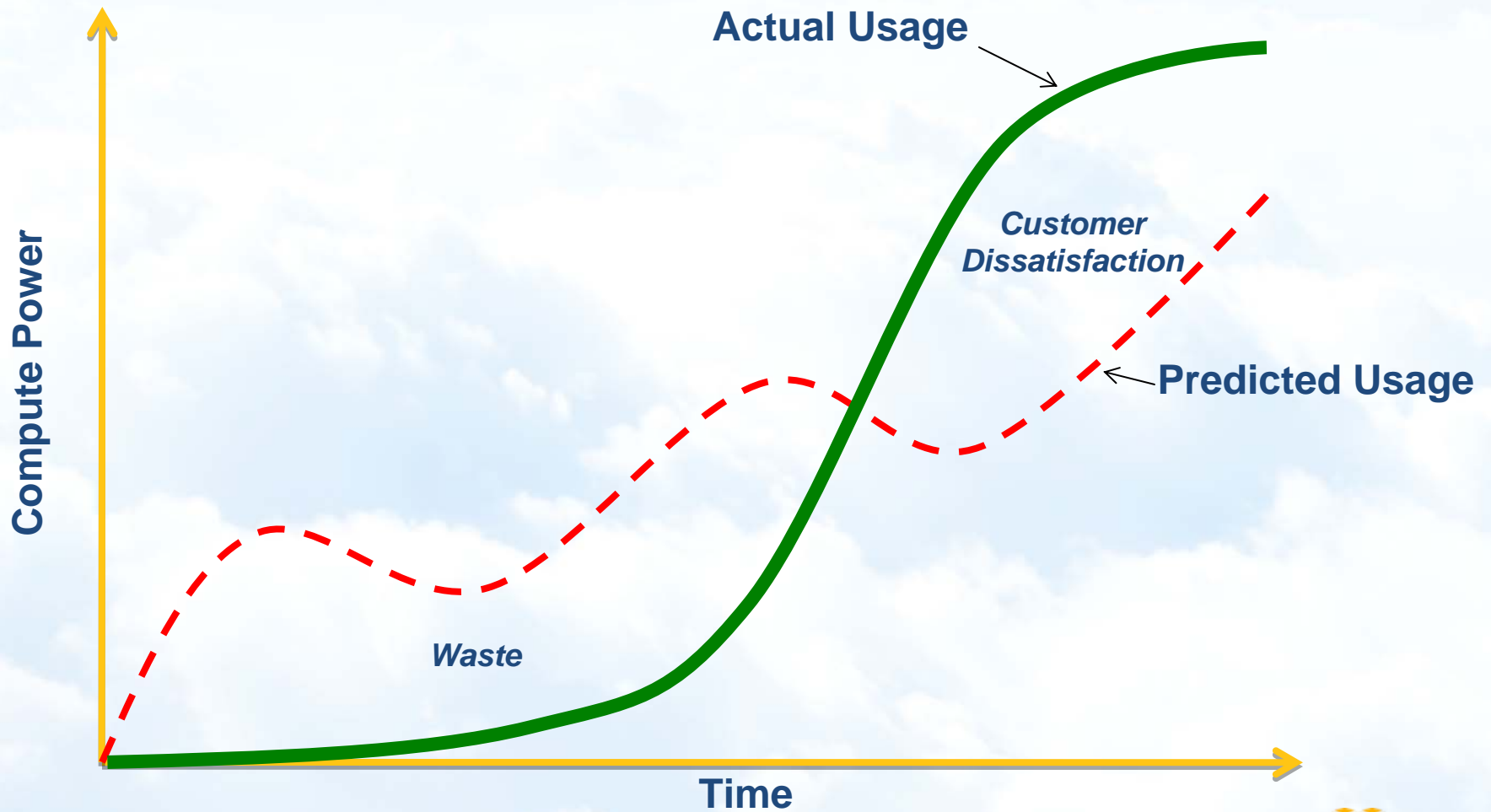
Legacy software

Coordinating large teams

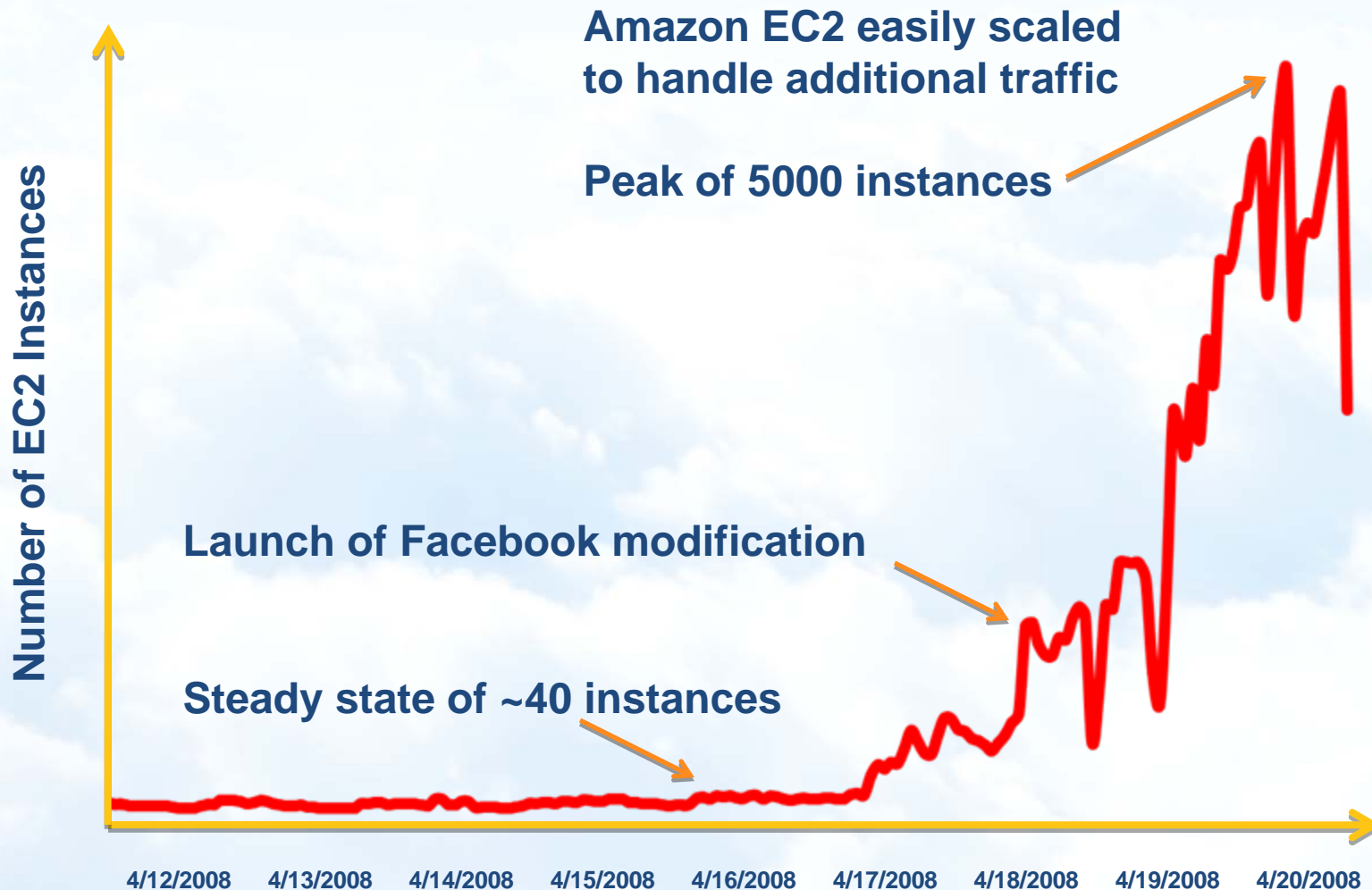
It Gets Worse...



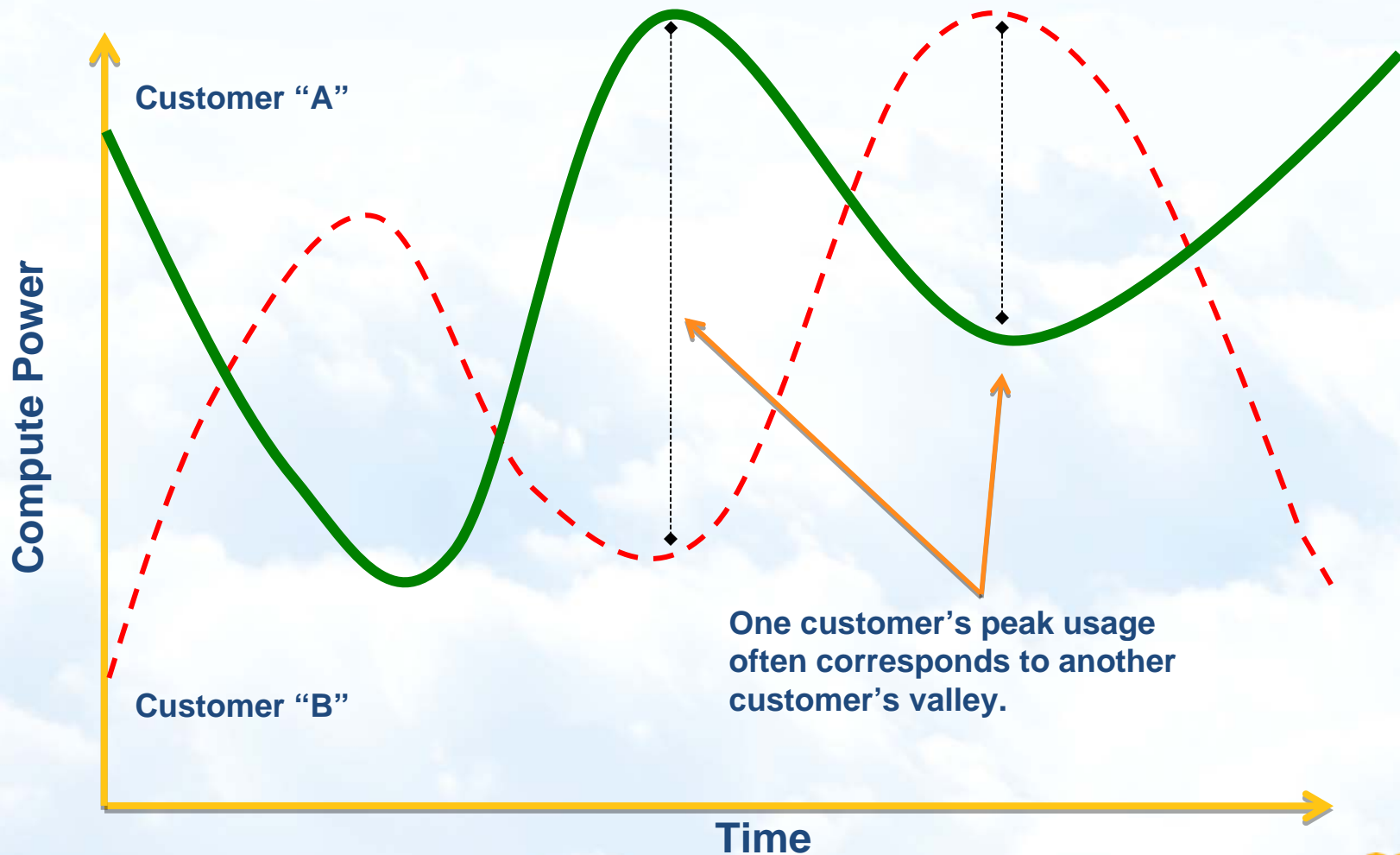
Predicting Infrastructure Needs



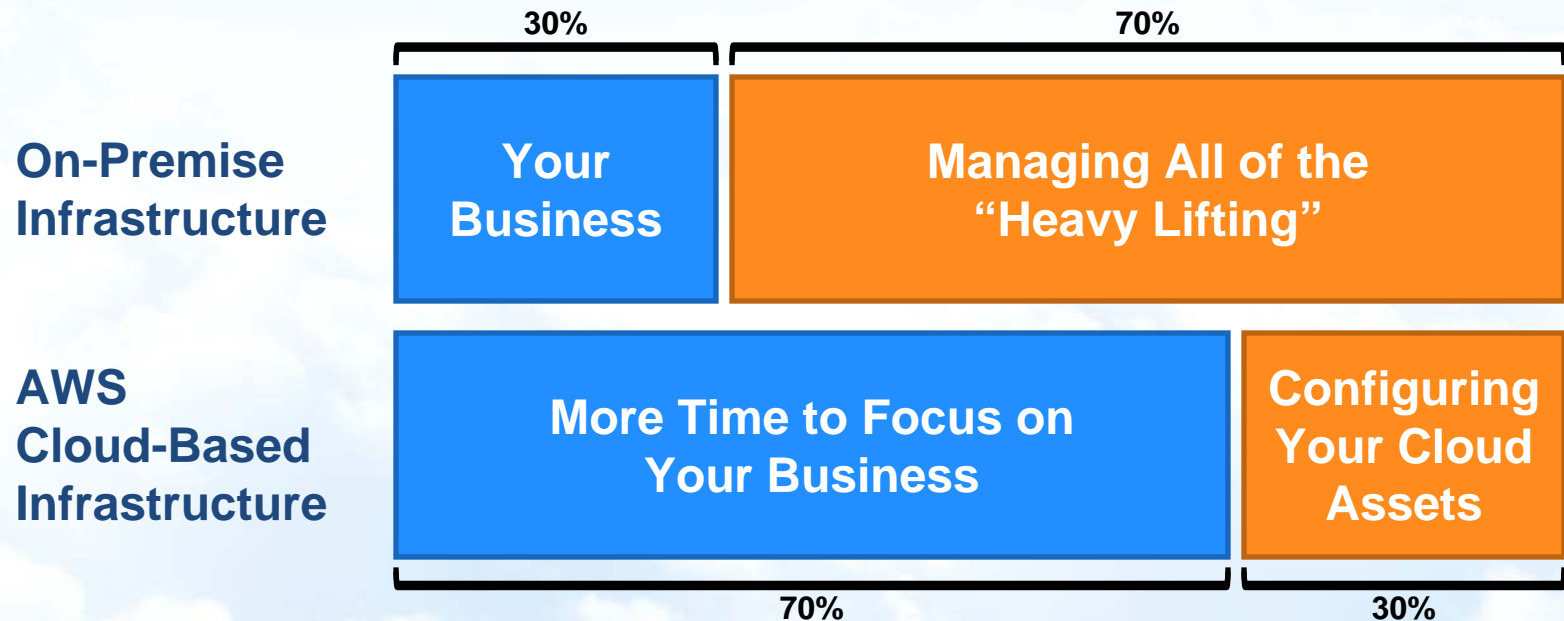
Animoto and Amazon EC2



Amortizing Infrastructure Needs



The AWS Cloud



The AWS cloud provides reliable and dependable on-demand infrastructure that frees time and expense for you to focus on innovating for your business.

Amazon Web Services (AWS)

- Massive compute power
 - Amazon Elastic Compute Cloud (EC2)
- Massive storage
 - Amazon Simple Storage Service (S3)
 - Amazon SimpleDB
 - Amazon Simple Queue Service (SQS)
- Content delivery
 - Amazon CloudFront
- Payments and billing
 - Amazon Flexible Payments Service (FPS)
 - Amazon DevPay
- On-demand workforce
 - Amazon Mechanical Turk

AWS Principles

Reliable

Scalable

Low-Latency

Easy to Use

Inexpensive

The Bottom Line Benefit

The AWS cloud turns capital expenses into variable costs while preserving flexibility and enhancing scalability, availability, and security

The AWS Cloud: A Natural Evolution

Industry Trends

Software as a Service



Host any solution in a scalable, reliable environment

Grid Computing



Take advantage of thousands of networked servers for virtually unlimited compute power

Virtualization



Employ virtual machines for complete flexibility in your development platform

Service Oriented Architectures



Use web services to programmatically control infrastructure from within apps



Advantages of the AWS Cloud

Offloads Heavy Lifting

Gives you access to massive data centers
Maintain the flexibility your business demands
Use only the capacity you need, when you need it

Lowers Costs

Eliminates up-front capital expenditures
Significantly reduces ongoing operational expenses
Offers a pay-as-you-go utility computing model

Reduces Time to Market

Eliminates hassle of configuring data centers
Reduces time to pilot and test projects
Enables you to focus on adding value to your business

Many Uses for AWS

- Elastic Computing
- Media Distribution
- Scalable Web Sites
- Business Continuity (Backup/Recovery)
- Record Retention and Management
- Financial Applications
- High-Performance Computing
- Software Development/Testing

AWS In the Enterprise



Development Organizations

- Use development platforms you already know
- Fast access to compute power and storage
- Automatically scale to the needs of your business
- Pay only for what you use, with no commitments



IT Organizations

- Secure, dependable, and fast infrastructure services
- Easily provision resources for one-off projects
- Service the needs of the entire organization without jeopardizing in-progress projects

Enterprise Customers Using AWS

Elastic Computing

The New York Times

Media Distribution



Scalable Web Sites

ESPN

Backup and Recovery

SanDisk 

Content Delivery

woot!

Financial Applications

NASDAQ

Large-scale Simulation



Questions You May Have

- Security?
- Availability?
- Scalability?
- Performance?

Technical Heritage

- Technology investment in the billions of dollars
- Amazon is itself a \$15B mission-critical real-time online transaction processing enterprise
- Distributed computing infrastructure honed for 13+ years

AWS Security

- Physical access restricted, based on business need
- Amazon EC2 security
 - Host operating system isolated from guest operating systems
 - Firewall lives in hypervisor layer and denies all traffic by default
 - Traffic to/from instances must be explicitly authorized by users
 - X.509 certificates or Secret Access Key required for all API calls
 - API calls may be encrypted in transit
 - Inherent protection against DDoS, MITM, IP Spoofing, port scanning, and packet sniffing
- Amazon S3, Amazon CloudFront, and Amazon SimpleDB security
 - Write and Delete permissions controlled by multiple levels of ACLs
 - Data accessible via SSL encrypted endpoints, if the user desires
 - Data may be encrypted when “at rest” within the system
 - No external access to deleted objects

AWS Availability and Reliability

- Availability Zones within Amazon EC2 to enable resiliency even in case of single location failure
- Amazon S3 objects are stored in multiple physical locations
- All hardware and networking components are designed for redundancy
- Large, 24x7, dedicated operations teams
- Same operations infrastructure and experience as Amazon.com retail sites

AWS Scalability

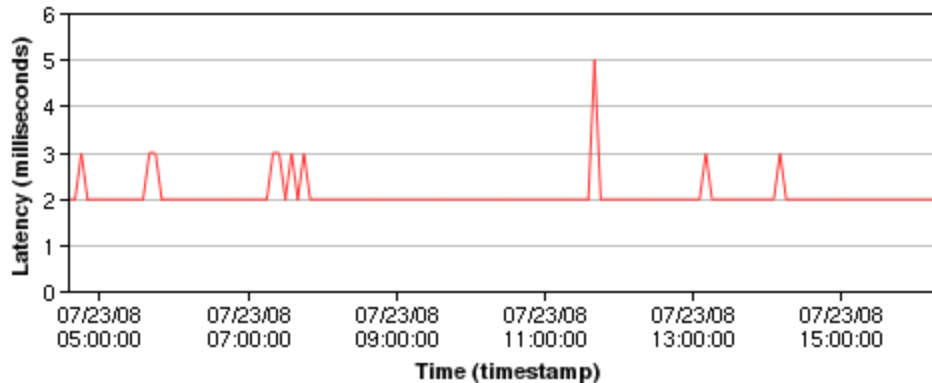
- Architectural design
 - Networking substrate designed for redundancy and ability to add capacity at each link
 - Multiple redundant facilities within each geographic region
 - Multiple redundant transit points and transit providers for each facility
 - Traditional facility-level redundancy (UPS, generator, etc.)
 - Loosely coupled software architecture highly tolerant of infrastructure failure

AWS Performance

- Very high, dedicated bandwidth between Amazon EC2 fleet and all other services
- Network interconnects within a rack and between racks are designed not to be bottlenecks
- Intelligent use and deployment of Agg Routers, Core Routers, and Load Balancers
- Constant focus on throughput and latency
- Latency comparable with latency found in customer-owned and operated data centers

AWS Monitoring and Management

- Amazon collects millions of measurements per second across 1000's of applications



AWS Recent Progress

New Services

Amazon CloudFront

Amazon EC2 and S3 in Europe

New Tools and Programs

Premium Developer Support

Service Health Dashboard

Management Consoles

New Partnerships

IBM middleware support

Oracle Database support

OpenSolaris and MySQL support

Red Hat Enterprise Linux support

JBoss support

Accenture, Cap Gemini partnerships

Salesforce.com integration

New Features

Windows Server support

EC2 GA with a 99.95% SLA

Elastic IP Addresses

Availability Zones

Large Instance Types

CPU-Intensive Instances

Elastic Block Store

SimpleDB QuerySort

SimpleDB QueryWithAttributes

Template HITs and Bulk Creation



Trends We're Seeing

- Use of multiple services in one application
 - Amazon EC2, S3, CloudFront, and SQS usage is very common
- Massive datasets & large-scale parallel processing
 - Hundreds of terabytes of data per application
 - Hadoop, Condor, MPI Blast
- Enterprise adoption on the rise
 - Financial services, sales force automation, high performance computing, corporate websites
- Increased need for support and transparency
 - Service Health Dashboard
 - Premium Developer Support
- Running more sophisticated software
 - JBoss, MySQL
 - Enterprise stacks and applications

AWS Future Investments

- Continued focus on security features and relevant industry certifications
- Continued focus on operational excellence
- Load balancing, auto-scaling, and monitoring of cloud-based assets
- U.S. and international expansion
- Localization of technical resources
- Additional services

Diverse Customer Momentum

RIGHT SCALESM

37signals 

mailtrustTM
BUSINESS EMAIL HOSTING

NASDAQ[®]

renderRocket 

NetSeer

 **ringo**TM


 **liberated syndication**
podcasting made easy

ESPN

 **Powerset**
NATURAL LANGUAGE SEARCH.

Microsoft[®]

SanDisk[®]
STORE YOUR WORLD IN OURS[®]

 **redhat.**

 **Nabbr**

BlingeeTM

smugmug 

spock

accenture

ANIMOTO

moqulusTM
LIVE BROADCAST

 **WORDPRESS**


SECOND LIFE

Your World. Your Imagination.

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The New York Times

 **amazon**
web services[™]

Great Partner Momentum

