**IBM Cloud Services:**

**What is IBM Cloud? Services Offered, Features & Pricing**

When it comes to public cloud computing vendors, IBM doesn’t always enjoy the same mindshare as Amazon Web Services (AWS), Microsoft Azure and Google Cloud Platform. However, some analyst reports have claimed that IBM actually has a larger share of the infrastructure as a service (IaaS) and platform as a service (PaaS) market than Google. Other analyses place it solidly in fourth place behind the “big three.” Either way, IBM is one of the largest cloud computing providers on the planet.

Telling the story of IBM’s public cloud computing capabilities is complicated by the fact that IBM uses a lot of different brand names for its cloud services. The “IBM Cloud” label is an umbrella category that encompasses its hardware, software and services for helping enterprises build private clouds, as well as its Bluemix public cloud services. The “Bluemix” name used to be reserved for IBM’s PaaS services for developers, but now Bluemix also offers some IaaS services.

**Cloud Storage and Backup Benefits:**

Protecting your company’s data is critical. Cloud storage with automated backup is scalable, flexible and provides peace of mind. Cobalt Iron’s enterprise-grade backup and recovery solution is known for its hands-free automation and reliability, at a lower cost. Cloud backup that just works.

**History of IBM Cloud:**

IBM begins its telling of the history of cloud computing not with AWS in the early 2000s, but with the invention of the mainframe back in the 1950s. It follows the thread of the story through IBM’s 1970s development of the VM operating system, which enabled multiple virtual machines on a shared node.

The company first dove into modern cloud computing in 2008, when it announced a software as a service collaboration suite codenamed Bluehouse. That suite became LotusLive, which launched in early 2009 and later was renamed IBM SmartCloud for Social Business.

In 2009, IBM also launched Cloudburst, a tool for setting up a private cloud, and its first real IaaS service, the IBM Smart Business Storage Cloud, appeared that same year.

The company continued adding cloud services to its portfolio, and in 2011 it announced a major new cloud effort under the SmartCloud brand name.

IBM’s cloud efforts took a major step forward in 2013, when it acquired SoftLayer, which was then the world’s largest privately held cloud computing infrastructure provider. IBM continued running SoftLayer as a separate service, but also begin integrating SoftLayer technology into its cloud hardware, software, and services. At the same time, IBM also set up a Cloud Services division within the company.

In early 2014, IBM said it would expand SoftLayer and launched a public beta of a PaaS service called Bluemix. A few months later, Bluemix hit general availability, and since then, it has taken on more and more importance in the overall IBM Cloud strategy. Today, Bluemix encompasses IaaS services and IBM’s extensive Watson cognitive computing services, as well as its PaaS offerings.

**IBM Cloud Services:**

IBM seems to be focusing more attention on Bluemix than SoftLayer, this list will cover its Bluemix offerings rather than those available through SoftLayer. The company divides its Bluemix Services into twelve categories:

**Compute Infrastructure —** includes its bare metal servers (single-tenant servers that are highly customizable), virtual servers, GPU computing, POWER servers (based on IBM’s POWER architecture) and server software

**Compute Services —** includes OpenWhisk serverless computing, containers and Cloud Foundry runtimes

**Storage —** includes object, block and file storage, as well as server-backup capabilities

**Network —** includes load balancing, Direct Link private secure connections, network appliances, content delivery network and domain services

**Mobile —** includes IBM’s Swift tools for creating iOS apps, its MobileFirst Starter package for getting a mobile app up and running, and its Mobile Foundation app back-end services

**Watson —** includes IBM’s artificial intelligence and machine learning services, which it calls “cognitive computing,” such as Discovery search and content analytics, Conversation natural language services and speech-to-text

**Data and analytics —** includes data services, analytics services, big data hosting, Cloudera hosting, MongoDB hosting and Riak hosting

**Internet of Things —** includes IBM’s IoT platform and its IoT starter packages

**Security —** includes tools for securing cloud environments, such as a firewall, hardware security modules (physical devices with key management capabilities), Intel Trusted Execution Technology, security software and SSL certificates

**DevOps —** includes the Eclipse IDE, continuous delivery tools and availability monitoring

Application services — includes Blockchain, Message hub and business rules, among others

**Integration —** includes tools for building virtual bridges for hybrid cloud and multi-cloud environments, such as API Connect and Secure Gateway

Prices for IBM Cloud Bluemix services vary widely and change frequently. The chart below provides an overview of some of the more popular Bluemix services.

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In addition, IBM has another IaaS service called SoftLayer. Organizations can still purchase cloud computing services under the SoftLayer brand name, but IBM seems to migrating toward the Bluemix brand. These days the company describes SoftLayer as the infrastructure that forms “the core of IBM Bluemix,” and the “about us” link on the SoftLayer website takes you to the Bluemix site.

If all that weren’t confusing enough, over the years IBM has used a number of other brand names for its cloud services, including Cloudburst, Smart Business and SmartCloud.

**Service Features Costs**

**Bare metal Servers**

* Highly customizable and can be built to spek
* Excellent performance
* Available within 20 minutes to 4 hours
* Single-tenant servers that are not
* shared with any other organizations
* Ideal for I/O-intensive workloads Single processor servers start at $158 per month or $0.595 per hour. Quad-processor configurations start at $1,439 per month or $1.893 per hour.

**Virtual Servers**

* Both public and private nodes available
* Local and SAN storage options available
* Fast performance
* Hybrid cloud capabilities
* Global data centers Prlces start at $0.038 per hour or $25 per month for a public node with 1 core and 1 GB of RAM.

**GPU servers**

* Designed for HPC, deep learning and AI use cases
* Pay for GPU capabilities only when in use
* Choice of NVIDIA Tesla or NVIDIA GRID GPUs Servers equipped with an NVIDIA Tesla M60 start at $3.50 per hour or $1,709 per month.

**Object Storage**

* Free tier
* Slmple pricing based on data access
* Geographically dispersed data centers for resiliency
* Integrated security
* Flex storage option for automatic tiering Standard access for the flrst 500TB is $0.03 per GB per month, while Cold Vault access Is $0.011per GB per month. Additional fees for public outbound bandwldth and operational requests

**Watson Discovery**

* Free tier with a 30 day trial
* Quickly build a cognitive search and content analytics engine
* Includes pre·enriched datasets like the Discovery News collection
* SDKs for Node.js, Java, Python, iOS and Unity Pricing starts at $960 per environment per month for a Size 1 Environment. News queries are $0.10 each.

**Cloudera Hosting**

* Supports Cloudera Hadoop
* Runs on bare metal servers
* Customization capabilities available
* Can be deployed in a few hours Recommender server configurations start at $749 per month.

**IBM Cloud Advantages**

The IBM Cloud has a few unique offerings that its competitors can’t match. For example, it is the only major cloud vendor that emphasizes its bare metal servers, which can be very attractive for organizations that have particular performance or security requirements. IBM also gives organizations a lot of flexibility and customization options that the other vendors don’t have. On the downside, it can take up to several hours to configure and deploy a custom server, so these options don’t offer the same speed as AWS, Azure or Google.

IBM also stands out in some other areas, like its cutting-edge blockchain offering, and its Watson cognitive computing capabilities. Ever since its Watson technology appeared on the television game show Jeopardy, IBM has been garnering attention for its artificial intelligence capabilities — although it does face stiff competition from Google and others.

Organizations that already use IBM technology, such as Power8 servers or IBM software, in their data centers will likely be drawn to the IBM Cloud in the same way that Microsoft users are drawn to Azure. The company has made significant investment in enabling hybrid cloud computing, and many of its cloud management and security tools work across hybrid and multi-cloud environments.

Gartner has noted, “Customers report positive experiences of IBM’s Bluemix support and their business relationship. Strategic support of the hybrid deployment model and the broad spectrum of platform choices, from hosted to cloud-native, are well-suited to the variety of cloud migration strategies used by IBM customers.” Similarly, in a survey conducted by Cowen & Co., IBM scored high for the quality of its IT support, but those surveyed cited its cost as a weakness.

**When To Use IBM Cloud**

Organizations that already have significant investments in other IBM products should consider IBM Cloud for their public cloud needs, particularly if they have plans to build a hybrid environment. IBM is also currently the leader in the managed private cloud space.

In addition, enterprises that need high-performance servers or have stringent security or compliance needs will likely want to investigate IBM’s bare metal servers and/or its GPU servers. This is a stand-out area for IBM where the other leading cloud vendors do not compete.

Developers working on big data, artificial intelligence or machine learning applications are another strong target market for IBM. Its Watson cognitive computing services are definitely worth investigating. As AI becomes more commonplace, Watson could give the IBM Cloud an edge over the competition. And in general, the Bluemix cloud development platform offers a robust set of features that will be attractive to most programmers, particularly those using DevOps approaches.

If you’re in the market for cloud services, don’t do anything until you’ve read our comprehensive cloud computing guide, which will help you select cloud types and providers that best suit your needs.

**When Not To Use IBM Cloud**

If you need to set up a short-term cloud computing instance in a hurry, IBM probably isn’t the vendor for you. Where the other cloud vendors can spin up instances in seconds or minutes, it can take up to four hours to configure a Bluemix bare metal server. While the flexibility and customization possibilities make that time lag acceptable in some situations, it probably wouldn’t be the best choice for a team setting up a quick dev or test environment that they only plan to use for a few hours or days.

IBM Cloud also is probably not the best choice for very budget-conscious organizations. While its storage prices are extremely competitive, its compute prices are less so. The company seems to have placed a bigger emphasis on flexibility and performance than on price leadership in this area.

Overall, the IBM Cloud offers strong cloud computing capabilities with some unique cloud services that other cloud vendors do not currently have. Its brand names are a little confusing, and it’s not clear what it will eventually do with its SoftLayer service. However, the company continues to invest in additional cloud data centers and seems determined to maintain or grow its share of the public cloud market.

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