**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:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Amazon**  **AWS** | **Google**  **AppEngine** | **Microsoft**  **Azure** | **IBM**  **Smart Business Dev.** |
| Focus | | Infrastructure as a Service (Iaas) | Platform as a Service (Paas) | Platform as a Service (Paas) | Infrastructure as a Service (Iaas) |
| Infrastructure & Virtualization Architecture | | Xen Hypervisors (citrix Xen 6.5) | Application Container | OS level through fabric controller | hypervisors |
| Platforms | | Amazon LINUX  Cent OS, Debain  Oracle Enterprise LINUX, Red hat Enterprise LINUX, SUSE Enterprise LINUX, Ubuntu  Windows Server 2008 and 2012 | Linux and Windows | Linux and Windows | Red hat Enterprise, SUSE Enterprise Linux, Windows Server 2012 |
| Persistent Storage | | 5GB | 500MB | 225GB | 60GB |
| Monitoring | | YES | NO | YES | YES |
| Load Balancing | | YES ( elastic load balancing with access logs) | YES | YES | YES |
| Message Queues | | YES ( done with SQS) | YES (with push queues and task queues) | YES (with service bus queues) | Available |
| Development Tools | | Software Development Kit (SDK) for Amazon EC2 | Java plugins like Eclipse, Python | SDK and Microsoft .NeT with visual studio | IBM rational tools like IBM Domino Designer |
| Integration with other services | | YES possible | YES possible | YES possible | YES possible |
| Web APIs | | YES | YES | YES | YES |
| Programming  Framework | | .NET, java, PHP, Python, Ruby | .Net, Go, java, PHP, Python | Java, Node, .NET, Perl, PHP, python, Ruby | Java, Node, Ruby |
| Pricing | Machine | $0.145/hr | $0.10/hr | 2 cores: $0.18/hr  8 cores: $0.72/hr | 0.096/hr |
| Storage | $0.125 per GB/Month | $0.08 per hour | $0.095 per GB | $0.19 per Hour |
| I/O | $3.580 per hour | $0.08per hour | 0.072$ per hour | 0.125$ per hour |
| Bandwidth | Outbound 12cents per GB  Inbountd 0 cents per GB | Outbound 12cents per GB  Inbound free | Inbounds 10 cents per GB  Outbound 12cents per GB | Inbound 15 cents per GB  Outbound 15cents per GB |