



# What Sellers Need to Know

SoftLayer® an IBM®  
Company

**ANNO**

## Table of Contents

SoftLayer an IBM Company .....	1
Cloud Infrastructure .....	1
IaaS Competitive Landscape .....	2
Amazon Web Services (AWS).....	2
Google .....	3
Microsoft .....	3
Rackspace .....	3
CenturyLink.....	4
Not all Clouds are Created Equal.....	4
Customer Workloads for IaaS .....	5
What Makes SoftLayer Unique.....	5
Customer Consideration Criteria .....	6
Areas where IaaS may not be the best option.....	7
Quick Hit Selling Points.....	8
Key Papers and Articles.....	9
<a href="#"><u>Neovise: A New Breed of Managed Hosting for the Cloud Computing Age</u></a> .....	9
<a href="#"><u>Why IBM will Win the War with Amazon Web Services</u></a> .....	9
<a href="#"><u>IBM will Beat Amazon Web Services Because Process Beats Product</u></a> .....	9
<a href="#"><u>What is Different about Softlayer in the Managed Hosting Business?</u></a> .....	9

## SoftLayer an IBM Company

SoftLayer was founded in 2005 and acquired by IBM in July of 2013. SoftLayer provides cloud infrastructure as a service (IaaS) from 13 data centers in the US, Asia, and Europe and a global footprint of 17 network points of presence. Products and services include bare metal, virtual servers and turnkey solutions for big data and private clouds. SoftLayer's triple network architecture, easy-to-use customer portal, and robust API for full remote-access of all product and service management options provided unique market advantages.

The SoftLayer infrastructure is now the foundation of IBM's cloud portfolio, including extensive middleware software and solutions. On January 2014, IBM committed to investing \$1.2B to expand its global cloud operations in all major geographies and financial centers. The investment will grow SoftLayer's global footprint to 40 data centers across five continents and will double SoftLayer cloud capacity.

## Cloud Infrastructure

Cloud infrastructure can be broken down into several different categories. Each has distinct characteristics that define them.

**Infrastructure as a Service (IaaS)** is the most basic cloud service model offering computers, physical or (most often) virtual machines along with storage and networking infrastructure. The hallmark of IaaS is that it is deployed via self-service in a highly automated way, on-demand or in near real time. Typical billing options are by the minute, hour or month. The provider manages the data center, hardware and virtualization. The operating system, middleware and application are managed by the customer or as an add-on managed service from the IaaS provider or a third party provider (managed cloud).

IaaS is owned and operated by a service provider, but may be delivered on-premises at a customer's data center or hosted location. IaaS can use one software instance for multiple client organizations ("public" or "multi-tenant"), or use one software instance for a single client organization ("private" or "single-tenant").

Cloud IaaS provider offerings vary because the underlying technologies and implementations differ among providers- leading to material differences in availability, performance, security and service features.

[Softlayer](#) is an IaaS provider.

**Platform as a Service (PaaS)** providers deliver a computing platform, typically including an operating system, programming language execution environment, database and web server. This provides application developers the ability to develop and run their software solutions without the necessity to buy and manage the underlying hardware and software layers.

[IBM BlueMix](#) is IBM's PaaS offering.

**Software as a Service (SaaS)** is a software deployment model that provides users access to application software and databases via the cloud. Cloud providers manage the infrastructure and platform that run the applications. SaaS is typically priced on a pay-per-use basis using a subscription fee.

The [IBM Marketplace](#) has many IBM and Partner SaaS products.

## IaaS Competitive Landscape

Many Cloud providers offer IaaS. The following are some of the major providers along with a few details of their offerings.

### *Amazon Web Services (AWS)*

AWS, a subsidiary of Amazon.com offers highly automated, cost-effective IT capabilities delivered in a flexible on-demand manner. They are the market share leader in the IaaS space with an estimated [40% of the market](#) with more than five times the compute capacity in use than the aggregate total of the next 14 providers. They have a large ecosystem of technology and consulting and a diverse customer base of developers, small and medium business, large enterprise and government including enterprise and mission critical applications.

AWS has groups of data centers (“regions”) on the East and West Coasts of the US, a region dedicated to the U.S. federal government along with international sites in Ireland, Japan, Singapore, Australia, Brazil and China.

Elastic Compute Cloud (EC2) offers multi-tenant, fixed-size, and nonresizable, Xen virtualized VMs without auto-restart. Dedicated instances of single-tenant VMs are also available. In addition, special options for HPC and GPUs are offered. VM storage is short term with persistent storage requiring VM-independent block storage (Elastic Block Store). Options exist for SSDs and storage performance guarantees. Simple Storage Service (S3) is AWS object-based storage option and is integrated with CloudFront, their content delivery network (CDN). AWS also offers a cloud storage gateway device and Glacier, their long-term archive storage option.

AWS offers a full range of networking options. Amazon Virtual Private Cloud (VPC) provides complex networking and IPsec VPN.

AWS’s support offerings are tiered based on the level of support that a customer purchases. They are augmented by a network of partners, including Systems Integrators offering development expertise, managed services and professional services along with smaller consulting and managed services partners. AWS Enterprise tier support offers a dedicated account manager and a higher degree of support, but carries up to a 10% premium on the customer’s overall AWS spend.

## **Google**

Google Cloud Platform combines Google Compute Engine (GCE) an IaaS offering launched in December 2013 with Google App Engine, an application PaaS offering launched in 2008 along with a range of complementary services.

GCE groups data centers in “regions”, each consisting of at least two availability zones. It has a central US region, a European region in Belgium, and an Asia region in Taiwan

GCE offers multitenant, fixed-size and nonresizable, KVM-virtualized VMs, persistent VM storage and also VM-independent encrypted block storage.

GCE does not allow third-party private connectivity

Enterprise-grade support is available for an additional fee.

## **Microsoft**

Microsoft launched Azure Infrastructure Services in April 2013 as an IaaS offering.

Azure Infrastructure Services are available in multiple data centers in the U.S. and in Ireland, the Netherlands, Hong Kong, Japan, Singapore, China and Brazil.

Azure VMs are fixed-size, paid-by-the-VM, and Hyper-V virtualized. “Virtual hard disk” (block storage) is persistent and VM-independent. Object-based cloud storage is integrated with a CDN.

Azure does not support complex network topologies. Azure ExpressRoute is a partner exchange that supports third-party connectivity.

Enterprise-grade support is available for an additional fee.

## **Rackspace**

Rackspace is an independent Web and managed Web hoster. It is one of the founders of OpenStack and can support custom OpenStack-based private clouds in its own data centers or in customer data centers.

Rackspace Public Cloud is located in data centers in central and eastern U.S., the U.K., Australia and Hong Kong.

Rackspace Public Cloud is multitenant, fixed-size, Citrix Xen-virtualized and based upon OpenStack

There is no self-service network security and private connectivity requires the use of the RackConnect service.

Optional managed services are available for in-depth support. Rackspace announced [new managed cloud service offerings in July 2014](#) as a differentiator to other major IaaS providers.

## CenturyLink

CenturyLink acquired Savvis, a web hoster in 2011 and Tier 3, a cloud IaaS provider in November 2013 to create CenturyLink Technology Solutions business unit. It provides a broad range of offerings, including collocation, managed hosting, data center outsourcing and, with its acquisition of AppFog, PaaS.

CenturyLink Cloud (CLC) is available in multiple data centers across the U.S., along with Canada, Germany and the U.K. Its private cloud offerings are available in a broad range of data centers globally.

CLC and Cloud Data Center 2 (CDC2) are both multitenant, paid-by-the-VM, VMware-virtualized offerings. CLC has persistent local storage with an SSD option, in addition to VM-independent block storage.

Most of the CLC data centers are not yet privately connected via the CenturyLink network.

Managed services are available for in-depth support of both CLC and CDC2. They also offer database as a service and private cloud IaaS.

## Not all Clouds are Created Equal

Comparing IaaS providers is a challenge due to the diversity of offerings, performance differences and varieties of add-on services. Customers with simple requirements will find most any of the top IaaS providers will meet their needs. The more complex a customer's needs and requirements the more complex the IaaS offering needs to be to meet customer expectations.

Peter Wayner of InfoWorld highlighted some of the differences in his March 14, 2014 article [“Cloud review: 8 public cloud services put to the test”](#). In the article, he points out, “The most surprising revelation after all this exploration was that the cloud world is remarkably diverse” and “the cheapest machine for you may not be the cheapest machine for me” due to differences in performance, networking, storage and other options.

Sellers with an in-depth understanding of the IaaS market and options can play a vital role assisting customers navigating the options and choices – much like the traditional role of an Reseller - instead of assisting with physical machines in the data center, the product is IaaS in the Cloud.

## Customer Workloads for IaaS

IaaS is being used to supplement and sometimes replace traditional data center infrastructure. Broadly, there are three categories of customer needs that utilize cloud IaaS.

- Application hosting of a single or multiple applications
- Virtual Data Center (VDC) that serve a broad range of different workloads
- Batch computing, such as analytic analysis

Some of the customer workloads have mission-critical requirements

## What Makes SoftLayer Unique

SoftLayer is built to provide the highest performing cloud infrastructure available. A few of the key features enabling this include:

- Network of Networks – includes a public network, private network and internal management network. Each system in the data center has three separate network interfaces to each network that provides segregated, secure traffic to provide greater access and streamlined management. There are more than 2,000 Gbps of connectivity between data centers and 17 network points of presence (PoPs) with multiple 10Gbps connections per location from leading network carriers and public peering links to additional Internet access networks.
- Configuration diversity – SoftLayer provides a menu of options when configuring CPU, memory and storage. Other IaaS providers, such as AWS provide an array of pre-configured bundles to select from. While these bundles offer many choices and fit the needs of many, they do not offer the granular flexibility that SoftLayer provides.
- Transparency – With SoftLayer you know the data center, pod, rack, rack unit, power port, network port, server, NIC controllers, firmware and serial number of the resources deployed along with an audit trail of all actions and resources.
- Robust API Interfaces – SoftLayer provides more than 3,000 documented API methods across 180 discrete services to automate and interact with its products. These [APIs](#) are programmatic access points for integration and automation with SoftLayer services.
- A different kind of data center – Global data centers with first class computing, storage, and networking. Each location is built, outfitted, and operated the same - giving the exact same capabilities and availability in all locations.
- All-in-one automated platform – SoftLayer data centers and network share a single, property management system. This tool provides single pane of glass control of all resources, including bare metal servers, virtual servers, storage devices and network control. In addition, all resources are accessible by API, portal interface, and mobile applications.
- Global footprint - 13 data centers in the US, Asia, and Europe and a global footprint of 17 network points of presence with a commitment to grow to 40 data centers across five continents and will double SoftLayer's 2013 cloud capacity.

## Market Information

- [Cloud Computing: A 2014 HorizonWatch Trend Report](#) – Provides an overview of Cloud Computing for IBM Business Partners. It provides some resources along with insights into Cloud trends for 2014.
- [Infrastructure as a Service by Segments – Market Figures](#) - This report from Pierre Audoin Consultants for IBM Business Partners provides market volumes, growth rates and forecasts for the IaaS market for 2012 to 2018 and includes the following market segments: Desktop as a Service, Web Hosting as a Service, Application Hosting as a Service, Compute as a Service and Storage as a Service.
- [SoftLayer – Cloud Built to Perform](#) – This 30 page IBM Market Insights report from April 2014 provides an executive summary as well as detailed close-ups of SoftLayer and how it compares to the current IaaS market leader Amazon. This report focuses on the following six key areas:
  - Performance and flexibility
  - Globalization
  - Control and transparency
  - Network Bandwidth
  - Security
  - Workload-based solutions
- [What is the Forrester Total Economic Impact™ of SoftLayer, and IBM Company, for partners?](#) – Study looking at the revenue opportunities that six MSPs in Americas and EMEA may capture by delivering services through SoftLayer.

## Customer Consideration Criteria

The early adopters in the IaaS market were developers looking for a platform for development and testing. The market has matured to include business managers looking for greater agility and shorter time frames than IT operations can accommodate and IT operations looking to IaaS as an extension of their data center.

Overall, the customer's decision criteria when selecting an IaaS include three broad categories – performance, availability and simplicity.

As an organizational goal, business agility and/or access infrastructure capabilities they don't have in their data center are important. This includes organizations without an existing IT infrastructure as well as established organizations needing capabilities – such as expensive HPC. Both uses can provide flexibility and computing power without having to make a capital expenditure (CAPEX).

The ZDNet report [Cloud Priorities 2014: Cloud strategies, priorities and implementation plans of North American IT leaders and professionals](#) (additional registration required) from April 2014 provides a view into who is engaging in IaaS purchases and the goals of customer engagements based upon 885 survey responses.

## Areas where IaaS may not be the best option

IaaS has many areas where cost, performance and flexibility provide a very compelling alternative to traditional infrastructure solutions. There are, however, a few areas where IaaS may not provide the ideal environment for the customer. When evaluating a customer's individual situation, pay careful attention to situations where regulatory compliance makes outsourcing of data storage and processing unmanageable. In addition, situations where the highest levels of local performance are required to meet an organization's needs may not provide the best prospect for IaaS.

## Quick Hit Selling Points

- SoftLayer supports three different environment models with a single pane of glass management. Many vendors do not support bare metal servers and rarely, if ever, with a single management interface and API library:
  - Bare metal server with your own stack
  - Dedicated virtual environments
  - Shared virtual environments
- [SoftLayer Flex Image™](#) server deployment system- SoftLayer's platform-neutral imaging solution that allows users have the ability to capture an image from a physical or virtual device and create a new machine based on the image. With Flex Image, users have the options to create a physical machine from a virtual device's image and vice versa
- [IBM Jumpgate](#) – This SoftLayer project bridges the gaps between OpenStack cloud controller and SoftLayer's Infrastructure Management System (IMS). It is a portal between the proprietary IMS and OpenStack and interfaces with every endpoint for the OpenStack APIs and every endpoint for the proprietary cloud. This open source tool addresses the concern prospects may have with 'vendor lock-in' when using SoftLayer's extensive API library and provides synergy with OpenStack.
- [SoftLayer Direct Link](#) – is SoftLayer's simplified, secure data transfer between a customer's private infrastructure and SoftLayer services.
- [Aspera high-speed transfer service](#) – Allows high-speed transfers of large amounts of structured or unstructured data. Accelerates the secure transfer of large files or data sets by up to 99.9 percent using Asperia's patented fasp™ protocol. Aspera was purchased by IBM in January 2014

## Key Papers and Articles

### **[Neovise: A New Breed of Managed Hosting for the Cloud Computing Age](#)**

This paper describes the SoftLayer approach to managed hosting and describes how its agility, flexibility, reliability, control and transparency are what are needed in an on-demand cloud infrastructure

### **[Why IBM will Win the War with Amazon Web Services](#)**

This analysis by Rob Enderle, President and principal analyst of the Enderle Group in an article in CIO Magazine discusses the reasons he believes IBM will ultimately win against Amazon Web Services.

### **[IBM will Beat Amazon Web Services Because Process Beats Product](#)**

This article by Rob Enderle, President and Principal Analyst of the Enderle Group from CIO Magazine provides a follow-up to “Why IBM will Win the War with Amazon Web Services”

### **[What is Different about Softlayer in the Managed Hosting Business?](#)**

This article from Datacenter Dynamics from June 7, 2012 discusses how SoftLayer differentiates their business from the competition.

### **[Success in the Cloud: Why Workload Matters](#)**

This paper discusses lessons learned from IBM's own transformation to the cloud.