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| --- | --- | --- | --- | --- | --- |
|  | | Amazon AWS | Google AppEngin | Microsoft Azure | IBM Smart Business Dev. |
| focus | | Infrastructure | Infrastrucutre | Infrastructure | Infrastructure and platform |
| Infrastructure and virtualization architecture | | Elastic Compute cloud which allows business subscribers to run application programs and can serve as practically unlimited set of VMs | Creates and application and servers for users which is easy to deploy on Google and run on it | For hosting and management, Low level scalable storage, computation and networking | Consumed via self service or managed service.  It is a private which can enjoy the benefits in secure environment. |
| Platforms | | IAAS(Infra structure as a service) | PAAS(platform as a service) | IAAS(Infra structure as a service),PAAS(Platform as a service) | IAAS(Infra structure as a service) |
| Persistent Storage | | Amazon Elastic Block Store | Google Cloud Storage | Uses Azure SQL database in virtual machines, free to run NoSQL tools such as MongoDB and Casandra. | IBM Blue Mix, IBM WebSphre |
| Monitoring | | Amazon cloud watch is the monitoring service. | Google cloud uses the monitoring API in the developer’s console. | Azure management portal makes the monitoring done. It can be set to minimal and verbose for each service role. | IBM smart cloud monitoring tool monitors the health and performance of a private cloud infrastructure. |
| Load Balancing | | ELB (Elastic Load Balancing) that automatically distributes incoming traffic across multiple instances. | Google compute engine | There are two levels of load balances. First DNS level uses round robin and traffic manager methods and Second Network level uses Azure load balancer. | Elastic load balancing is a shared service that provides routing and load balancing to multiple deployed web applications. |
| Message Queues | | Simple Queue Service(SQS) which is a fast, reliable service.. SQS makes it simple and cost-effective. SQS can be used to transmit any volume of data, at any level of throughput, without losing messages . | Contains Push queues, Task queue and pull queue | Azure Data Queues, Service Bus Queues | Soft Layer message queues,  Web sphere Message Queues |
| Development Tools | | Web Console, Command Line API’s for all services. SDK’s for Java, PHP, Rails & Python as well as several Eclipse plugins | Eclipse, Maven, Git, | Azure SDKs, Azure Powershell , Visual Studio,.Net framework and command-line tools for management and deployment. | Plugin for Eclipse , IBM Domino Designer, Connector for SAP solutions, Expeditor, Workflow, Enterprise Integrator for Domino |
| Integration with other services | | DynamoDB is integrated with other AWS services | A number of APIs available like maps, weather, Finance, calendar etc | Microsofts BizTalk service | CRM, sandbox, openclove, teampoint |
| Web APIs | | Yes | Yes | Yes | Yes |
| Programming Framework | | .NET, Java, PHP, Python  Ruby Rails | Python | . NET, Python, Java, Ruby Rails, Node, PHP | Java, Node, Ruby Rails |
| Pricing | Machine CPU | $0.14 per hour | $0.10 per hour | $0.12 per hour | $0.10 per hour |
| Storage | $0.25 per GB for month | $0.15 per GB for month | $0.15 per GB for month | $0.15 per GB for month |
| I/O | $0.01 for 1000 write,  $0.001 for 1000 read | $0.01 for 1000 write,  $0.001 for 1000 read | $0.01 for 1000 write,  $0.001 for 1000 read | $0.01 for 1000 write,  $0.001 for 1000 read |
| Bandwidth | $0.10 per GB incoming traffic  $0.15 per GB for outgoing traffic | $0.10 per GB incoming traffic  $0.12 per GB for outgoing traffic | $0.10 per GB incoming traffic  $0.15 per GB for outgoing traffic | $0.1 per GB incoming traffic  $0.15 per GB for outgoing traffic |

Cloud Computing Platforms Comparison