|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | Amazon AWS | Google AppEngin | Microsoft Azure | IBM Smart Business Dev. |
| focus | | Network infrastructure, targeting mainly online services for the client applications | Platform and runs on google infrastructure | Cloud Computing Platform | Cloud Computing Platform |
| Infrastructure and virtualization architecture | | Ec2 Elastic Compute Cloud upon which you can instantiate 32 or 64 bit Amazon Machine Images or upload your XEN virtual machine images | Search engine which can manage high traffic | Virtual Machine Instances – multiple sizes for 32 and 64 bit architectures. | Open cloud infrastructure |
| Platforms | | Infrastructure as a Service, Linux and Windows | Platform as a service |  | Infrastructure as a Service |
| Persistent Storage | | Elastic Block Storage(EBS) | Cloud Storage |  | Persistent Storage with Virtual disks |
| Monitoring | | Amazon Cloud Watch | Google cloud monitoring API |  | IBM Smart Cloud MOnitoring |
| Load Balancing | | Elastic Load Balancing(ELB) | Google Compute Engine | Load balancing achieved by Hadoop MapReduce and virtualization. | Randomized hydrodynamic load balancing |
| Message Queues | | Simple Queue Service(SQS) | Pull, Push and Task queues | Not Available | IBM Web sphere message queues |
| Development Tools | | SDK’s, eclipse plugins, IDE toolkit, web console command line API’s for all services | SDK, Eclipse | Java plugin for Eclipse | Rational software solutions, Web 2.0 solution tools |
| Integration with other services | | SQS, Simple DB | Database,API’s | Not Available | Filesystem, Redis, Memcache, RabbitMQ |
| Web APIs | | yes | yes | yes | yes |
| Programming Framework | | Java, .NET, PHP, Python, Django | Python |  | Python framework,Java |
| Pricing | Machine CPU | $0.10 per hour per GB | $0.10 per hour per GB | $0.12 per hour per GB | $0.10 per hour per GB |
| Storage | $0.01 to $0.03 per GB per month | $0.005 to $0.15 per GB per month depending on the size | $0.01 to $0.15 per GB per month | $0.150 per GB per Month |
| I/O | $0.05for 1000 I/O operations | $0.01 for 1000 operations | $0.01 for 1000 operations | $0.01 / 1000 operations |
| Bandwidth | $0.1 to $0.15 depending on incoming or outgoing | $0.10 to $0.12 depending on the incoming or outgoing traffic | $0.10 to $0.45 depending on the incoming or outgoing traffic | $0.10 to $0.12 depending on the incoming or outgoing traffic |

Cloud Computing Platforms Comparison