Amazon Web Services
Cloud Computing in Action

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Who am I?

• Software development background
• Programmable applications and sites
• Microsoft Visual Basic and .Net Teams
• Startup / venture consultant
• 6 Years with Amazon:
  – Developer
  – Evangelist
  – Blogger
Our Offering

- AWS – Amazon Web Services
- Third major line of business
- Access to proven Amazon infrastructure
- Highly scalable & reliable
- Redundant & geographically dispersed
- Economical
- Metered, pay-as-you-go access
Cloud Computing Components
- Web service APIs
- Usage-based billing
- Developer account system
- Network security model
- Cloud-level resource management
- Clean conceptual models
Amazon Simple Queue Service
Scalable message queue
Distributed application component
Elastic capacity
$.01 for 10,000 messages
S3

- Amazon Simple Storage Service
- Scalable object storage
- Distributed, redundant
- Access controls
- 1B – 5 GB / object
- URL-addressable
- 29 billion objects, 70K TPS
- $.15 / GB / month
SDB

- Amazon SimpleDB
- Indexed data storage
- Distributed, redundant
- Schemaless
- Elastic capacity
- No DBA required
- $1.50 / GB / month
EC2

- Amazon Elastic Compute Cloud
- Scalable processing power
- Ephemeral instances
- 5 instance sizes
- Linux, OpenSolaris, or Windows
- Root-level access
- $0.10 - $0.80 / instance / hour
# EC2 Instance Types

<table>
<thead>
<tr>
<th>Small</th>
<th>Large</th>
<th>Extra Large</th>
<th>High CPU Medium</th>
<th>High CPU Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.7 GB RAM, 1 EC2 Compute Unit (1 @ 1)</td>
<td>7.5 GB RAM, 4 EC2 Compute Units (2 @ 2)</td>
<td>15 GB RAM, 8 EC2 Compute Units (4 @ 2)</td>
<td>1.7 GB RAM, 5 EC2 Compute Units (2 @ 2.5)</td>
<td>7 GB RAM, 20 EC2 Compute Units (8 @ 2.5)</td>
</tr>
<tr>
<td>160 GB disk</td>
<td>850 GB disk</td>
<td>1690 GB disk</td>
<td>350 GB disk</td>
<td>1690 GB disk</td>
</tr>
<tr>
<td>32-bit</td>
<td>64-bit</td>
<td>64-bit</td>
<td>32-bit</td>
<td>64-bit</td>
</tr>
<tr>
<td>$0.10/Hr</td>
<td>$0.40/Hr</td>
<td>$0.80/Hr</td>
<td>$0.20/Hr</td>
<td>$0.80/Hr</td>
</tr>
</tbody>
</table>
Elastic Block Storage

- 1 GB – 1 TB allocation
- High-performance
- Mount on EC2 instance
- Format as filesystem
- Snapshot backup to S3
Elastic IP Addresses

- Allocate as needed
- Attach to EC2 instance
- Remap dynamically
**Metering & Billing**

- Dynamic usage tracking
- Monthly billing
- Usage reports
- Service Portal
- DevPay
AWS in Action
Billions of S3 Objects
“Prorated Super Computing Fun”
The New York Times

- 1851-1922 Articles
- TIFF -> PDF
- Input: 11 Million Articles (4TB of data)
- What did they do?
  - 100 EC2 Instances for 24 hours
  - All data on S3
  - Output: 1.5 TB of Data
  - Hadoop, iText, JetS3t
Washington Post

- Hillary Clinton’s public record
- How to process 11,000 pages of data
- Developer suggests EC2
- 200 instance EC2 job running 12 hours later
- 11 hours to OCR and index

“This has been a big internal success: the politics dept hadn’t thought that a 17k pdf could be made searchable, let alone in 12 hours. So it’s definitely changing the understanding of what’s possible and encouraged them to think big...”
Animoto

- Dynamic Music Video Generator
- Upload images
- Upload music
- Generate music video
- Facebook Application
50 Servers to 3500 Servers in 3 Days
AWS Security White Paper

• Certifications
  – SOX
  – SAS 70 Type II
  – HIPAA

• Physical security

• System security

• Backups
Getting Started With AWS

- Create Developer Account
- Enter Payment Information
- Sign Up for Desired Services
- Retrieve Private and Public Keys
- Build & Deploy Application
- Monitor and Scale Application
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

• AWS Zone:
  www.awszone.com
Thank You!

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