

# CLOUD SERVICES



David Misshula  
@davidmisshula

Feb 26, 2013

# AGENDA

- Who am I?
- Joyent at Understoodit
- Why we switched to AWS
- Joyent vs AWS
- Other cloud services



# ME!

- Understoodit
- <http://understoodit.com/david>
- Before Understoodit - No DevOps with Node



# Why we chose Joyent

- Node & Joyent
  - Ryan Dahl & Isaac Schlueter
- Performance
- Customer Support
- Auto Scale
- Data Analytics
  - New Relic, NodeFly, DTrace



# Why we switched



# amazon web services™

- CHEAPER
  - \$120 vs \$40 per month, bring down machines
- We use other services on their network
  - Postgres Heroku, Cloudfront
- Multiple Locations
- SmartOS is not Ubuntu
  - HAProxy SSL, SysLog



VS



## PRICE

### Free Tier\*

As part of AWS's Free Usage Tier, new AWS customers can get started with Amazon EC2 for free. Upon sign-up, new AWS customers receive the following EC2 services each month for one year:

- 750 hours of EC2 running Linux/Unix Micro instance usage
- 750 hours of EC2 running Microsoft Windows Server Micro instance usage
- 750 hours of Elastic Load Balancing plus 15 GB data processing
- 30 GB of Amazon EBS Standard volume storage plus 2 million IOs and 1 GB snapshot storage
- 15 GB of bandwidth out aggregated across all AWS services
- 1 GB of Regional Data Transfer





VS



## PRICE

### JOYENT CLOUD (SMARTOS OR LINUX) VS AMAZON EC2 (LINUX)\*

| SmartOS / Linux<br>Joyent Machine** | PRICE/HR* | Linux<br>AWS Instance Type           | PRICE/HR* |                  |
|-------------------------------------|-----------|--------------------------------------|-----------|------------------|
| Extra Small (0.5GB / 1c / 15GB)     | \$0.03    | Micro (0.5GB / 1c / 15GB)            | \$0.04    | \$0.020 per Hour |
| Small (Default) (1GB / 1c / 30GB)   | \$0.085   | Small (Default) (1.7GB / 1c / 30GB)  | \$0.10    | \$0.060 per Hour |
| Large (8GB / 8c / 240GB)            | \$0.36    | Large (7.5GB / 2c / 240GB)           | \$0.51    | \$0.240 per Hour |
| Extra Large (16GB / 12c / 480GB)    | \$0.64    | Extra Large (15GB / 4c / 480GB)      | \$0.86    | \$0.480 per Hour |
| <b>Hi-Memory SmartMachines</b>      |           | <b>Hi-Memory On-Demand Instances</b> |           |                  |
| Large (16GB / 12c / 480GB)          | \$0.64    | Extra Large (17GB / 2c / 480GB)      | \$0.68    | \$0.410 per Hour |
| XL (32GB / 16c / 760GB)             | \$1.12    | Double XL (34GB / 4c / 760GB)        | \$1.17    | \$0.820 per Hour |
| Triple XL (64GB / 16c / 1.5TB)      | \$2.24    | Quadruple XL (68GB / 8c / 1.5TB)     | \$2.20    | \$1.640 per Hour |

\* Amazon EC2 estimates were calculated based on the AWS online calculator, using North America zones, and based on 100% utilization per month. 730 hours / month was used to calculate estimated hourly rates. Amazon pricing estimates include costs for bandwidth and support costs.



VS



## PRICE - BANDWIDTH

\$0  
(up to 20TB)

| Data Transfer OUT From Amazon EC2 To Internet |                            |
|---|----------------------------|
| First 1 GB / month                            | \$0.00 per GB              |
| Up to 10 TB / month                           | \$0.12 per GB              |
| Next 40 TB / month                            | \$0.09 per GB              |
| Next 100 TB / month                           | \$0.07 per GB              |
| Next 350 TB / month                           | \$0.05 per GB              |
| Next 524 TB / month                           | <a href="#">Contact Us</a> |





VS



## PERFORMANCE

### Joyent Delivers Greater Stability and Performance

|                              | Joyent                      | AWS                              |
|------------------------------|-----------------------------|----------------------------------|
| Performance telemetry        | ✓                           | ✗                                |
| Vertical CPU bursting        | ✓                           | ✗                                |
| Automated horizontal scaling | ✓                           | ✓                                |
| Disk I/O protection          | ✓                           | ✗                                |
| Persistent Storage           | Local<br>Software<br>Driven | Distributed<br>Network<br>Driven |
| CPU Access                   | Direct                      | Virtual                          |
| Networking                   | 20TB<br>FREE                | Pay per<br>TB                    |
| SLA*                         | 99.9999%                    | 99.95%                           |

\*Historical SLA Performance

- Visualization and Real-time Analytics
- Temporary Performance Boost
- Storage
- Service Level Agreement
- Bryan Cantrill - dtrace

# OTHER OPTIONS



nodejitsu



DigitalOcean



V M F A R M S







- Who are they
- Easy deployment
- NPM jitsu
- Lack of complete control
- 30 days free
- External DB providers
- Europe and US
- Websocket support, hands on support

| STAFF RECOMMENDATION                        |  |  |
|---|--|--|
| <b>Micro</b><br>1 <b>drone</b> for all apps | <b>Small</b><br>3 <b>drones</b> for all apps | <b>Regular</b><br>5 <b>drones</b> for all apps |
| <b>\$3</b><br>PER MONTH                     | <b>\$7</b><br>PER MONTH                      | <b>\$11</b><br>PER MONTH                       |
| <a href="#">ACTIVATE</a>                    | <a href="#">ACTIVATE</a>                     | <a href="#">ACTIVATE</a>                       |



- Cheap, cheap, cheap
- SSD
- Fedora, Ubuntu, CentOS
- New York, Amsterdam
- Auto Backups

|  |   |  |
|--|---|--|
| <b>512MB / 1 CPU</b><br><b>20GB SSD Disk</b><br>Monthly \$5.00    Hourly \$0.007 | <b>1GB / 1 CPU</b><br><b>30GB SSD Disk</b><br>Monthly \$10.00    Hourly \$0.015 | <b>2GB / 2 CPU</b><br><b>40GB SSD Disk</b><br>Monthly \$20.00    Hourly \$0.030    |
| <b>4GB / 2 CPU</b><br><b>60GB SSD Disk</b><br>Monthly \$40.00    Hourly \$0.060  | <b>8GB / 4 CPU</b><br><b>80GB SSD Disk</b><br>Monthly \$80.00    Hourly \$0.119 | <b>16GB / 8 CPU</b><br><b>160GB SSD Disk</b><br>Monthly \$160.00    Hourly \$0.238 |





V M F A R M S

- Operations as a service
- “handholding”
- Toronto!

### **1GB VM** **\$88/month**

Fully Managed  
Fully Redundant  
Encrypted off-site back-ups  
Monitoring and Trending  
**1024MB** Memory  
**50GB** Disk  
**2 CPU** Cores

***Sign Up Now!***

### **2GB VM** **\$164/month**

Fully Managed  
Fully Redundant  
Encrypted off-site back-ups  
Monitoring and Trending  
**2048MB** Memory  
**50GB** Disk  
**4 CPU** Cores

***Sign Up Now!***

### **4GB VM** **\$314/month**

Fully Managed  
Fully Redundant  
Encrypted off-site back-ups  
Monitoring and Trending  
**4096MB** Memory  
**50GB** Disk  
**4 CPU** Cores

***Sign Up Now!***

# TRADEOFFS

- What does it actually cost?
- Who uses them?
- Are they available to support?
- What is easiest?
- Does it just WORK?



# THANKS!

- <http://blog.davidmisshula.com>
- <http://joyent.com/products/joyent-cloud/pricing-comparison>
- <http://joyent.com/products/joyent-cloud/aws-comparison>
- <http://aws.amazon.com/free/>
- <http://jasonormand.com/2013/02/08/linode-vs-digitalocean-performance-benchmarks/>
- <http://mattconnolly.wordpress.com/2012/11/18/comparing-amazon-ec2-to-joyent-smartos/>
- <http://news.ycombinator.com/item?id=4802957>
- <http://joyent.com/content/05-developers/01-resources/43-a-framework-for-selecting-the-right-cloud-infrastructure-provider/121204-aws-whitepaper.pdf>