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Android Application Online

Deploy Grails Application on Amazon Web Service

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Gopalgo, Your neighbourhood Expert

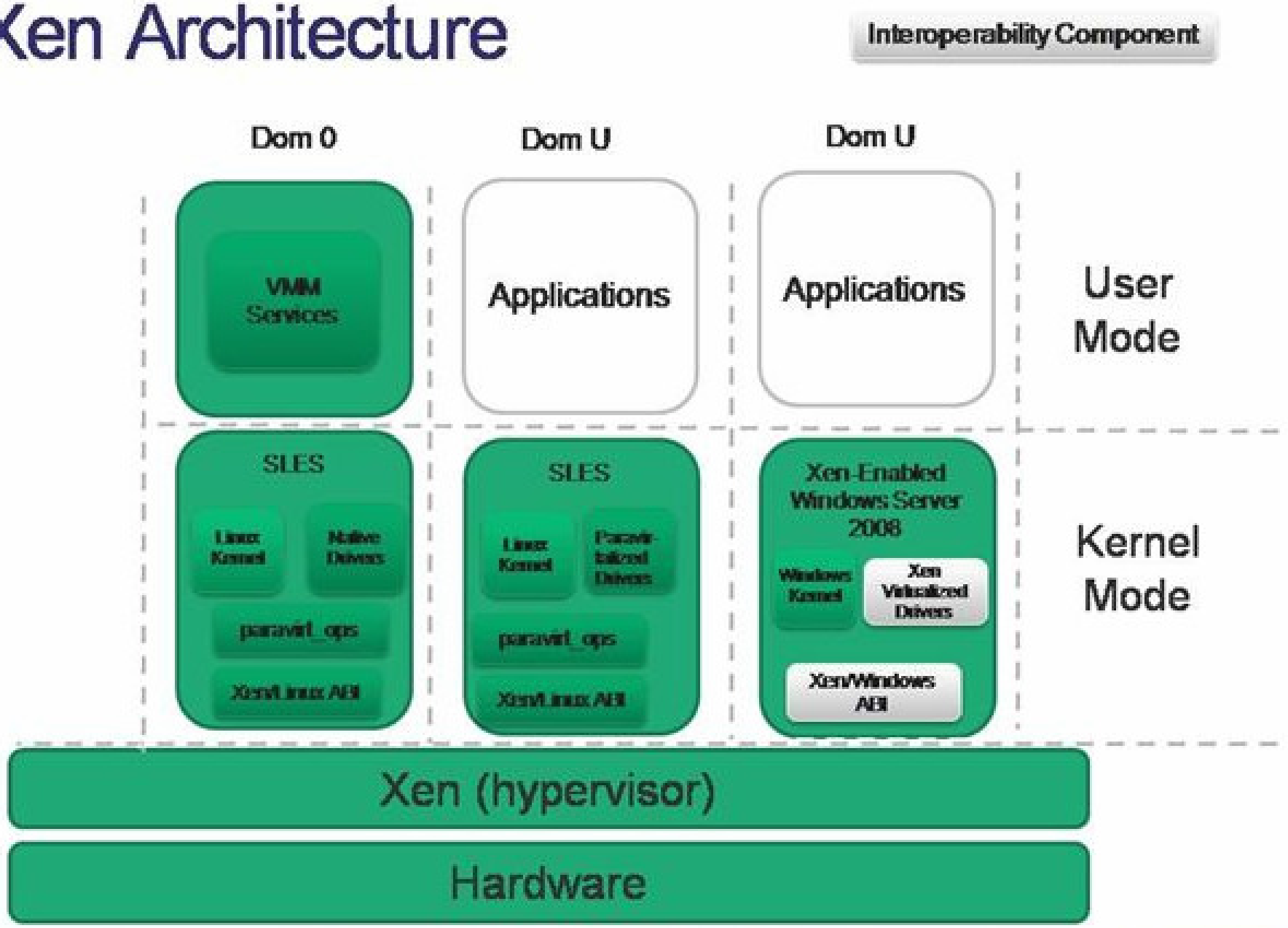
Agenda

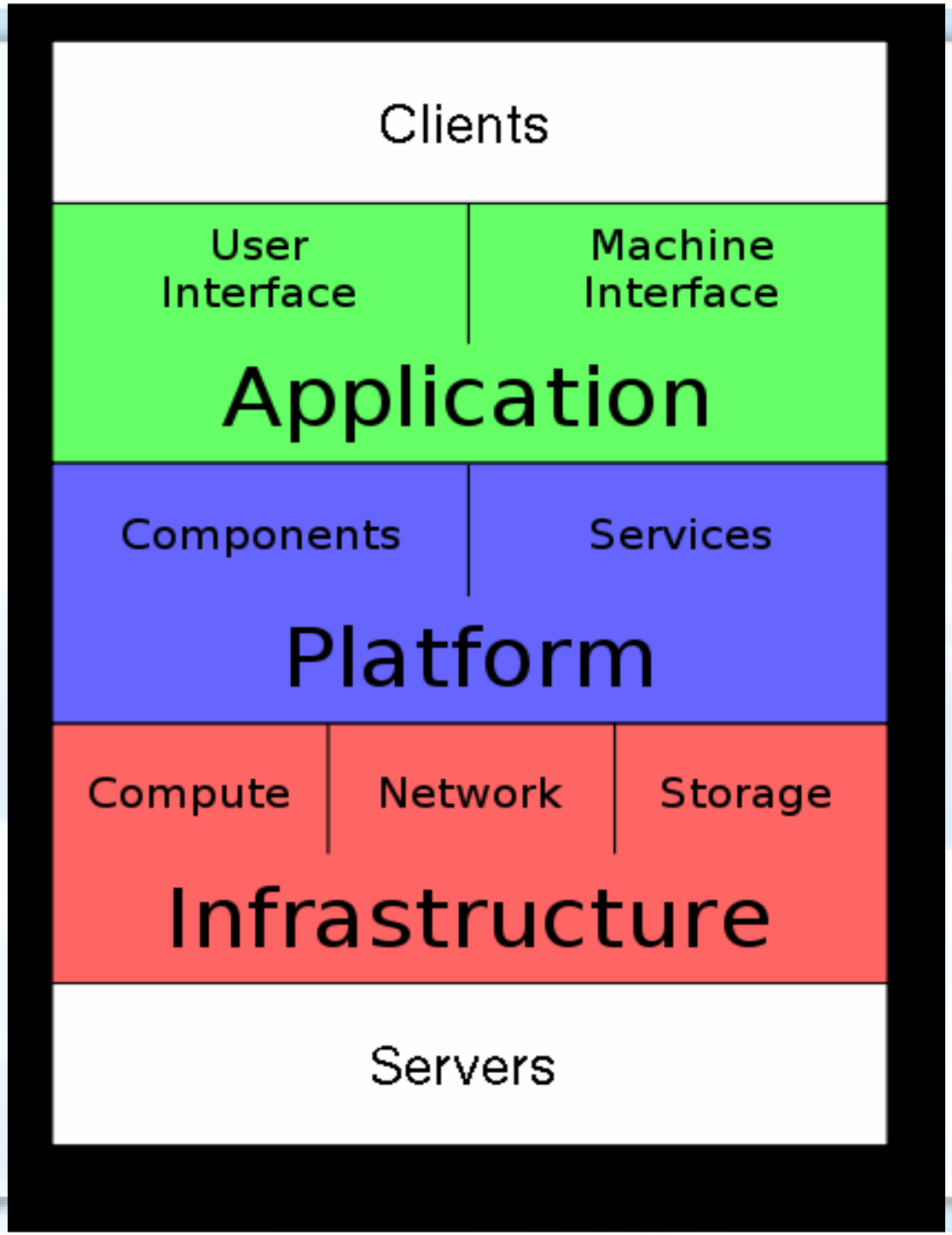
- What is Cloud Compute
- Cloud Compute Lead Providers
- Amazon Web Service glance
- Setup Ubuntu on AWS EC2
- Java Runtime tune-up
- Search Engine Optimization (SEO)
- FAQ

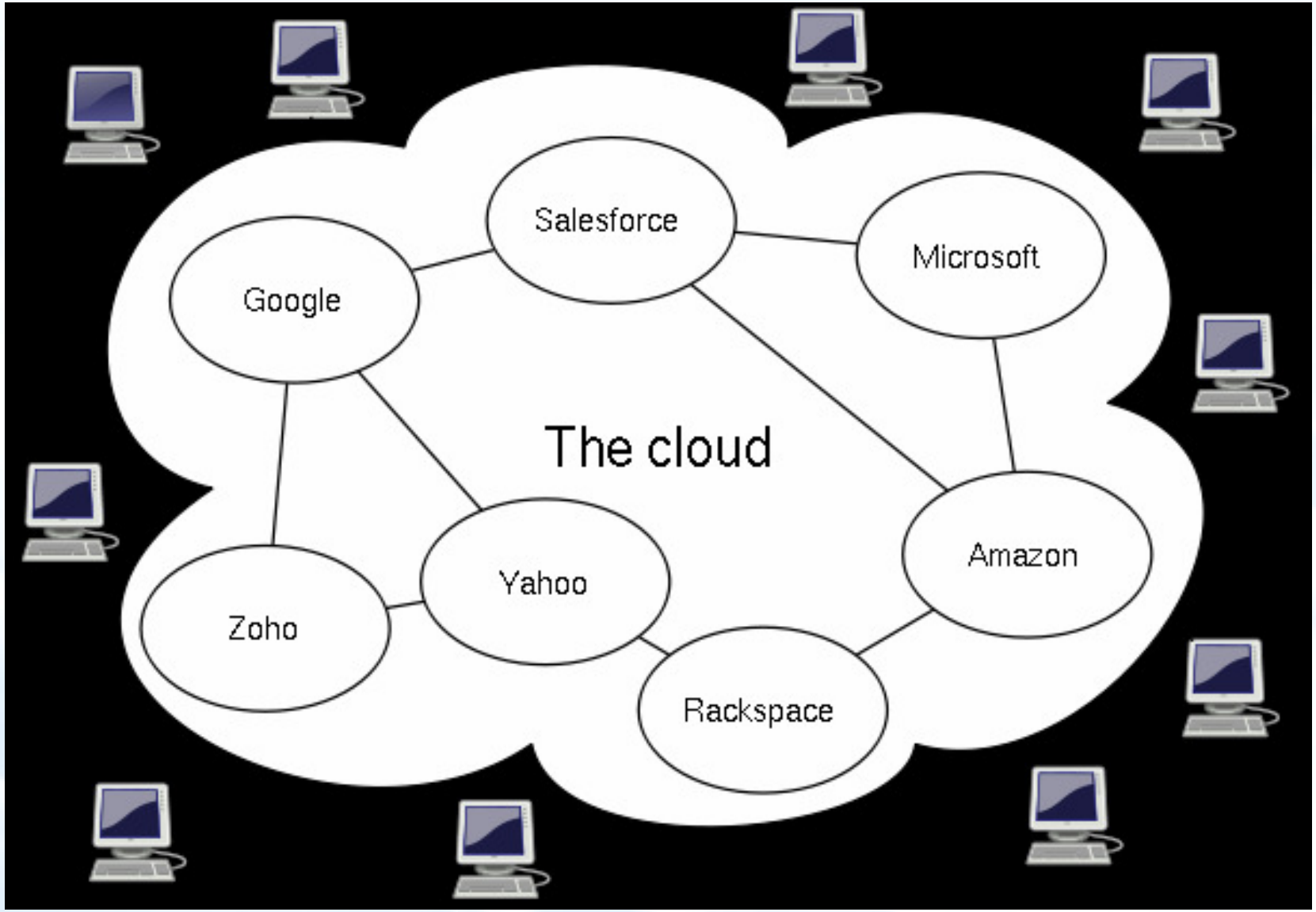
Cloud Compute

- In concept, it is a paradigm shift whereby details are abstracted from the users who no longer have need of, expertise in, or control over the technology infrastructure "in the cloud" that supports them.[2] Cloud computing describes a new supplement, consumption and delivery model for IT services based on the Internet, and it typically involves the provision of dynamically scalable and often virtualized resources as a service over the Internet -- Wikipedia

Xen Architecture




Clients
User Interface
Machine Interface
Application
Components
Services
Platform
Compute
Network
Storage
Infrastructure
Servers


Salesforce
Microsoft
Google
The cloud
Amazon
Yahoo
Zoho
Rackspace

Cloud Providers

- Google AppEngine
- Microsoft Azure
- Sales Force
- Amazon AWS
- RackSpace
- Mobile Me
- SliceHost
- ……

AWS Architecture Training
Cloud Computing

Module 02 – Cloud Computing

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Module Overview

- Definition
- Motivation
- The 70/30 Switch
- Features / Attributes
- Amazon's Approach
- AWS Markets

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Amazon Has Three Parts

1

2

3

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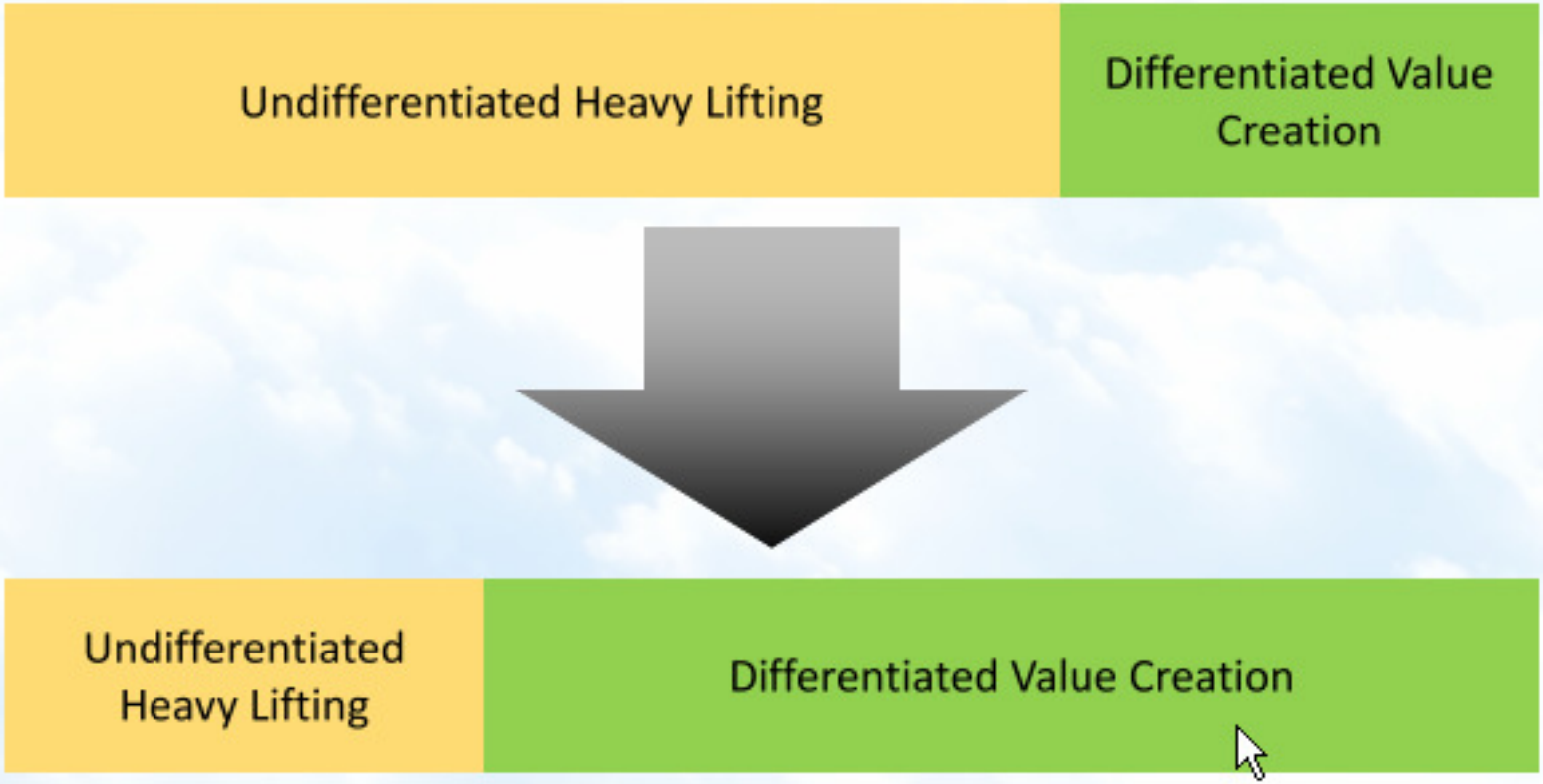
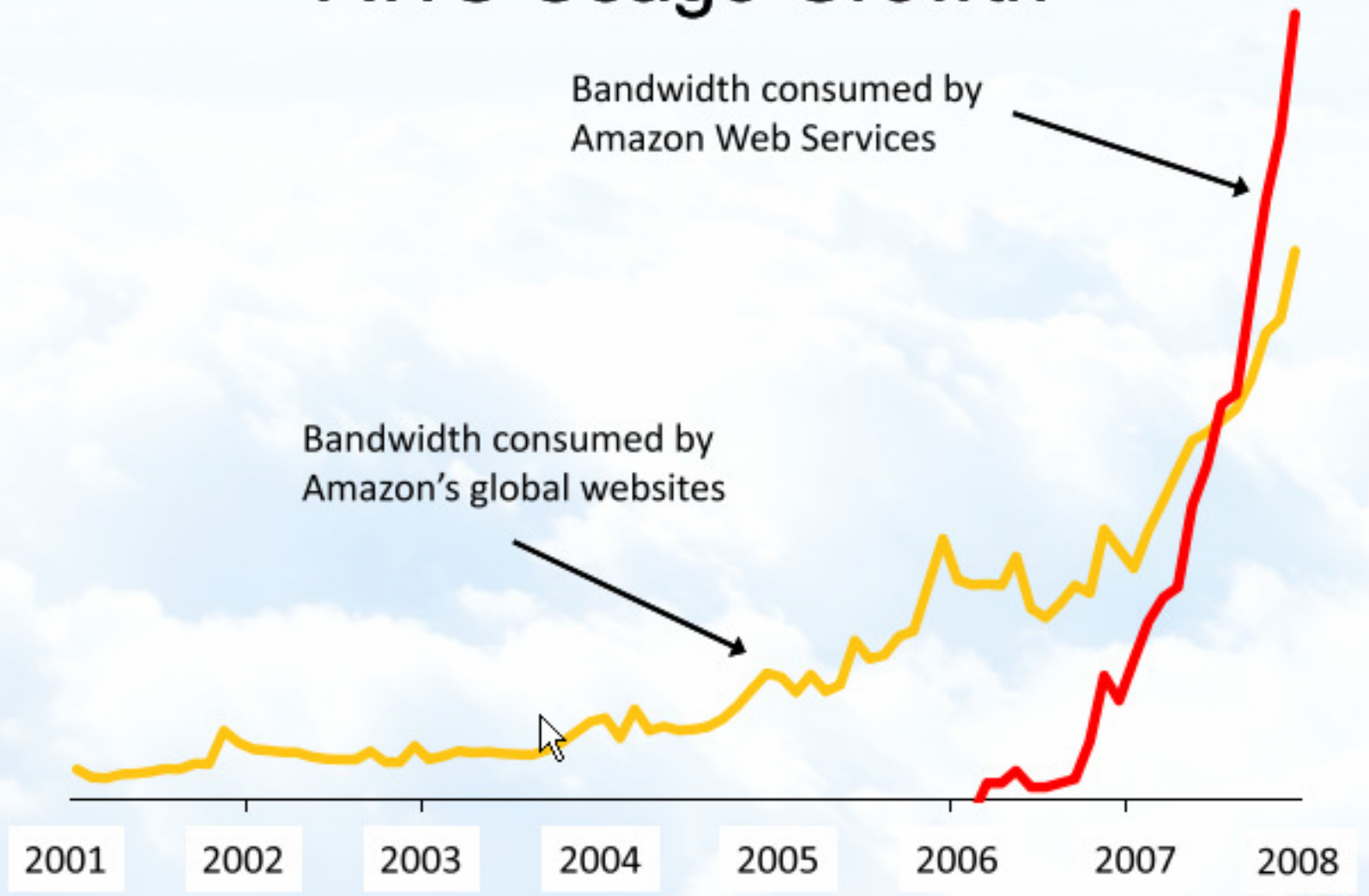
Characteristics of Cloud Computing

Characteristic	Benefit
XML Web Services	Well-defined industry standard
Abstract Resources	Focus on your needs, not hardware specs
On-demand Provisioning	What you need, exactly when you need it
Elastic Scale	Cloud is conceptually made of “infinite” capacity. Scale up and down as needed
No Up-front Hardware Investment	CapEx -> OpEx
Loosely Coupled	Pick and choose the components you need. One does not require others
Software Agnostic/Web Services API	Linux, Windows, Database, App Server, Security, etc.
Utility Consumption and Pricing	Only pay for what you use – No Contracts

The 70/30 Switch



AWS Usage Growth



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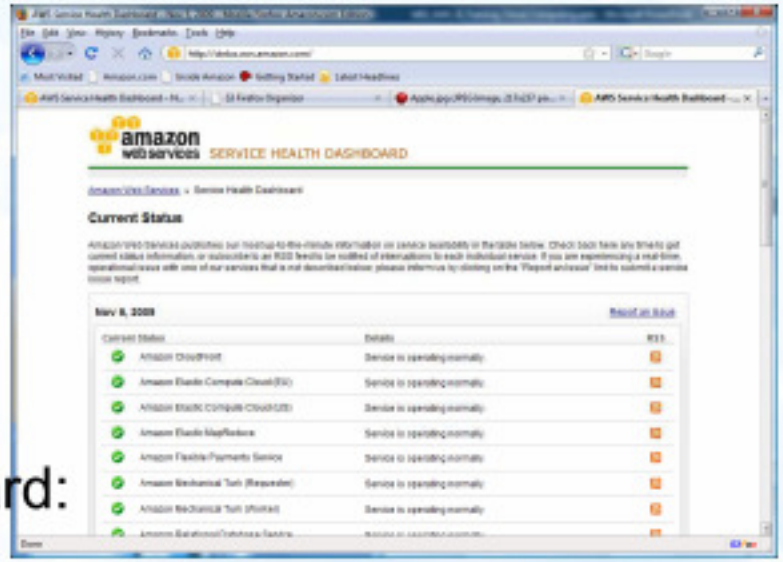
Important AWS Sites

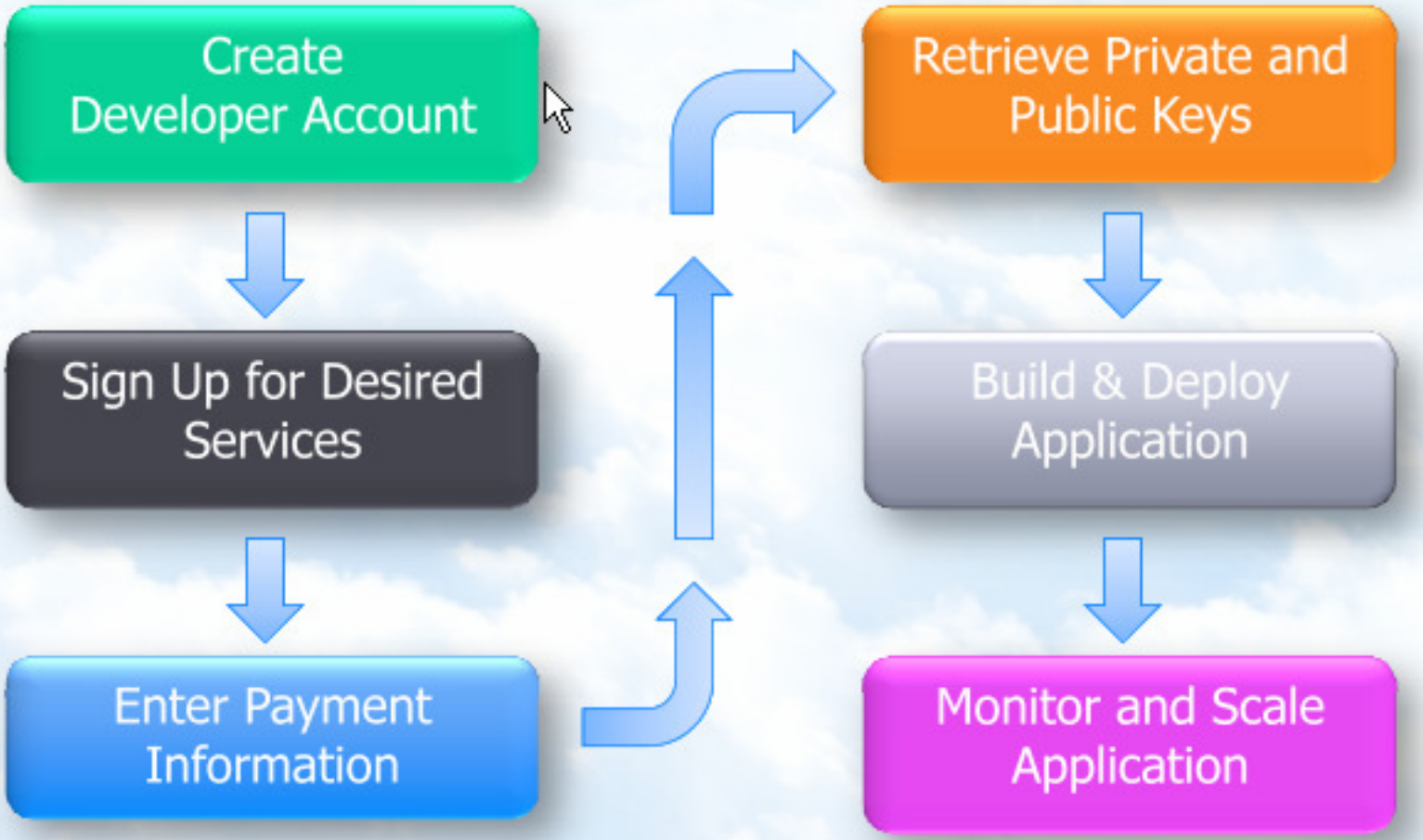
- AWS Home Page
  aws.amazon.com
- AWS Blog:
  aws.typepad.com
- AWS Service Health Dashboard:
  status.aws.amazon.com
- AWS Forums:
  aws.amazon.com/forums
- IBM on AWS:
  aws.amazon.com/ibm



We Think of the Cloud as a Set of Building Block Services

- Infrastructure As a Service
  - Amazon Simple Storage Service
  - Amazon CloudFront
  - Amazon Elastic Compute Cloud
  - Amazon Elastic Block Storage
  - Amazon Simple Queue Service
  - Amazon SimpleDB
  - Amazon RDS
  - Amazon Elastic MapReduce
- People As a Service
  - Amazon Mechanical Turk
- Payments As a Service
  - Amazon Flexible Payments Service
  - Amazon DevPay
- Fulfillment and Associates
  - Amazon Fulfillment Web Service
  - Amazon Associates Web Service

Getting Started With AWS



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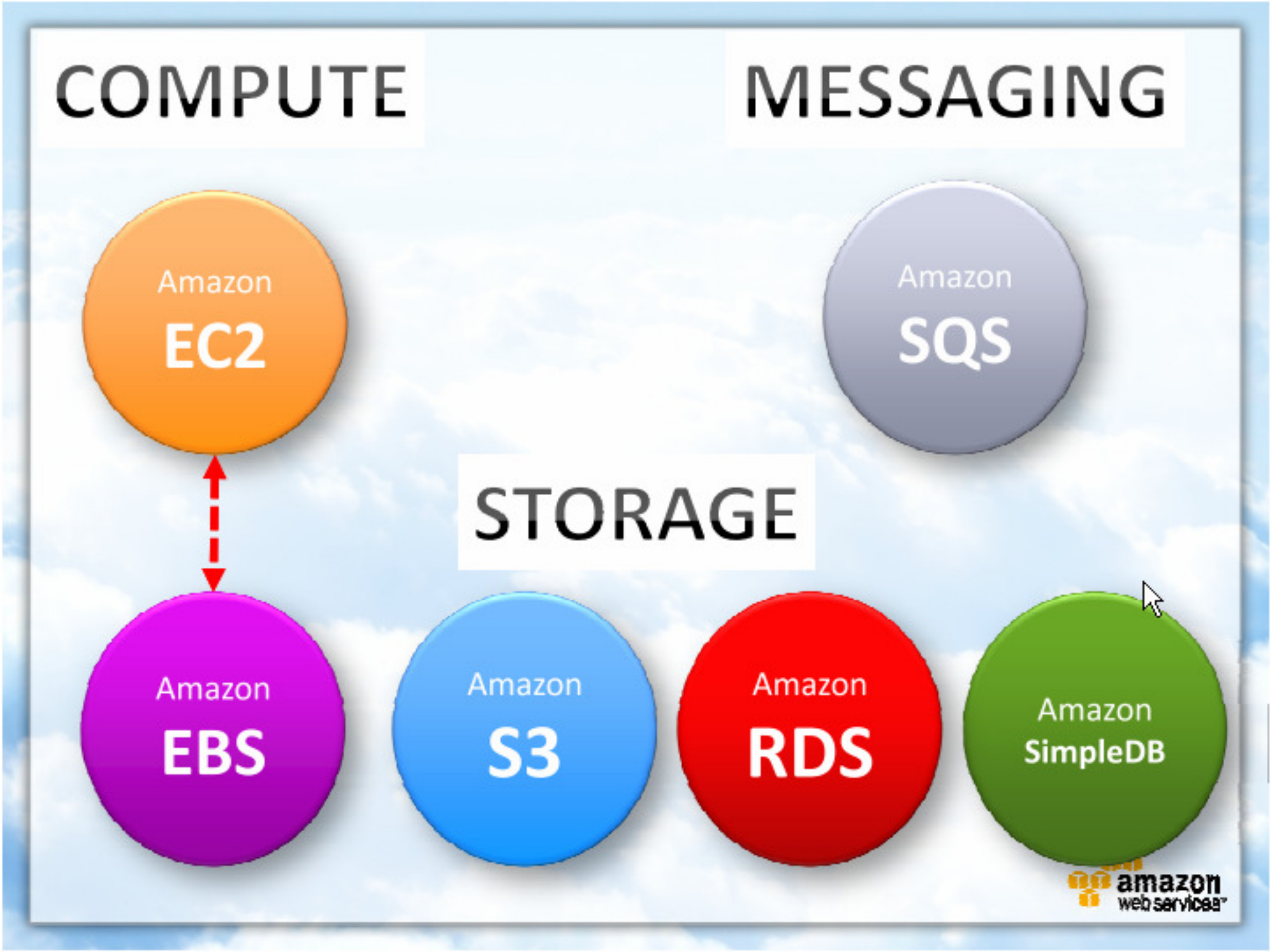
COMPUTE
MESSAGING
Amazon
EC2
Amazon
SQS
STORAGE
Amazon
EBS
Amazon
S3
Amazon
RDS
Amazon
SimpleDB
amazon
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Module 3
Amazon Simple Storage Service
(Amazon S3)

Module Overview

- S3 Features
- S3 Vocabulary
- S3 Namespace
- S3 Pricing
- S3 Concepts
- S3 Use Cases
- CloudFront
- Q & A

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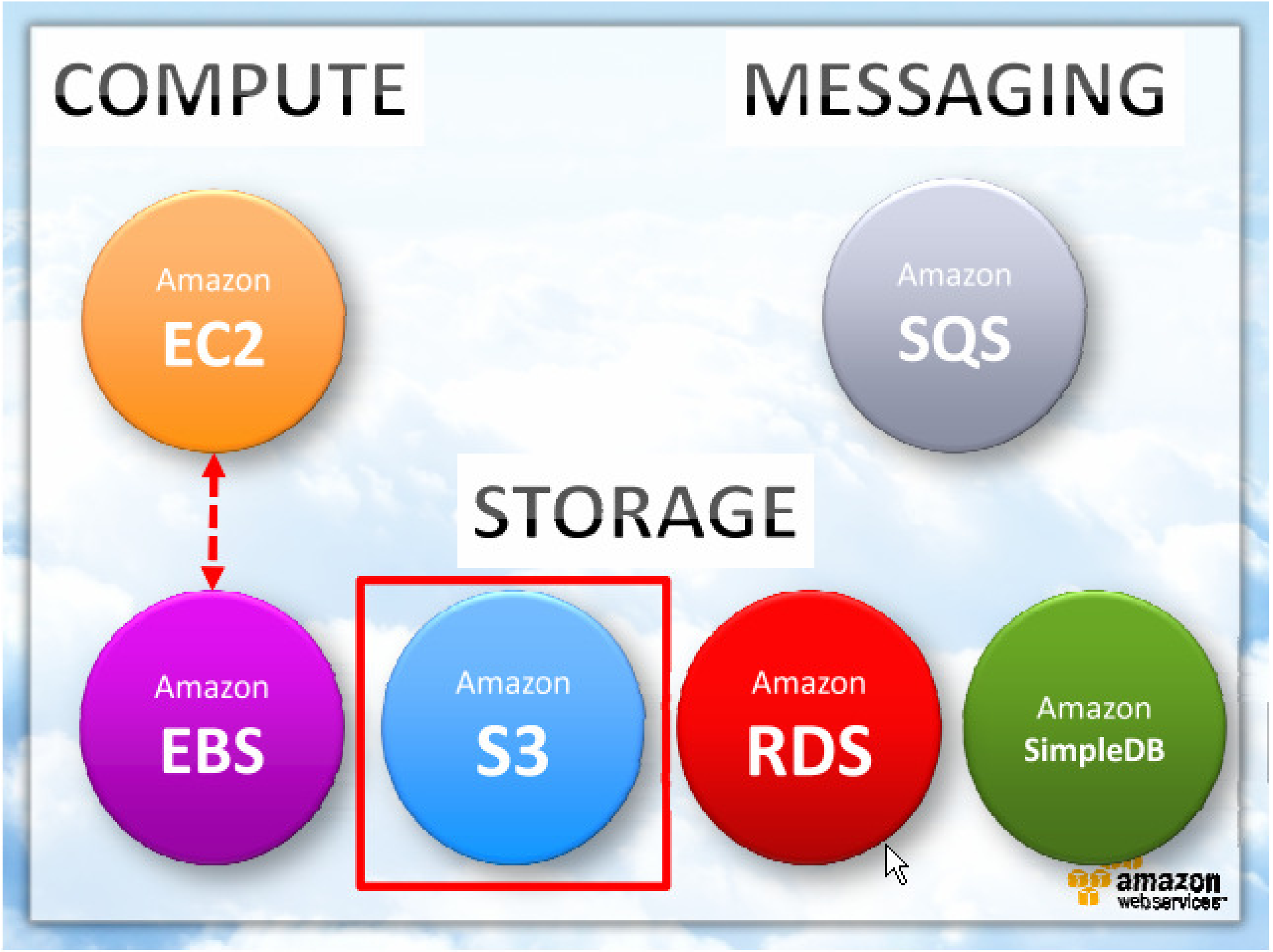
COMPUTE
MESSAGING
Amazon
EC2
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SQS
STORAGE
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EBS
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S3
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RDS
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SimpleDB
amazon
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Amazon Simple Storage Service

- Amazon S3: Simple Storage Service
- Highly scalable data storage in-the-cloud
- Programmatic access via web services API
- Is a Web Store, not a file system
  - Optimized for WORM
  - Eventually consistent
- Fast, highly available and durable
- Economical

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Amazon S3 Adoption Rate: Billions of Objects Stored

Peak Requests:
100,000
per second

200 Million	5 Billion	18 Billion	52 Billion	102 Billion
Q1 2006	Q1 2007	Q1 2008	Q1 2009	Q4 2009

Only 3 quarters!!

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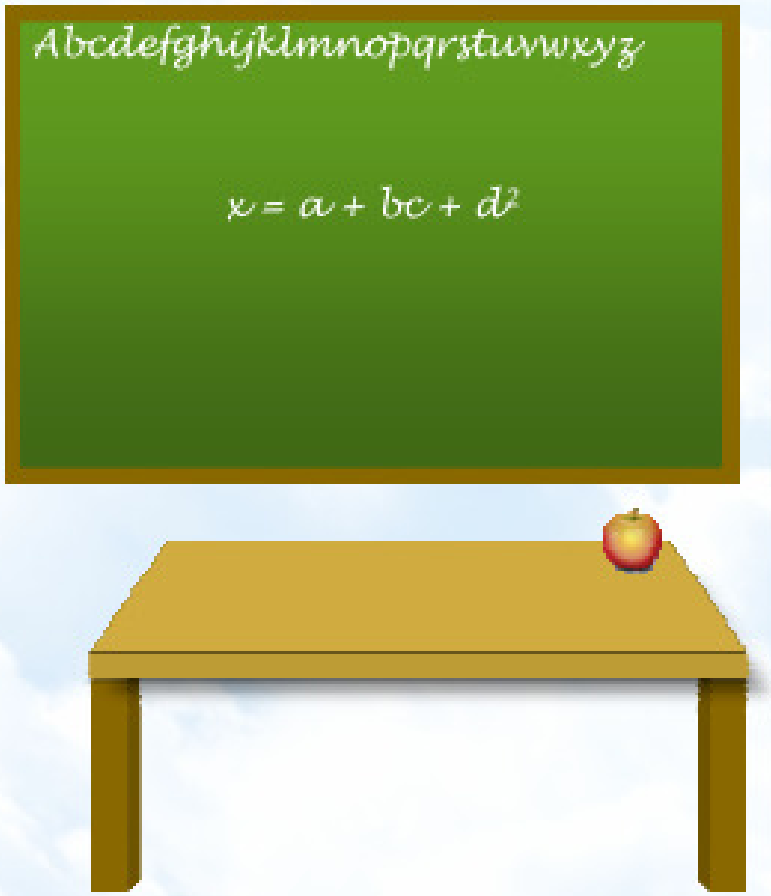
Amazon S3 Vocabulary

- **Bucket** – Collection of objects. Up to 100 per account. Names up to 255 characters long.
- **Object** – Individually addressable data item. Any number per bucket and per account.
- **Key** – Unique identifier for an object in a bucket.
- **ACL** – Access Control List.



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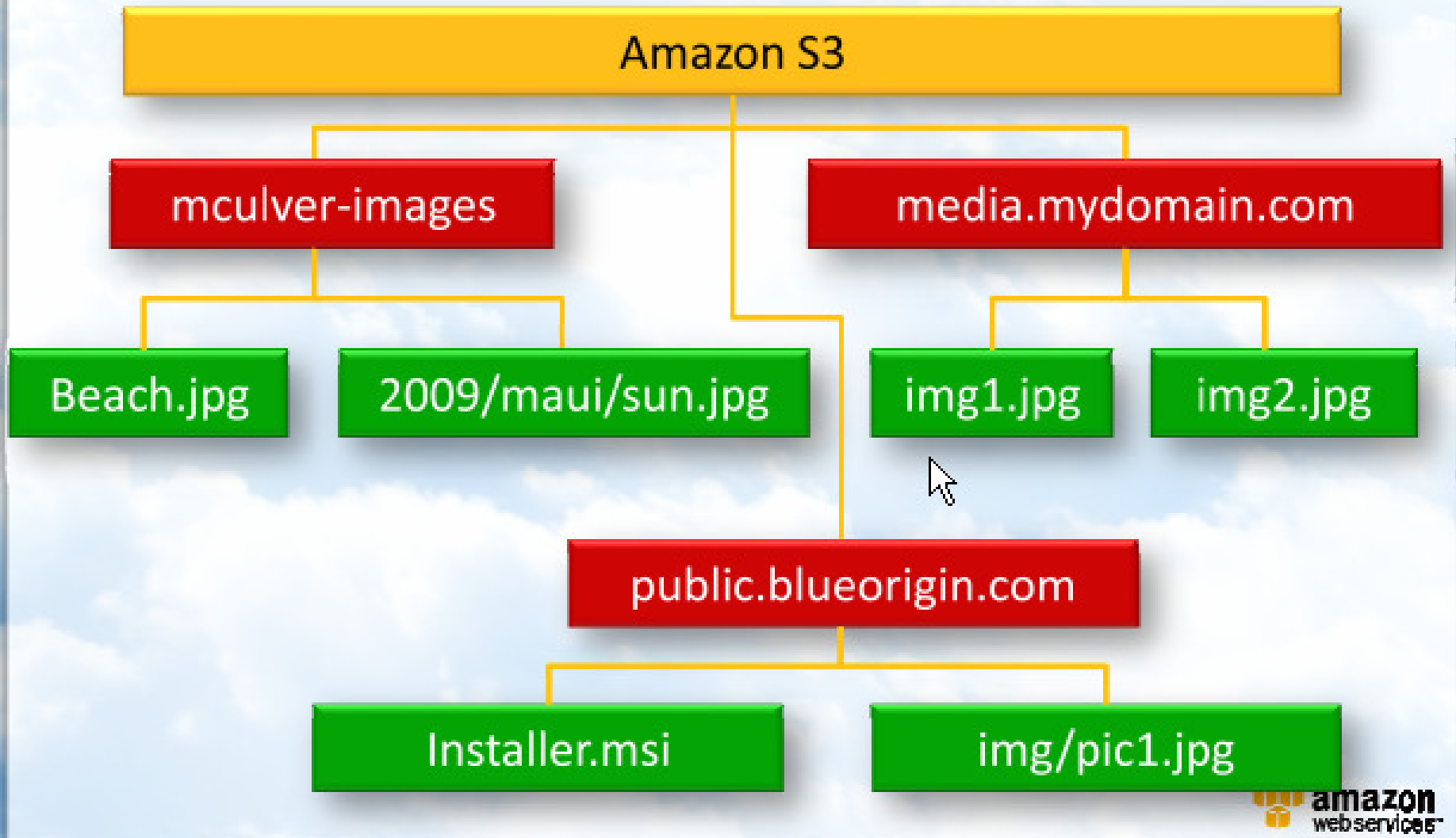
Amazon S3 Namespace



Amazon S3 Pricing

	< 50 TB per Month	Next 50 TB per Month	Next 400 TB per Month	> 500 TB per Month
US Storage	$0.15/GB	$0.14/GB	$0.13/GB	$0.12/GB

+

Data Transfer	< 10 TB per Month	Next 40 TB per Month	Next 100 TB per Month	Over 150 TB per Month
Inbound	$0.10 / GB			
Outbound	$0.17/GB	$0.13/GB	$0.11/GB	$0.10/GB
Within Cloud	Free			

+

Requests	
PUT, COPY, POST, or LIST	$0.012 / 1,000
DELETE	$0.00
GET and all other requests	$0.012 / 10,000

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Access Control Lists

- Control access to bucket or to object
- No inheritance from bucket to object
- Set at create, write, or any time
- List of up to 100 grants by:
  - Owner
  - Email
  - Any AWS account
  - Anyone
- Permissions:
  - READ – Object or bucket
  - WRITE – Create, overwrite, delete objects in bucket
  - READ_ACP – Read ACL for bucket or object
  - WRITE_ACP – Overwrite ACL for bucket or object
  - FULL_CONTROL – All of the above

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Common S3 Use Cases

- Media Sharing
- Media/Software Distribution
- Backup (Server & PC)
- Online Storage
- Application Storage

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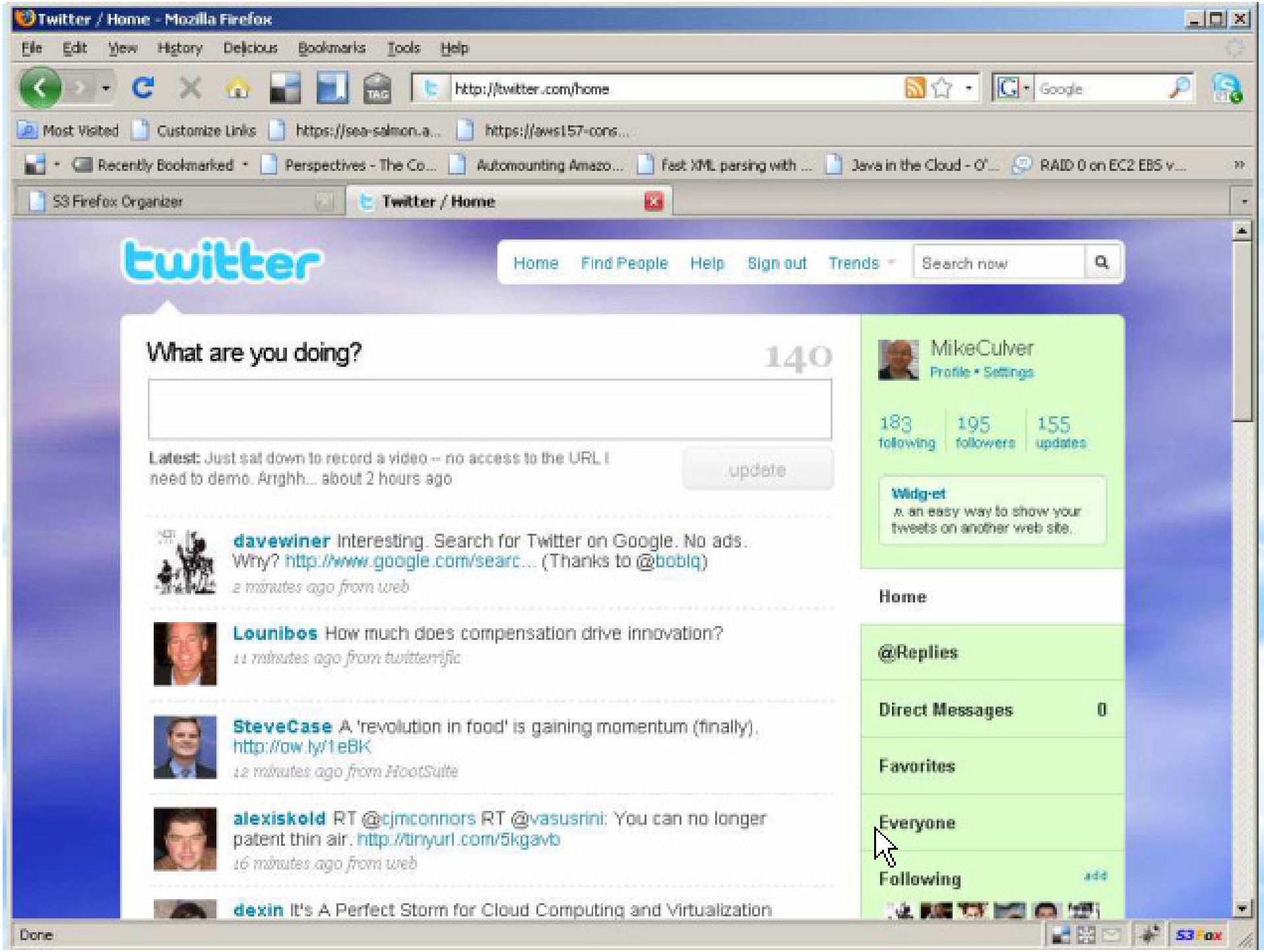
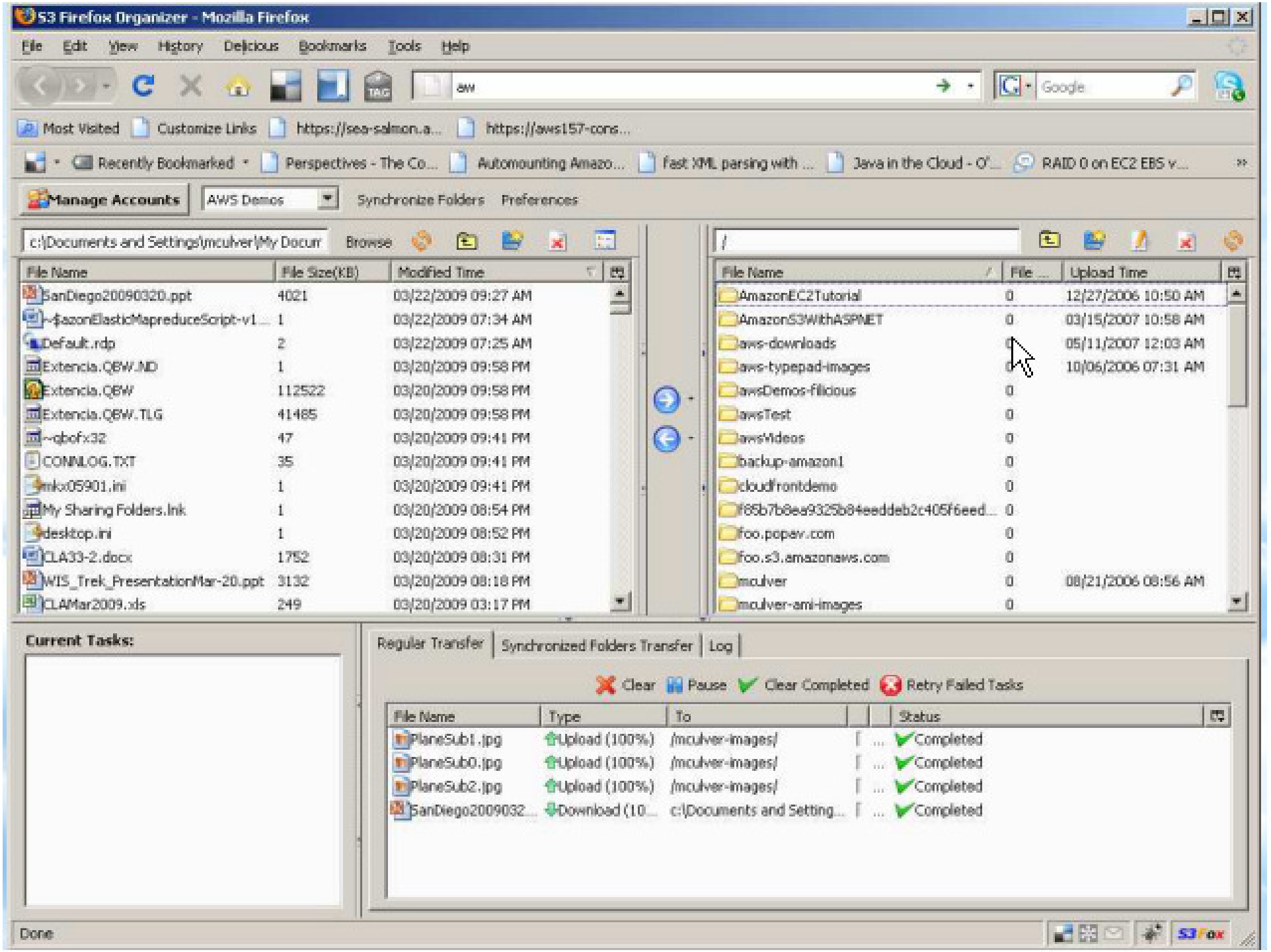

Twitter / Home - Mozilla Firefox
File Edit View History Delicious Bookmarks Tools Help
http://twitter.com/home
Most Visited Customize Links https://sea-salmon.a... https://aws157-core...
Recently Bookmarked Perspectives - The Co... Automounting Amazo... Fast XML parsing with ... Java in the Cloud - O'... RAID 0 on EC2 EBS v...
S3 Firefox Organizer
Twitter / Home
twitter
Home Find People Help Sign out Trends
Search now
What are you doing?
140
Latest: Just sat down to record a video -- no access to the URL I need to demo. Arrghh... about 2 hours ago
update
davewiner Interesting. Search for Twitter on Google. No ads. Why? http://www.google.com/searc... (Thanks to @bobiq)
2 minutes ago from web
Lounibos How much does compensation drive innovation?
11 minutes ago from twitterrific
SteveCase A 'revolution in food' is gaining momentum (finally). http://ow.ly/1eBK
12 minutes ago from HootSuite
alexiskold RT @cjmconnors RT @vasusrini: You can no longer patent thin air. http://tinyurl.com/5kgavb
16 minutes ago from web
dexin It's A Perfect Storm for Cloud Computing and Virtualization
MikeCulver
Profile • Settings
183 following
195 followers
155 updates
Widg·et
n. an easy way to show your tweets on another web site.
Home
@Replies
Direct Messages 0
Favorites
Everyone
Following add
Done
S3Fox


S3 Firefox Organizer - Mozilla Firefox
File Edit View History Delicious Bookmarks Tools Help
Most Visited Customize Links https://sea-salmon.a... https://aws157-cons...
Recently Bookmarked Perspectives - The Co... Automounting Amazo... Fast XML parsing with ... Java in the Cloud - O'... RAID 0 on EC2 EBS v...
Manage Accounts
AWS Demos
Synchronize Folders
Preferences
c:\Documents and Settings\mculver\My Docur
Browse
File Name
File Size(KB)
Modified Time
SanDiego20090320.ppt 4021 03/22/2009 09:27 AM
~$azonElasticMapreduceScript-v1... 1 03/22/2009 07:34 AM
Default.rdp 2 03/22/2009 07:25 AM
Extencia.QBW.ND 1 03/20/2009 09:58 PM
Extencia.QBW 112522 03/20/2009 09:58 PM
Extencia.QBW.TLG 41485 03/20/2009 09:58 PM
~qbofx32 47 03/20/2009 09:41 PM
CONNLOG.TXT 35 03/20/2009 09:41 PM
mkx05901.ini 1 03/20/2009 09:41 PM
My Sharing Folders.lnk 1 03/20/2009 08:54 PM
desktop.ini 1 03/20/2009 08:52 PM
CLA33-2.docx 1752 03/20/2009 08:31 PM
WIS_Trek_PresentationMar-20.ppt 3132 03/20/2009 08:18 PM
CLAMar2009.xls 249 03/20/2009 03:17 PM
/
File Name
File ...
Upload Time
AmazonEC2Tutorial 0 12/27/2006 10:50 AM
AmazonS3WithASPNET 0 03/15/2007 10:58 AM
aws-downloads 0 05/11/2007 12:03 AM
aws-typepad-images 0 10/06/2006 07:31 AM
awsDemos-filicious 0
awsTest 0
awsVideos 0
backup-amazon1 0
cloudfrontdemo 0
f85b7b8ea9325b84eeddeb2c405f6eed... 0
foo.popav.com 0
foo.s3.amazonaws.com 0
mculver 0 08/21/2006 08:56 AM
mculver-ami-images 0
Current Tasks:
Regular Transfer
Synchronized Folders Transfer
Log
Clear
Pause
Clear Completed
Retry Failed Tasks
File Name
Type
To
Status
PlaneSub1.jpg Upload (100%) /mculver-images/ Completed
PlaneSub0.jpg Upload (100%) /mculver-images/ Completed
PlaneSub2.jpg Upload (100%) /mculver-images/ Completed
SanDiego2009032... Download (10... c:\Documents and Setting... Completed
Done
S3Fox

AWS Architecture Training

Module 07
Amazon Elastic Block Storage
(Amazon EBS)

Module Overview

- EBS Features
- EBS Architecture
- EBS Vocabulary
- EBS Pricing
- EBS Volume Lifecycle
- EBS API & Tools

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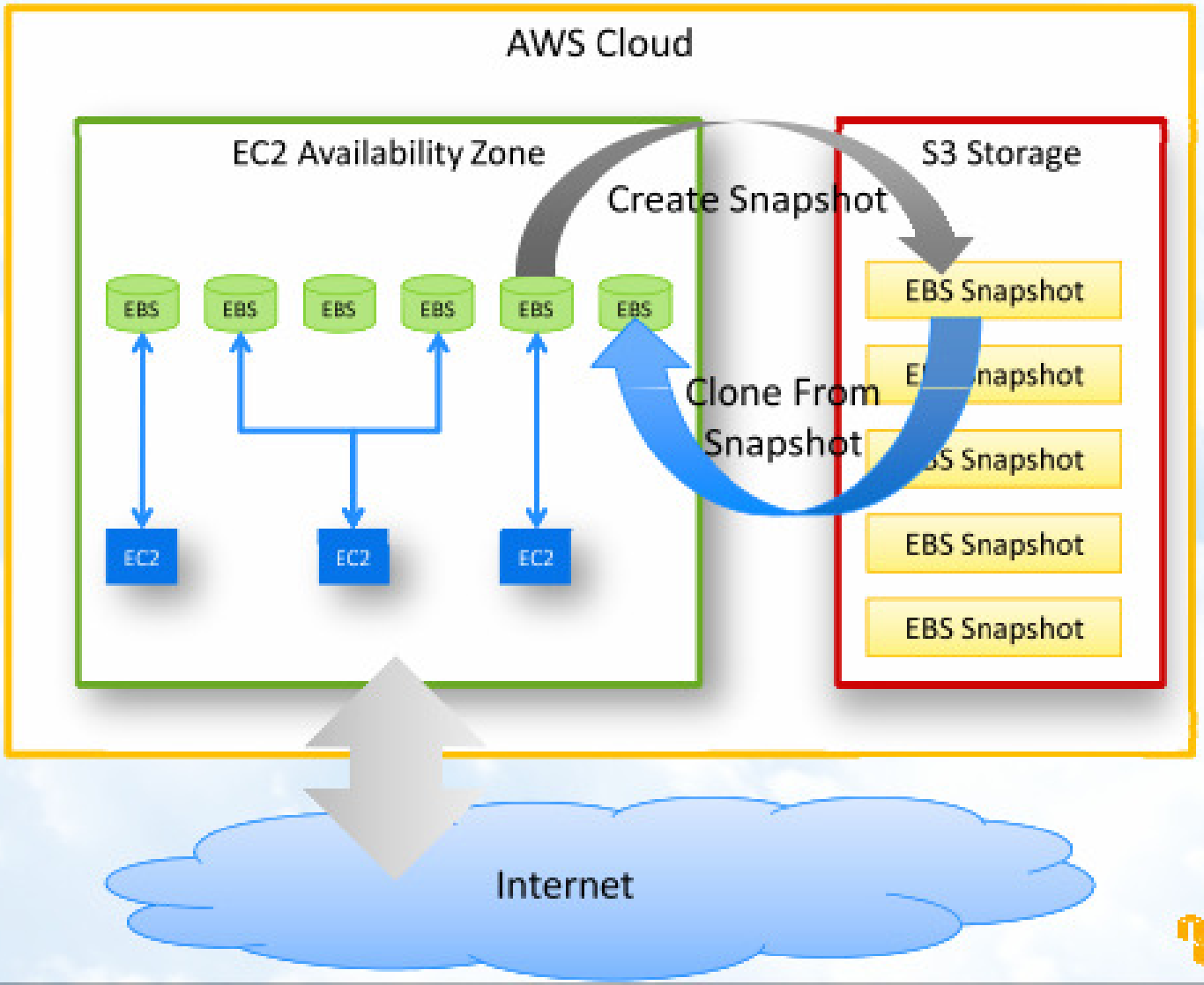
EBS Features

- **Persistent storage**
  Volume lifetime is independent of any particular EC2 instance.
- **General purpose**
  Raw, unformatted, block device. Use from Linux, Solaris or Windows.
- **High performance**
  Equal to or better than local EC2 drive.
- **High reliability**
  Built-in redundancy within availability zone.
  AFR (Annual Failure Rate) between 0.1% and 1%.
- **Scalable**
  Volume sizes ranging from 1 GB to 1 TB.
  (20 TB/account limit while in beta)
- **Easy**
  Easy to create, attach, back up, restore, and delete volumes.

How EBS Interacts With EC2 and S3



What's the Difference Between Amazon S3 and Amazon EBS?

	Amazon S3	EBS
Paradigm	Object store	File system
Performance	Very fast	Very very fast
Redundancy	Across data centers	Within data center
Security	Public Key / Private Key	Visible only to your EC2
Pricing	$0.15/GB/Mo. stored	$0.10/GB/Mo. allocated
Access from the Net?	Yes(1)	No(2)
Typical use case	Write once, read many	It's a disk drive

(1) Only with proper credentials, unless ACLs are world readable
(2) Accessible from Net if mounted to server and set up as FTP, etc.

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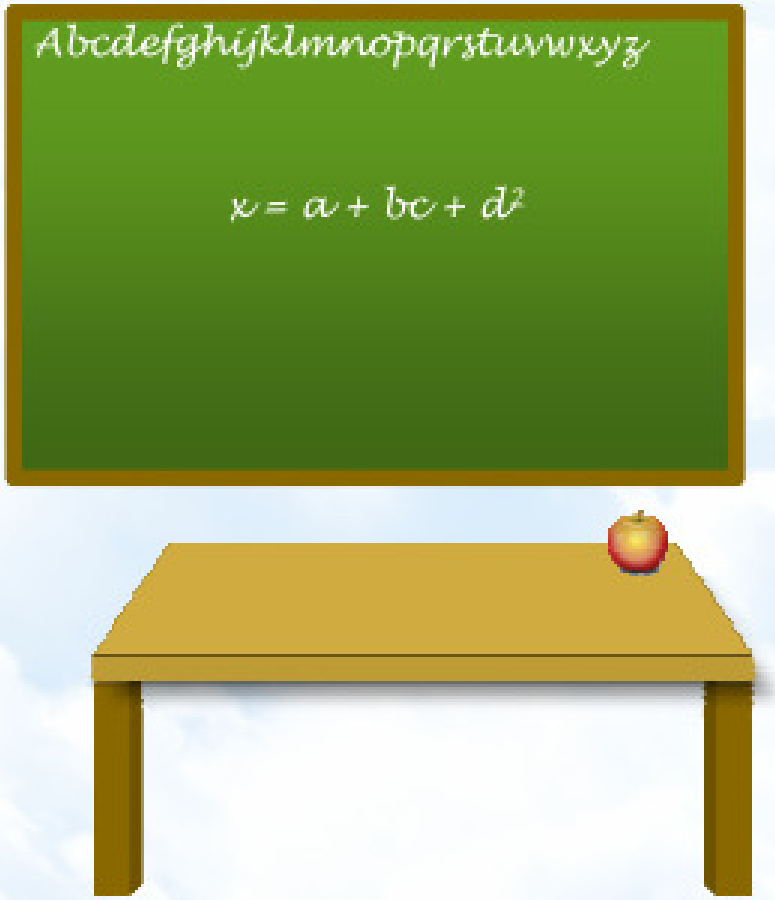
EBS Vocabulary

- **EBS**
  Elastic Block Storage.
- **EBS Volume**
  Unit of EBS Storage – 1 GB to 1 TB / volume.
- **EBS Snapshot**
  Point-in-time backup saved to Amazon S3.
- **Block Device**
  Storage medium which responds to open/close/read/write.
- **Filesystem**
  A structured way to store files on a block device.



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EBS Pricing

- **EBS Volumes**
  - $0.10 per GB-month of provisioned storage
  - $0.10 per 1 million I/O requests
  - No charge for mounting/unmounting volume
- **EBS Snapshots to Amazon S3**
  - $0.15 per GB-month of data stored
  - $0.01 per 1,000 PUT requests (when saving a snapshot)
  - $0.01 per 10,000 GET requests (when loading a snapshot)

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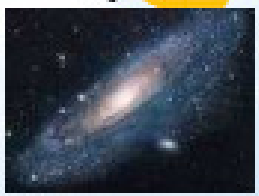
EBS Volume Lifecycle

Call CreateVolume
1 GB to 1 TB

Create

Vast amounts of unused space



Attach

Call AttachVolume to affiliate with one EC2 instance

Attached
&
In Use

- Format from EC2 instance OS
- Mount formatted drive

Snapshot to Amazon S3

CreateSnapshot

Detach

Call DetachVolume

Deleted

Call DeleteVolume

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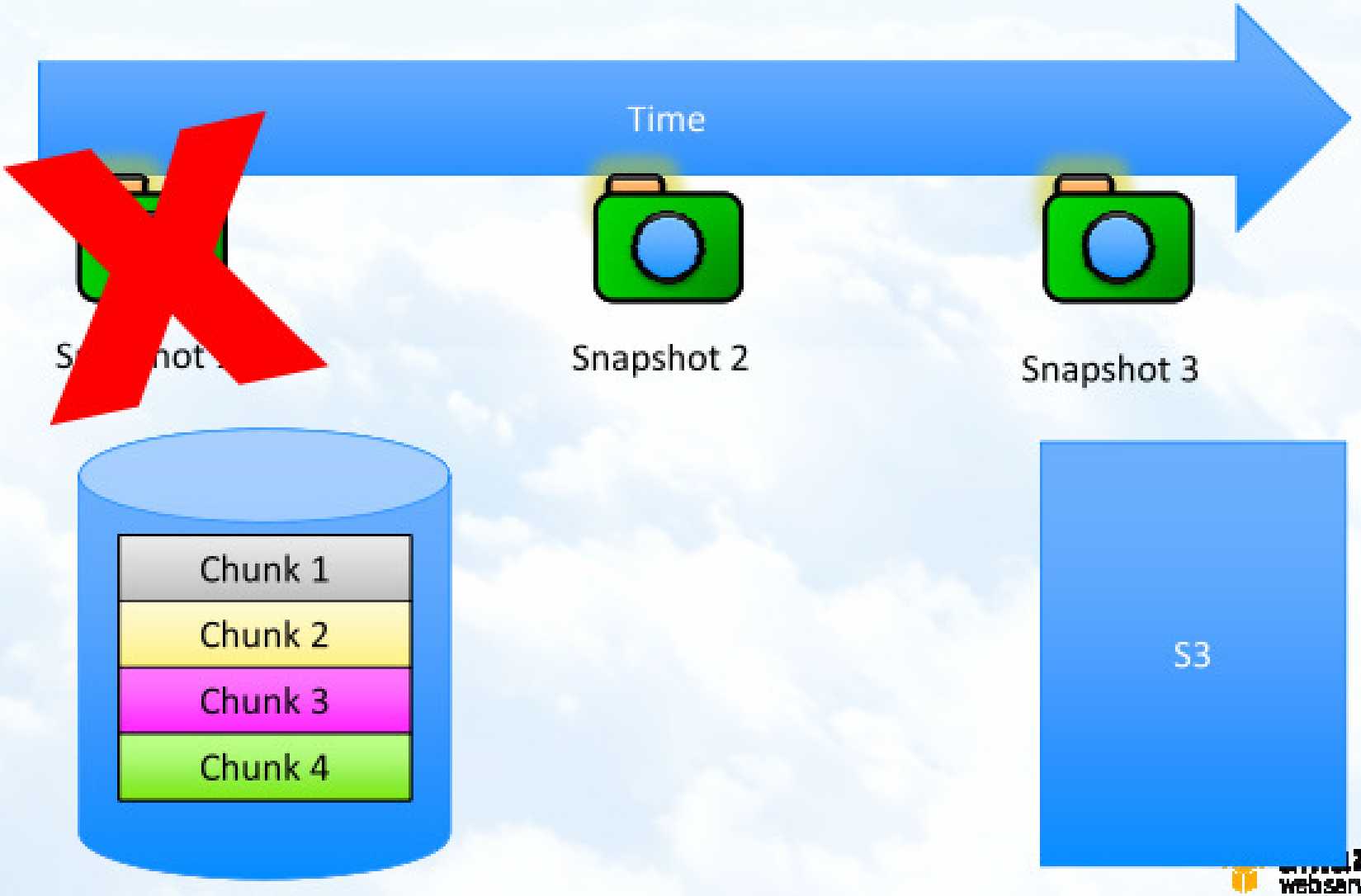
How Do Snapshots Work?



AWS Architecture Training
EC2

Module 06
Amazon Elastic Compute Cloud
(Amazon EC2)

Module Overview

- EC2 Features
- EC2 Architecture
- EC2 Vocabulary
- EC2 Instance Types
- EC2 Pricing
- EC2 Reserved Instances
- EC2 Regions
- EC2 Network Security
- EC2 Tools
- EC2 Demo

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Amazon EC2 Features

- Resizable Compute Capacity
  As much as you need, when you need it.
  Scale up or down in minutes.
- Complete Control via API
  Create, scale, & manage instances programmatically.
- Variety of Instance Sizes
  CPU Power, Cores, RAM, Disk.
- Wide Variety of Pre-built AMIs (Amazon Machine Images)
  Hit the ground running with minimal system building effort.
  Now: Linux Windows, and OpenSolaris.
- Secure & Flexible Network Security Model
  Full control of access for each running instance.
  Keypair required for SSH access.

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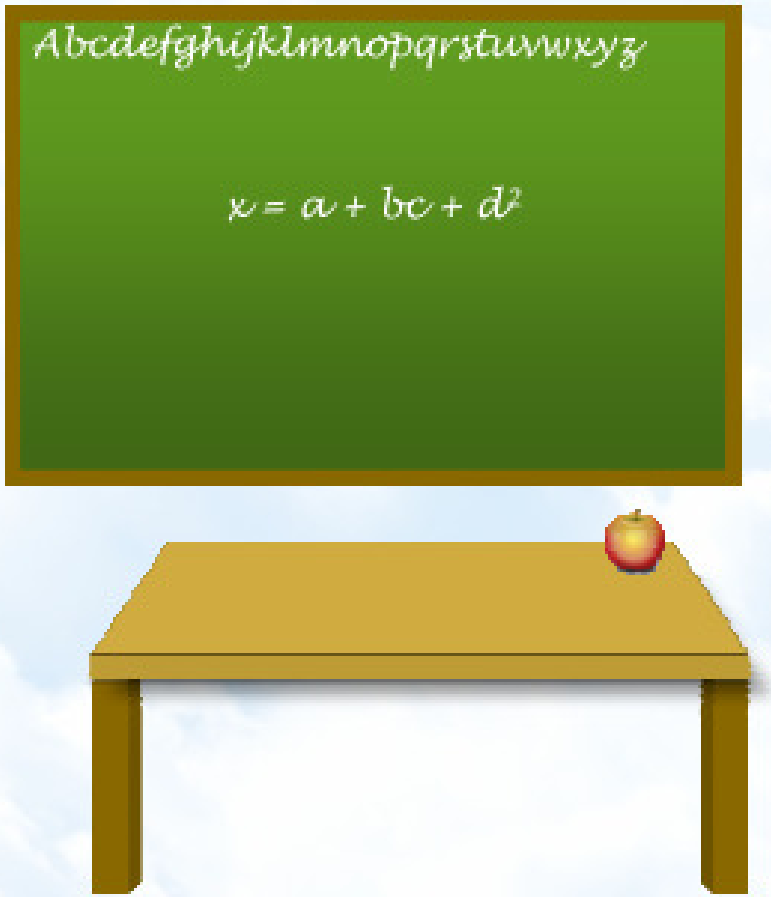
EC2 Vocabulary (1)

- Region
  Data center location
- Availability Zone
  Independent functional partition within a region.
- Instance
  Running machine (virtual slice of real machine).
- AMI - Amazon Machine Image
  Pre-configured system image stored in Amazon S3.



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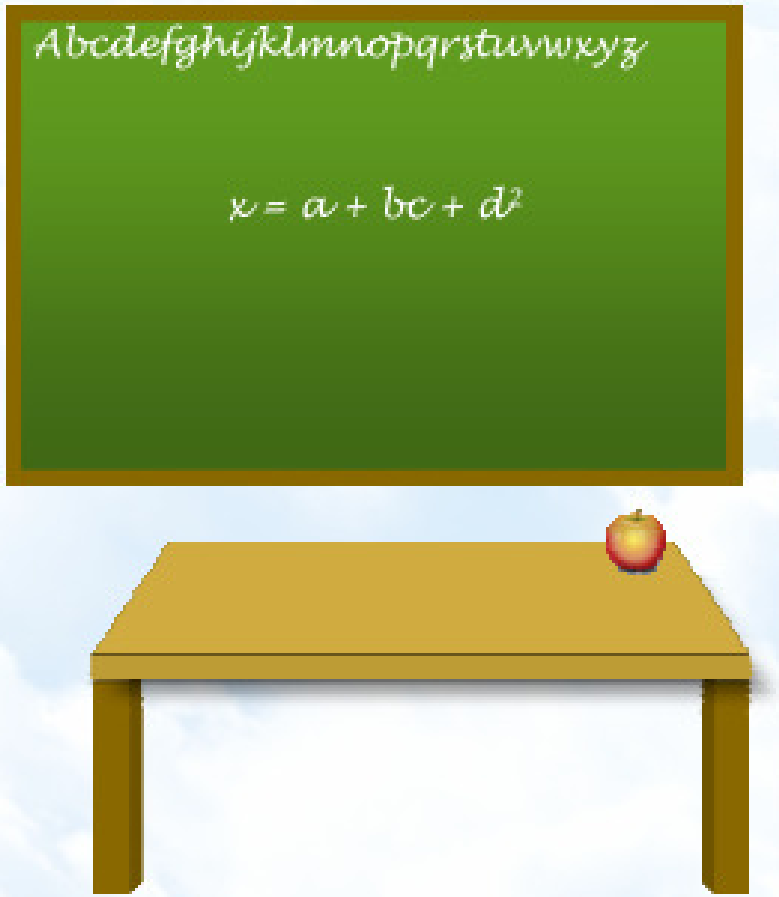
EC2 Vocabulary (2)

- EBS
  Elastic Block Storage
- EBS Volume
  Unit of EBS Storage – 1 GB to 1 TB / volume
- Elastic IP Address
  Long-term IP address which can be mapped to any EC2 instance



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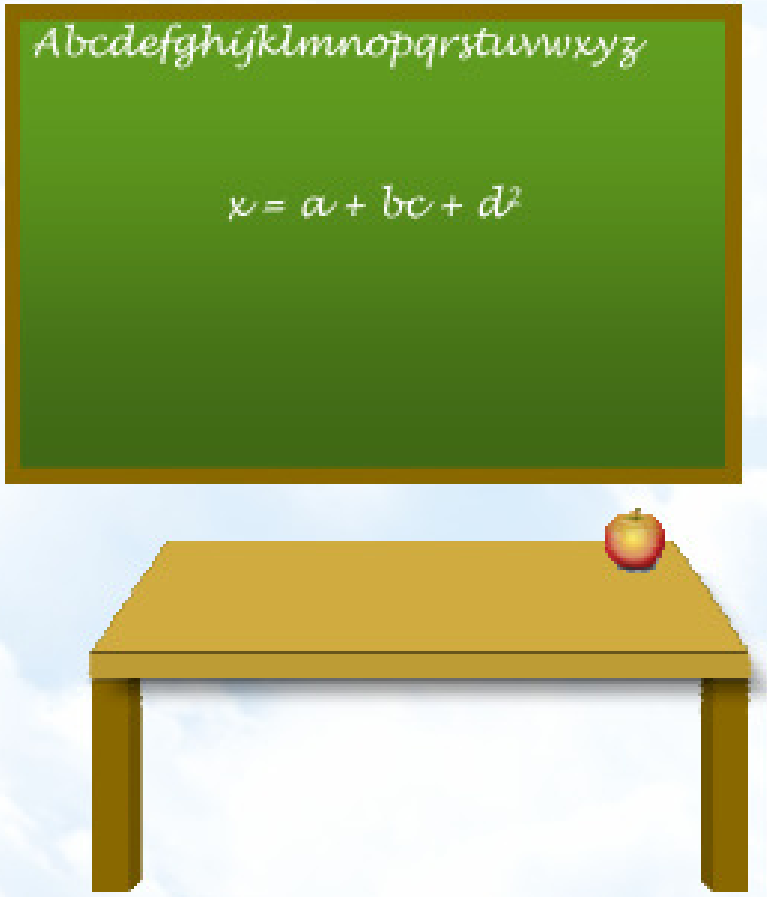
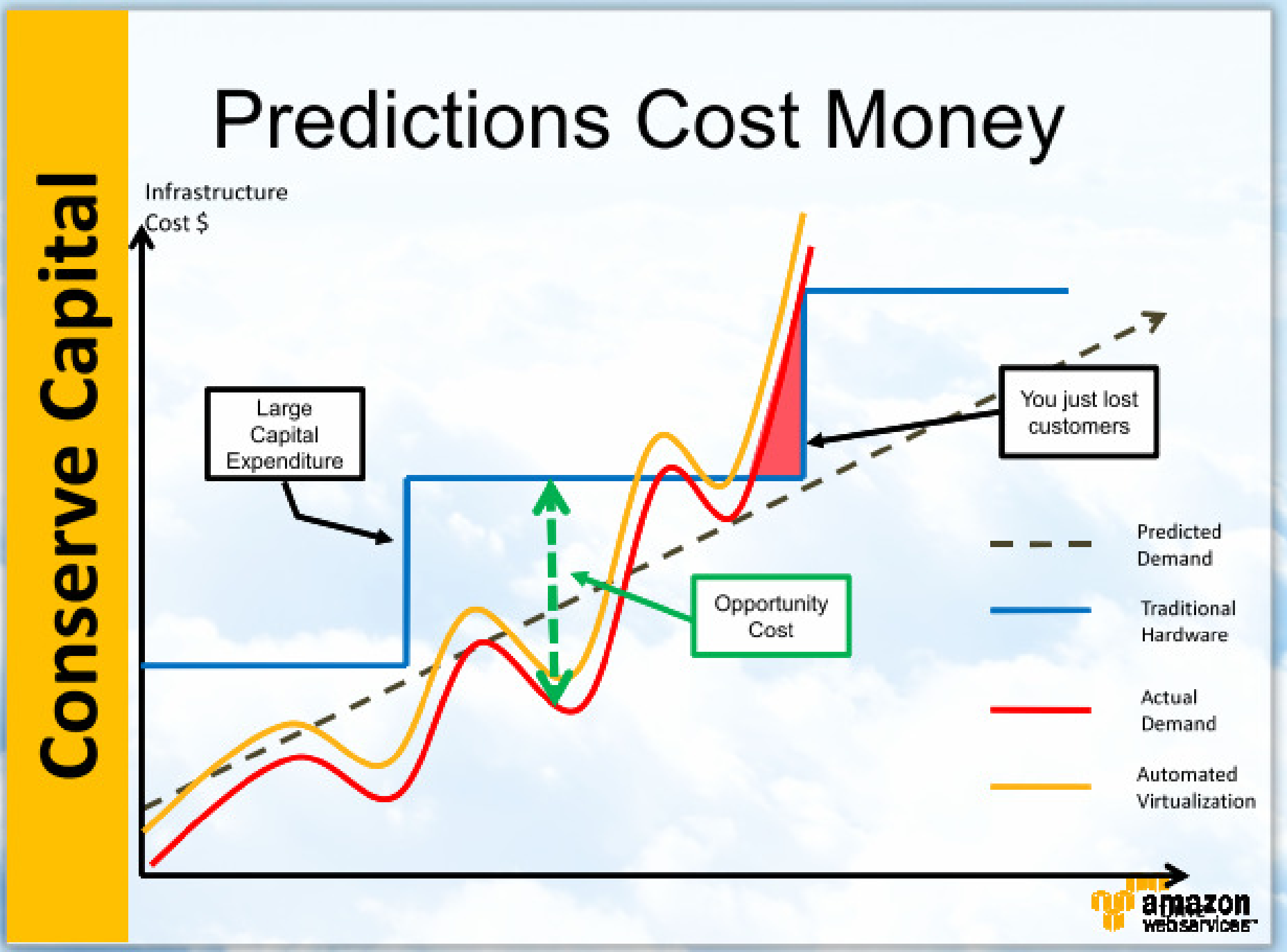
EC2 Vocabulary (3)

- **API Tools**
  Command line tools to manage (start, stop, secure) EC2 instances.
- **AMI Tools**
  Command line tools to create and manage EC2 AMIs.
- **SSH**
  Secure Shell Protocol – for remote access to EC2 shells.
- **PuTTY**
  Popular open source SSH client; great for EC2 access.



Predictions Cost Money



Virtual Machine Choices (US East)

	Standard			High Memory		High CPU	
	Small	Large	Extra Large	2 XL	4 XL	Medium	Extra Large
Bits	32	64	64	64	64	32	64
RAM	1.7 GB	7.5 GB	15 GB	34.2	68.4	1.7 GB	7 GB
Disk	160 GB	850 GB	1690 GB	850 GB	1690 GB	350 GB	1690 GB
Virtual Cores	1	2	4	4	8	2	8
EC2 Compute Units	1	4	8	13	26	5	20
I/O Performance	Med	High	High	High	High	High	High
Firewall	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	On-Demand Pricing						
Linux Per Hour	$0.085	$0.34	$0.68	$1.20	$2.40	$0.17	$0.68
Windows	$0.12	$0.48	$0.96	$1.44	$2.88	$0.29	$1.16

ECU = # of virtual cores x the relative speed of the core (in units of 1.0 – 1.2 GHz)
In the case of M1.Large, there are 2 virtual cores both of which are roughly 2.0-2.4 GHz in speed. This is equivalent to 4 ECUs.

Reserved Instances (US East)

(Linux/UNIX)	One-time Fee		Usage Per Hour	
Standard	1 Yr Term	3 Yr Term	Reserved	On Demand
Small (Default)	$227.50	$350	$0.03	$0.085
Large	$910	$1400	$0.12	$0.34
Extra Large	$1820	$2800	$0.24	$0.68
High Memory				
2 XL	$3185	$4900	$0.42	$1.20
4 XL	$6370	$9800	$0.84	$2.40
High CPU				
Medium	$455	$700	$0.06	$0.17
Extra Large	$1820	$2800	$0.24	$0.68

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S3 vs. EBS AMIs

S3-Backed AMIs

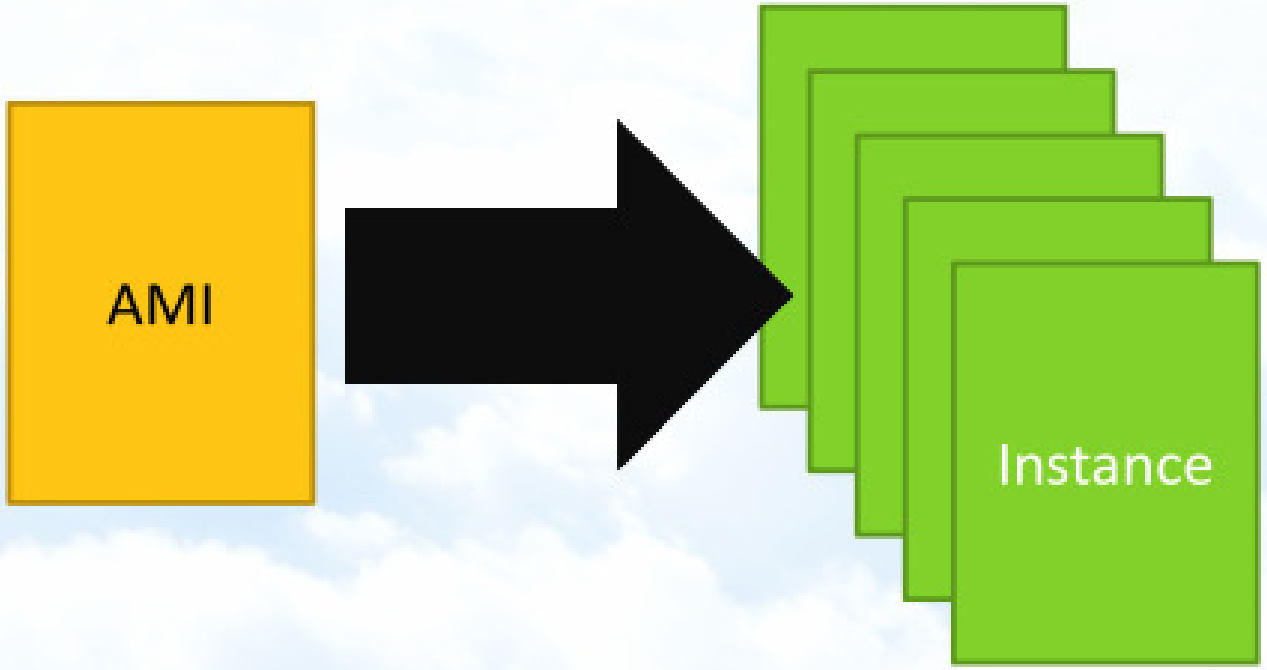
- Traditional offering
- No way to persist when stopped
- Boot in minutes
- IO to root drive free
- No cost when stopped

EBS-Backed AMIs

- Added in late 2009
- Stopped server persists file system
- Boot in seconds
- IO to EBS costs $$*
- EBS costs when stopped

* You can create temp/swap as instance backed (free)

1:Many Relationship Between AMIs and Instances



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S3 Backed EC2 Instance Lifecycle

RunInstances call to cloud
- Specify which AMI to launch
- Provide parameters (# instances, security group, etc)

AMI

Instance launch initiated
- Copy AMI from S3
- Assign parameters

Instance (Pending)

Instance (Runing)

- Attach EBS Storage once running
- Assign Elastic IP Address

Instance (Shutting Down)

- Resources automatically detached (IP, storage)
- Can also be initiated as normal operating system shutdown

Instance (Terminated)

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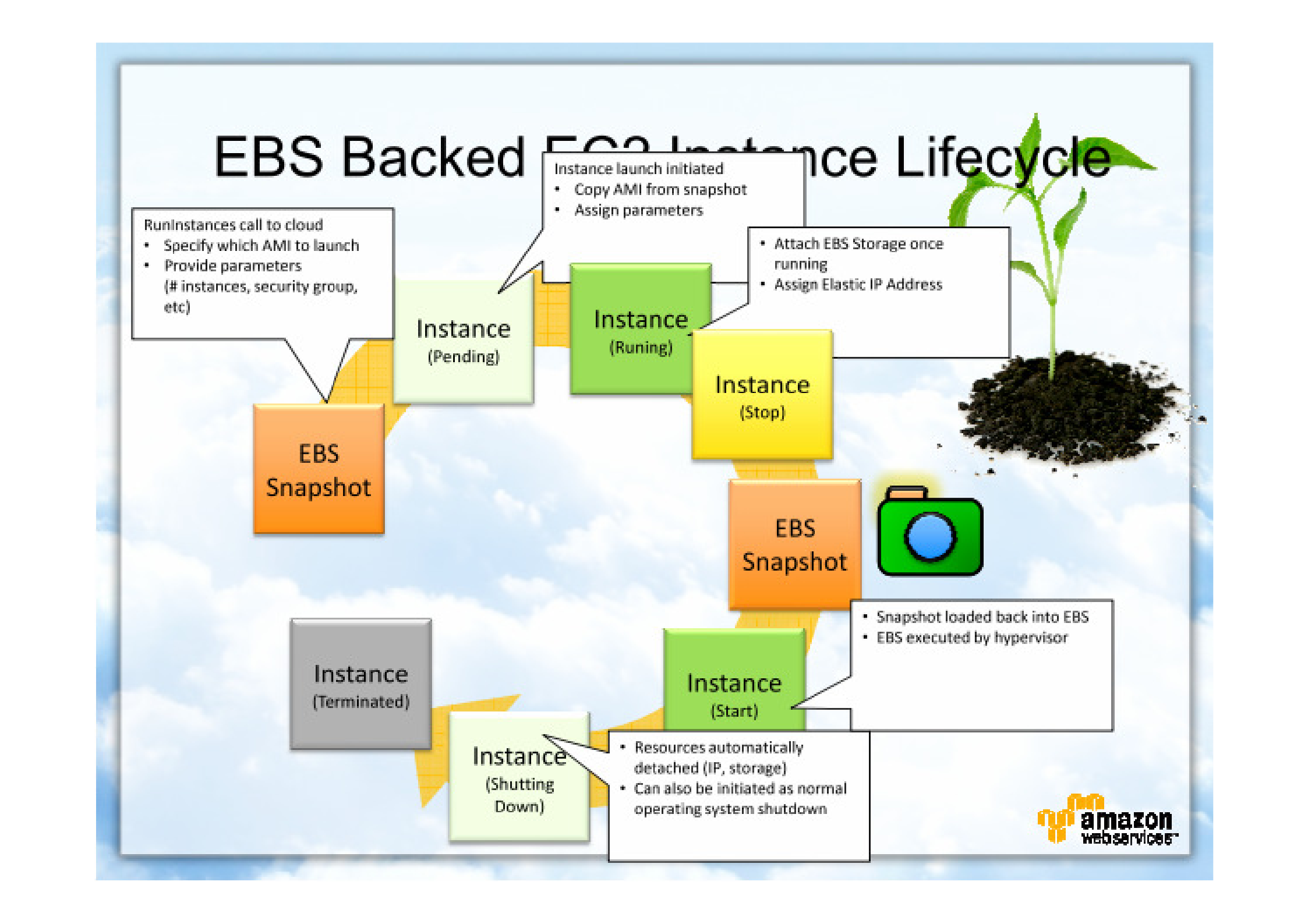
EBS Backed EC2 Instance Lifecycle

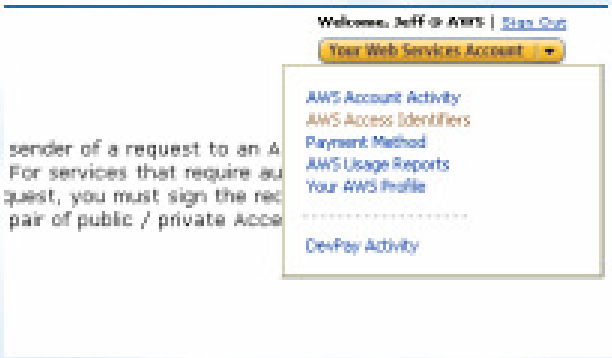


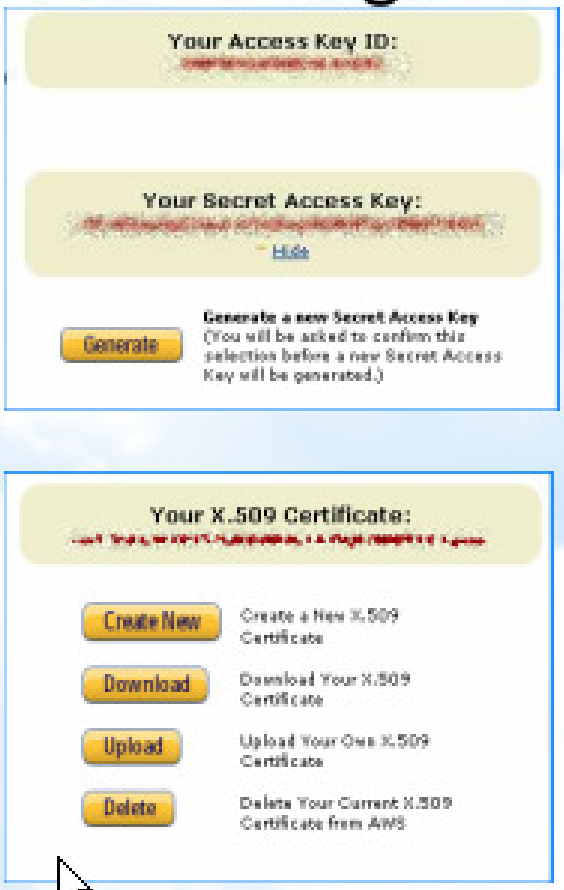
EC2 Network Security Parameters

- Inbound access control only
- Security group – collection of access rules
- Assign group(s) on instance launch
- Modify existing group on running instances
- Access rule:
  - Name
  - Description
  - Protocol
  - Port range
  - IP Address range

EC2 Instance Security

- Keys & X.509 Certificate are generated at aws.amazon.com





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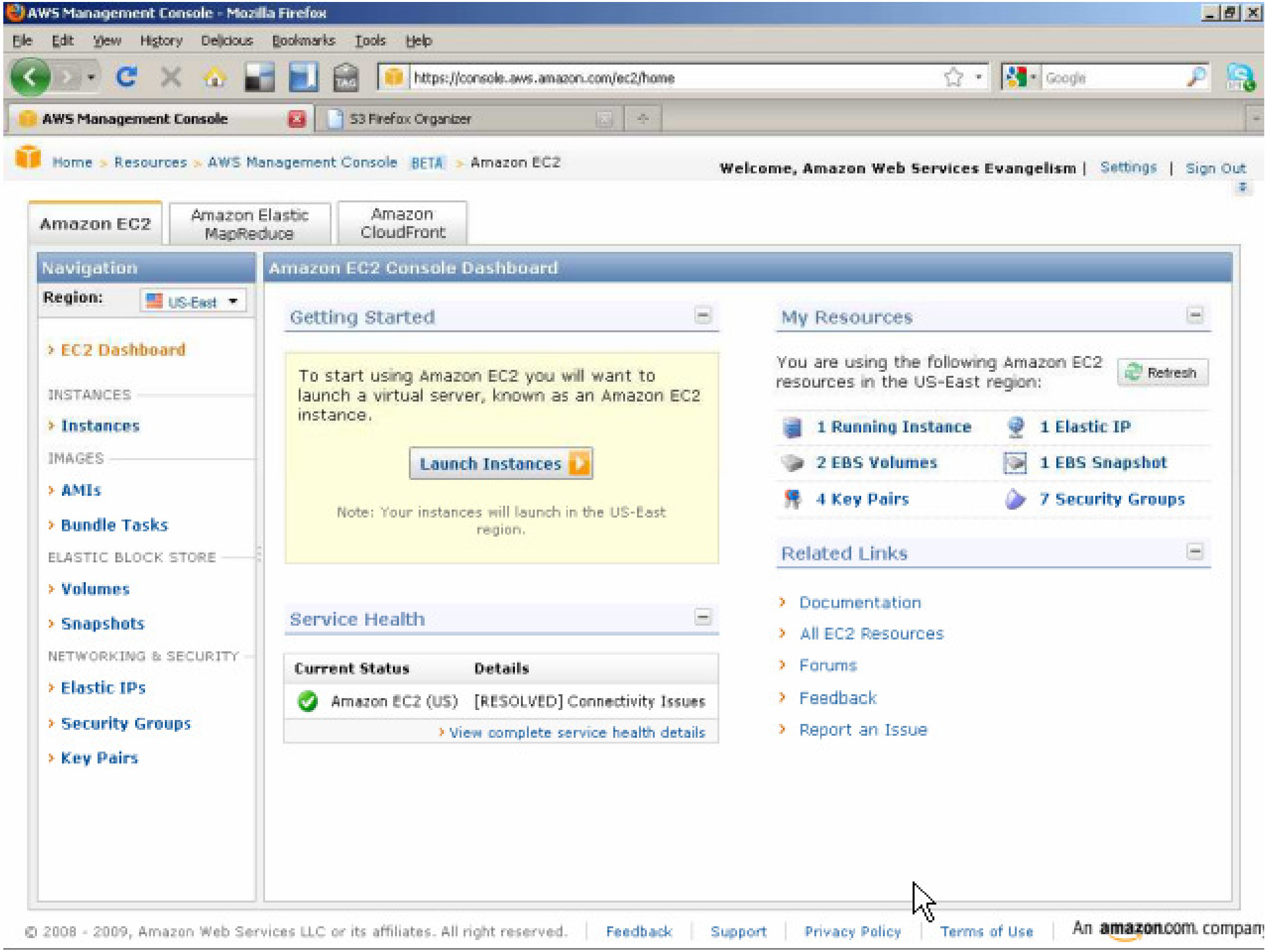
EC2 Command Line Tools

- API Tools
  - Access EC2 API functionality from command line.
  - Cross-platform (Java).
  - Tools go 1-for-1 with API calls.
  - Environment variables for private key and cert.
- AMI Tools
  - Specialized tools for creating new AMIs.
  - Bundle image.
  - Upload image.


AWS Management Console - Mozilla Firefox
File Edit View History Delicious Bookmarks Tools Help
https://console.aws.amazon.com/ec2/home
AWS Management Console
S3 Firefox Organizer
Home > Resources > AWS Management Console BETA > Amazon EC2
Welcome, Amazon Web Services Evangelism | Settings | Sign Out
Amazon EC2
Amazon Elastic MapReduce
Amazon CloudFront
Navigation
Region: US-East
EC2 Dashboard
INSTANCES
Instances
IMAGES
AMIs
Bundle Tasks
ELASTIC BLOCK STORE
Volumes
Snapshots
NETWORKING & SECURITY
Elastic IPs
Security Groups
Key Pairs
Amazon EC2 Console Dashboard
Getting Started
To start using Amazon EC2 you will want to launch a virtual server, known as an Amazon EC2 instance.
Launch Instances
Note: Your instances will launch in the US-East region.
Service Health
Current Status
Details
Amazon EC2 (US)
[RESOLVED] Connectivity Issues
View complete service health details
My Resources
You are using the following Amazon EC2 resources in the US-East region:
Refresh
1 Running Instance
1 Elastic IP
2 EBS Volumes
1 EBS Snapshot
4 Key Pairs
7 Security Groups
Related Links
Documentation
All EC2 Resources
Forums
Feedback
Report an Issue
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Feedback
Support
Privacy Policy
Terms of Use
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EC2 AMI Construction Process

- Choose base image & boot on EC2.
- Install:
  - System software
  - Application software
  - Reference data
- Test
- Create EC2 bundle
- Upload bundle to S3
- Register bundle
- Use / reuse
- Maintain (track security issues & updates)

Image: http://www.crystalxp.net/forum/en/Graphic-Release/Logos-Texts-Icons-amp-Wallpapers-2/sujet_37402_1.htm

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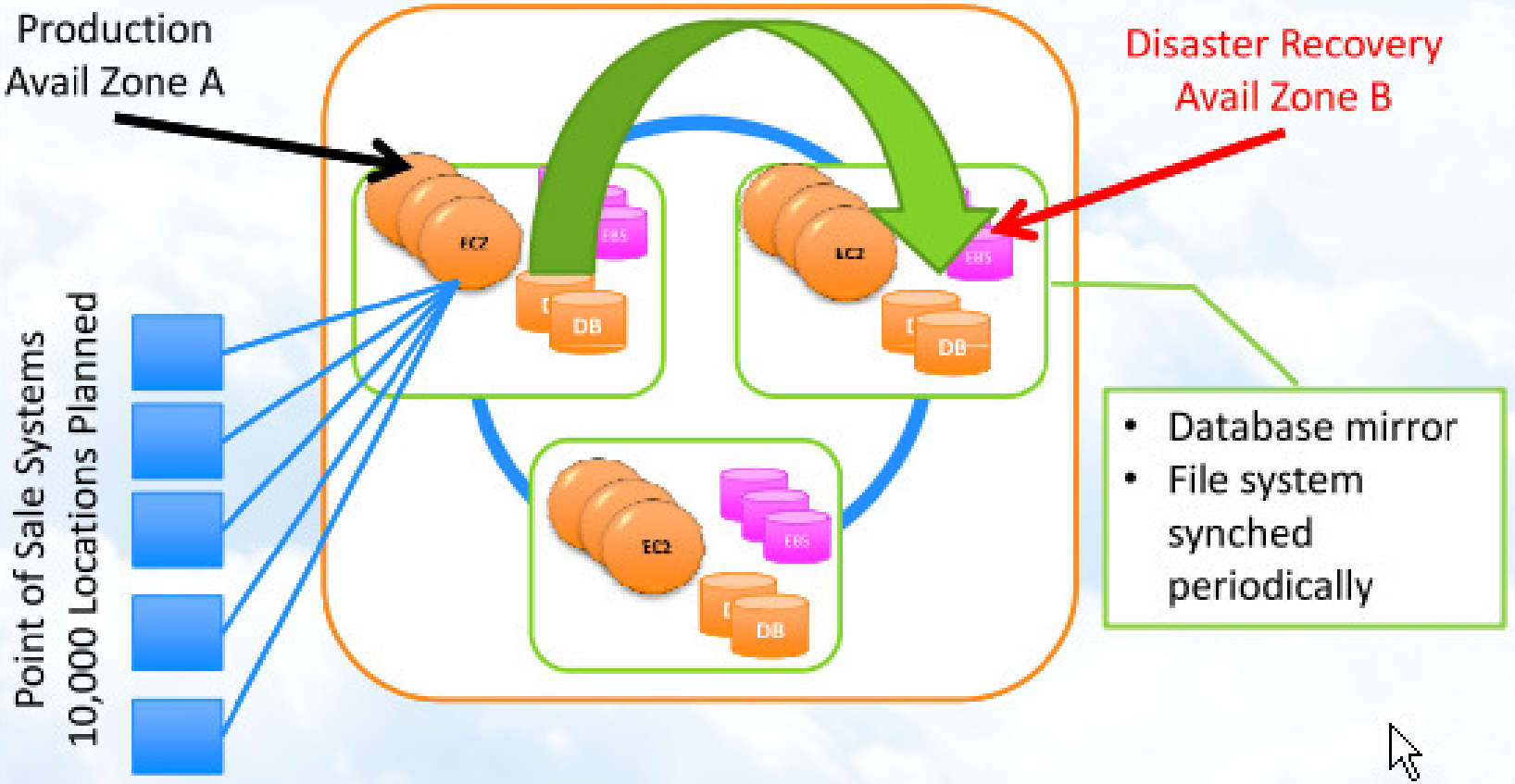
Disaster Recovery



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Setup Ubuntu on EC2

The Official AMI Ids are the following:

Release	Region	i386	x86_64
9.10 Karmic Koala	us-east-1	ami-bb709dd2	ami-55739e3c
	us-west-1	ami-c32e7f86	ami-cb2e7f8e
	eu-west-1	ami-2fc2e95b	ami-05c2e971
8.04 Hardy Heron	us-east-1	ami-59b35f30	ami-27b35f4e
	us-west-1	ami-3954057c	ami-c954058c
	eu-west-1	ami-a1d9f2d5	ami-add9f2d9

https://help.ubuntu.com/community/EC2StartersGuide

Twist the Ubuntu (1)

```
sudo useradd webuser
sudo useradd manager
sudo visudo
        #ubuntu  ALL=(ALL) NOPASSWD:ALL
        %manager ALL=(ALL) ALL

sudo vi /etc/ssh/sshd_config
        change port to 4000
        change allowRootLogin to no
        change allowUsers ubuntu
        Protocol 2
        PermitRootLogin no
        PasswordAuthentication no
        X11Forwarding no
        UsePAM no
        UseDNS no
```

Twist the Ubuntu (2)

sudo vi /etc/group

- remove all ubuntu group
- add manager to userful group

sudo vi /etc/passwd

- change unnecessary user to use /bin/false

Twist the Ubuntu (3)

```
iptables -A INPUT -i lo -j ACCEPT
iptables -A INPUT -i ! lo -d 127.0.0.0/8 -j REJECT
iptables -A INPUT -m state --state ESTABLISHED,RELATED -j ACCEPT
iptables -A OUTPUT -j ACCEPT
iptables -A INPUT -p tcp --dport 80 -j ACCEPT
iptables -A INPUT -p tcp --dport 443 -j ACCEPT
iptables -A INPUT -p tcp -m state --state NEW --dport 30000 -j ACCEPT
iptables -A INPUT -p icmp -m icmp --icmp-type 8 -j ACCEPT
iptables -A INPUT -j REJECT
iptables -A FORWARD -j REJECT

iptables-save > firewall.rules
vi /etc/network/interfaces
        pre-up iptables-restore < /etc/firewall.rules
```

Twist the Ubuntu (4)

sudo apt-get update

sudo apt-get install apache2

sudo apt-get install libapache2-mod-php5 php5 php5-common php5-mysql

apt-get install ruby libopenssl-ruby

Bundle the AMI

- wget http://s3.amazonaws.com/ec2-downloads/ec2-ami-tools.zip
- ec2-bundle-vol -c /tmp/cert-yourcert.pem -k /tmp/pk-yourpk.pem -u youacc# -d /mnt -r i386 -e tmp -p yourapp --generate-fstab
- ec2-upload-bundle -b andapponline -m /mnt/yourapp.manifest.xml -a youracckey -s yoursecurityid
- ec-register andapponline/yourapp.manifest.xml
- http://docs.amazonwebservices.com/AmazonEC2/dg/2007-01-19/bundling-an-ami.html

Bundle the EBS

download scripts from http://gist.github.com/249915#file_bundle_to_ebs.sh

edit bundle-to-ebs.sh with new name for AMI
run bundle-to-ebs.sh with Instance ID at local

run instance-to-ebs-ami.sh at remote as root

ec2-run-instances -n 1 -K ./.ec2/pk-yourpk.pem -C ./.ec2/cert-yourcert.pem -t m1.small -b "/dev/sde=snap-id" -z us-east-1b ami-id

Install Java Runtime(1)

wget http://apache.mirror.rafal.ca/tomcat/tomcat-6/v6.0.20/bin/apache-tomcat-6.0.20.zip

wget http://cds.sun.com/is-bin/INTERSHOP.enfinity/WFS/CDS-CDS_Developer-Site/en_US/-/USD/VerifyItem-Start/jdk-6u17-linux-i586.bin?BundledLineItemUUID=ApJIBe.ohwkAAAEmdz4asQG.&OrderID=PGZIBe.onD8AAAEmaT4asQG.&ProductID=lBFIBe.oSOMAAAEkGehn5G0y&FileName=/jdk-6u17-linux-i586.bin

wget http://dev.mysql.com/get/Downloads/MySQL-5.1/mysql-5.1.42-linux-i686-icc-glibc23.tar.gz/from/http://mirror.csclub.uwaterloo.ca/mysql/

Install Java Runtime(2)

wget tomcat
ln -s apache-tomcat /usr/local/tomcat

wget mysql
ln -s mysql-OS /usr/local/mysql
shell> groupadd mysql
shell> useradd -g mysql mysql
shell> cd /usr/local
shell> gunzip < /path/to/mysql-VERSION-OS.tar.gz | tar xvf -
shell> ln -s full-path-to-mysql-VERSION-OS mysql
shell> cd mysql
shell> chown -R mysql .
shell> chgrp -R mysql .
shell> scripts/mysql_install_db --user=mysql
shell> chown -R root .
shell> chown -R mysql data
shell> bin/mysqld_safe --user=mysql &

Twist MySQL(1)

shell> mysqladmin -u root password “password"
shell> mysqladmin -p -u root -h host_name password “password"

shell> mysql -p -u root
mysql> DROP USER ''@'localhost';
mysql> select * from mysql.user; //drop all unnecessary users

drop database test
CREATE DATABASE yourDB DEFAULT CHARACTER SET utf8 DEFAULT COLLATE utf8_general_ci;

create user ‘youruser'@'localhost' identified by ‘passwordxxx'
GRANT ALL PRIVILEGES ON youruser.* TO ‘yourDB'@'localhost';

cp support_files/mysql.server to /etc/init.d/mysql
mkdir /var/run/mysqld
chown mysql.mysql /var/run/mysqld
update_rc.d mysql defaults

Twist MySQL(2)

Backup
./mysqldump --opt -u root yourDB | gzip >
/home/manager/backup/yourDB/sql/201020801.dump.gz

./mysqldump --opt --no-data -u root -p yourDB | gzip >
/home/manager/backup/ yourDB /sql/2010020801.nodata.gz

restore
mysql yourDB < /home/manager/backup/sql/[backup_file].dump

Twist Apache(1)

download mod_jk ; mv mod_jk.so to /usr/lib/apache2/moduels
vi /etc/apache2/mods-available/jk.conf

```
        <IfModule mod_jk.c>
        JkWorkersFile /etc/apache2/workers.properties

        # JkOptions indicate to send SSL KEY SIZE,
        JkOptions     +ForwardKeySize +ForwardURICompat -
ForwardDirectories

        # JkRequestLogFormat set the request format
        JkRequestLogFormat     "%w %V %T"

        # Globally deny access to the WEB-INF directory
        <LocationMatch '.*WEB-INF.*'>
              deny from all
        </LocationMatch>
        </IfModule>
```

Twist Apache(2)

vi /etc/apache2/mods-available/jk.load

```
LoadModule jk_module /usr/lib/apache2/modules/mod_jk.so
```

a2enmod jk

create /etc/apache2/workers.properties

```
# Define 1 real worker using ajp13
worker.list=worker1
# Set properties for worker1 (ajp13)
worker.worker1.type=ajp13
worker.worker1.host=localhost
worker.worker1.port=8009
```

Twist Apache(3)

create yoursite under /etc/apache2/sites-available

```
<VirtualHost x.x.x.x:80>
DocumentRoot /home/www/youruser
ServerName www.yourserver.com
ServerAlias yourserver.com
# Other directives here
ServerAdmin info@yourserver.com
<Directory /home/www/youruser >
…
</Directory>

ErrorLog /var/log/apache2/anderror.log
….
CustomLog /var/log/apache2/andaccess.log combined

JkMount /* worker1

</VirtualHost>
```

a2ensite yoursite

Twist Apache(4)

vi /etc/apache2/conf.d/security

```
ServerTokens Prod
ServerSignature EMail
```

Twist Tomcat(1)

create /etc/init.d/tomcat

```
#!/bin/sh
# Tomcat Startup Script

export CATALINA_HOME=/usr/local/tomcat
export JAVA_HOME=/usr/local/java
export TOMCAT_OWNER=webuser

start() {
        echo -n "Starting Tomcat:  "
        su $TOMCAT_OWNER -c $CATALINA_HOME/bin/startup.sh
        sleep 2
}
stop() {
        echo -n "Stopping Tomcat: "
        su $TOMCAT_OWNER -c $CATALINA_HOME/bin/shutdown.sh
} …
```

Twist Tomcat(2)

update-rc.d tomcat defaults

modify the catalina.sh add
CATALINA_OPTS=CATALINA_OPTS="-server -Xmx270m -Xms270m -XX:MaxPermSize=192m -Xverify:none -XX:+UseParallelGC -XX:+UseParallelOldGC -XX:+UseAdaptiveSizePolicy -XX:SurvivorRatio=4 -XX:TargetSurvivorRatio=90 -XX:MaxTenuringThreshold=31 -XX:+AggressiveOpts"

add maxHttpHeaderSize="8192" maxThreads="150" minSpareThreads="25" maxSpareThreads="75" enableLookups="false" disableUploadTimeout="true" acceptCount="100" to connect AJP

Twist Tomcat(3)

mkdir www.andapponline.com under /usr/local/tomcat/conf/Catalina

create ROOT.xml under www.andapponline.com

add following to ROOT.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<Context docBase="/home/webuser/www/andapponline/andappshop-1.0.war"
workDir="/home/webuser/www/andapponline/work" path=""/>
```

Search Engine Optimization(1)

1) Find keywords.

2) Put keywords in Page Title.

3) Put keywords in Page URL.

4) Put keywords in Meta Data.

5) Put keywords in your H1 text.

6) Use keywords in the page content.

7) Monitor your rank.

Search Engine Optimization(2)

1) sitemap.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<urlset
      xmlns="http://www.sitemaps.org/schemas/sitemap/0.9"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="http://www.sitemaps.org/schemas/sitemap/0.9
            http://www.sitemaps.org/schemas/sitemap/0.9/sitemap.xsd">
<url>
  <loc>http://www.andapponline.com/</loc>
  <changefreq>daily</changefreq>
  <priority>1.00</priority>
</url>
<url>
  <loc>http://www.andapponline.com/user/login</loc>
  <changefreq>daily</changefreq>
  <priority>0.80</priority>
</url>
<url>
```

Search Engine Optimization(3)

2) robots.txt
robots.txt for http://www.andapponline.com/
User-agent: *
Disallow: /owner # This is an private URL space
Disallow: /payment # This is an private URL space
Sitemap: http://www.andapponline.com/sitemap.xml

Search Engine Optimization(4)

3) Html head and meta tags

```
<html lang="en">
<head>
<title>Android Application Online - <g:layoutTitle/></title>
<meta http-equiv="content-type" content="text/html; charset=utf-8" />
<meta name="description" content=""/>
<meta name="keywords" content=""/>
<meta name="robots" content="ALL"/>
<meta name="copyright" content="andapponline.com"/>
<meta name="rating" content="General"/>
<meta name="revisit-after" content="5 days"/>
<meta http-equiv="pragma" content="no-cache"/>
<meta http-equiv="language" content="eng"/>
<meta name="author" content="andapponline.com"/>
```

Search Engine Optimization(5)

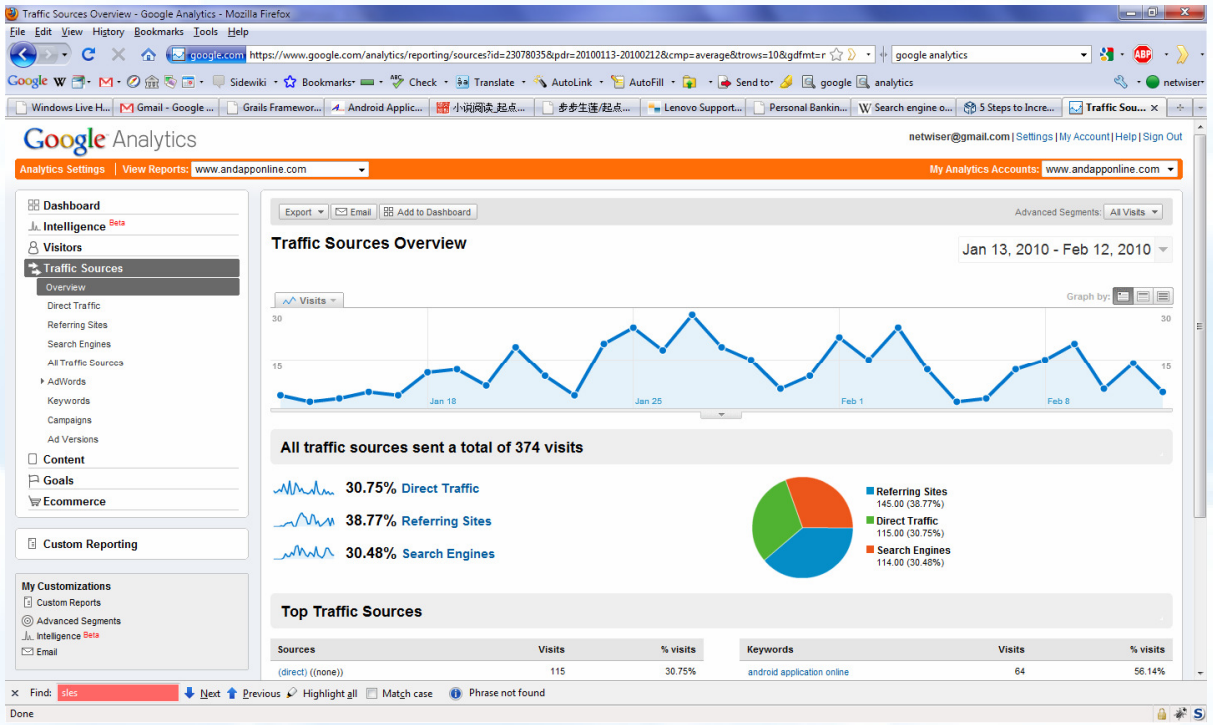
4) Tagging

Search Engine Optimization(6)

5) RSS/Feed, bookmark

Search Engine Optimization(7)

6) Twitter, Facebook, Digg, Linkedin, WordPress, Blog, Youtube…
7) Google AdWords, WebMaster Tool, Analytics



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