|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | Amazon AWS | Google AppEngin | Microsoft Azure | IBM Smart Business Dev. |
| focus | | Infrastructure | platform | Platform | Infrastructure |
| Infrastructure and virtualization architecture | | OS Level running on a Xen hypervisor | Application container | OS level through fabric controller | SaaS, IaaS, Paas |
| Platforms | | Linux  Windows | Not available | Linux  Windows | Linux  Windows |
| Persistent Storage | | To persistent data storage you can one of the 3 alternatives – **Simple DB**,  Simple Storage Service (**S3**) or Relational Database Service (**RDS**) | Gdisk-bulk storage | Standard application storage | Bulk storage |
| Monitoring | | Cloudwatch | Web-based Administration console | MP-Management pack | IBM Tivoli |
| Load Balancing | | Available | 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. | With the Task Queue API, applications can perform work outside of a user request, initiated by a user request. | Azure DataQueues | Not available |
| Development Tools | | AWS even provides SDKs for many popular platforms like Java, Ruby, PHP, Node.js, .Net, and more. | Webapp2 and Jinja2 for Python.  Maven for Java.  Cloud SQL for PHP.  Html/template package for Go | The **development** environment is **Visual Studio** through an SDK | Java plugin for Eclipse |
| Integration with other services | | All Service are designed to work together like the pieces a chessboard | A number of APIs available like maps, contractors, calendar | Unknown | Not available |
| Web APIs | | yes | yes | yes | yes |
| Programming Framework | | .Net, Java, PHP, Python, Rudy | Python, Java, PHP, Go | Microsoft .NET | Java, Node, Rudy |
| 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 | 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 | Incoming network traffic is free  Outgoing network traffic is 0.12 per GB | 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** | $0.01 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 | 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 |

Cloud Computing Platforms Comparison