**CS551 Advanced Software Engineering**

Feb. 25 (T), 2014

In-Class Exercise

<http://cloud-computing.findthebest.com/compare/5-15-17-24/Amazon-EC2-vs-Google-App-Engine-vs-Microsoft-Windows-Azure-vs-IBM>

Name: Sailaja Pedaprolu

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Amazon**  **AWS** | **Google**  **App Engine** | **Microsoft**  **Azure** | **IBM**  **Smart Business Dev.** |
| Focus | | Infrastructure | Platform | Platform | Infrastructure |
| Infrastructure & Virtualization Architecture | | OS Level running on Xen hypervisor | Application Container | OS level through fabric controller | IaaS  Hypervisors |
| Platforms | | CentOS, Amazon Linux, Gentoo Linux, Red Hat Enterprise Linus, Windows server 2003 and 2008, Oracle Enterprise Linux, OpenSUSE Linux, Debian Fedora | Linux Operating Systems, windows server 2008 | Cent OS, Debian, Fedra, Oracle Enterprise Linux, Red Hat Enterprise Linux, Ubuntu Linux, Windows Server 2003, 2008 | Windows Server 2008, Red Hat Enterprise Linux, Suse Linux |
| Persistent Storage | | 160 GB | 500 MB | 225GB | 60GB |
| Monitoring | | Amazon Cloud Watch | No | Yes | Yes |
| Load Balancing | | Elastic | Automatic Scaling | KEMP Azure Load Balancer | Yes |
| Message Queues | | Yes-Amazon SQS | Yes-Task & Push Queues | Yes | Yes |
| Development Tools | | SDKs, IDE Toolkits, and Command Line Tools for android, iOS, Java, .NET, PHP, Python, Ruby | SDKs, IDE Toolkits  APIs for the datastore, google accounts, URL fetch, image manipulation,  Email Services | Live Services, Microsoft .Net, Microsoft SQL services, Microsoft  Dynamics CRM Services | IBM Rational tools |
| Integration with other services | | Yes  Amazon Redshift  Amazon Cloud Front | Yes  Google Cloud SQL | Yes | Yes |
| Web APIs | | Yes  Amazon EC2 Query API  Amazon S3 API  Amazon Web services API | No | Yes | Yes |
| Programming  Framework | | AWS flow framework for java and ruby  Django  Drupal | Django  Webapp2  Java  Python | Basic, C#, Java, PHP, Python, Ruby, Visual Basic Microsoft.NET | APL, C#, Java, PHP, Python, Ruby, Visual Basic, WinDev |
| Pricing | Machine | $0.085 to$3.16 | $0.14 per hour | $0.12 per hour | $0.09per hour |
| Storage | $0.055 to $0.165 per GB | $0.15 per GB | $0.15 per GB | $0.10 per GB |
| I/O | $0.01 to $0.011 per 10,000 read requests | $0.10 per hour | $0.10 per hour | $0.10 per hour |
| Bandwidth | $0.11 per GB (incoming traffic)  $0.13 per GB (outgoing traffic) | $0.10 per GB (incoming traffic)  $0.12 per GB (outgoing traffic) | $0.10 per GB (incoming traffic)  $0.15 per GB (outgoing traffic) | $0.09per GB (incoming traffic)  $0.20 per GB (outgoing traffic) |