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| --- | --- | --- | --- | --- | --- |
|  | | Amazon AWS | Google AppEngin | Microsoft Azure | IBM Smart Business Dev. |
| focus | | Infrastructure | platform | Infrastructure | Infrastructure |
| 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 | Specification provided by Google | Servers at back end runs in virtual machines on Windows Azure while front end is in net. Servers can be customized according to your specifications | Virtual Machine Instances-multiple sizes for 32 &64 bit architecture |
| Platforms | | Linux  Windows | Not available | Microsoft Sever 2008 | Redhat, SUSE & Windows |
| Persistent Storage | | EBS Elastic Block Storage  S3 Simple Storage Service | Gdisk-bulk storage | Standard application storage | Bulk Storage |
| Monitoring | | Cloudwatch | Web-based Administration Console | MP-Management Pack | IBM Tivoli |
| Load Balancing | | Elastic Load Balancing  Elastic Load Balancing automatically distributes incoming application traffic across multiple Amazon EC2 instances in [the cloud](http://aws.amazon.com/what-is-cloud-computing/). It enables you to achieve greater levels of fault tolerance in your applications, seamlessly providing the required amount of load balancing capacity needed to distribute application traffic. | available | available | available |
| Message Queues | | Amazon Simple Queue Service (SQS) is a fast, reliable, scalable, fully managed message queuing service. SQS makes it simple and cost-effective to decouple the components of a cloud application. You can use SQS to transmit any volume of data, at any level of throughput, without losing messages or requiring other services to be always available.  The Service Highlights:  Reliable  Simple  Scalable  Secure  Inexpensive  SMS-Simple Message Service | Not available | Azure DataQueues | Not available |
| Development Tools | | Web Console, Command Line API’s for all services. SDK’s for Java, PHP, Rails & Python as well as several Eclipse plugins | Java plugin for Eclipse & Python software development | Visual Studio & SDK for .NET | Java plugin for Eclipse |
| Integration with other services | | All Services are designed to work together like the pieces a chessboard | A number of APIs available like maps, contractors, calendar etc | Not Available | Not Available |
| Web APIs | | yes | yes | unknown | yes |
| Programming Framework | | .NET Ruby  Java  PHP  Python | Python Java  PHP GO | .NET Python  Java Ruby  Node  PHP | Java  Node  Ruby |
| Pricing | Machine CPU | $0.14 to $0.154 per hour depending on location |  You pay $0.10 per hour of CPU usage for processing requests   6.5 hours of CPU time is free   You do not pay for CPU idle time | You pay $0.12 per hour of CPU usage for processing requests | $0.1 per hour (for 1.5 GHz Intel Processor) |
| Storage | $0.15 per GB per month |  You pay $0.15 per GB per month – the size includes overhead, metadata  and storage required for indexes   It includes data stored in the datastore, memcache, blobstore   You pay for CPU usages for data I/O at $0.10 per hour   60 hours of CPU time for data I/O is free   Up to 1 GB of storage is free – FAQ page says that it is 500 MB   You are charged every day at $0.005 GB per day after subtracting your  free quota |  You pay $0.15 per GB per month   Storage transactions are charged separately at $0.01 per 10,000  transactions | $0.15 per GB per month |
| I/O | $0.01 for 1,000 write and $0.001 for 1,000 read | $0.01 for 1,000 write and $0.001 for 1,000 read | $0.01 for 1,000 write and $0.001 for 1,000 read | $0.01 for 1,000 write and $0.001 for 1,000 read |
| Bandwidth | $0.1 per GB for incoming traffic and $0.15 per GB for outgoing traffic |  You pay $0.10 per GB for incoming traffic   You pay $0.12 per GB for outgoing traffic   1 GB of incoming traffic and 1 GB of outgoing traffic is free |  You pay $0.10 per GB for incoming traffic – rates for Asia are different  $0.30 per GB   You pay $0.15 per GB for outgoing traffic – rates for Asia are different  $0.45 per GB | $0.1 per GB for incoming traffic and $0.15 per GB for outgoing traffic |