

IBM SoftLayer Federal Cloud

NIH Cloud Credits Model Pilot

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IBM Cloud

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Agenda

- What is IBM SoftLayer?
- What is IBM SoftLayer Federal Cloud?
- IBM Differentiators

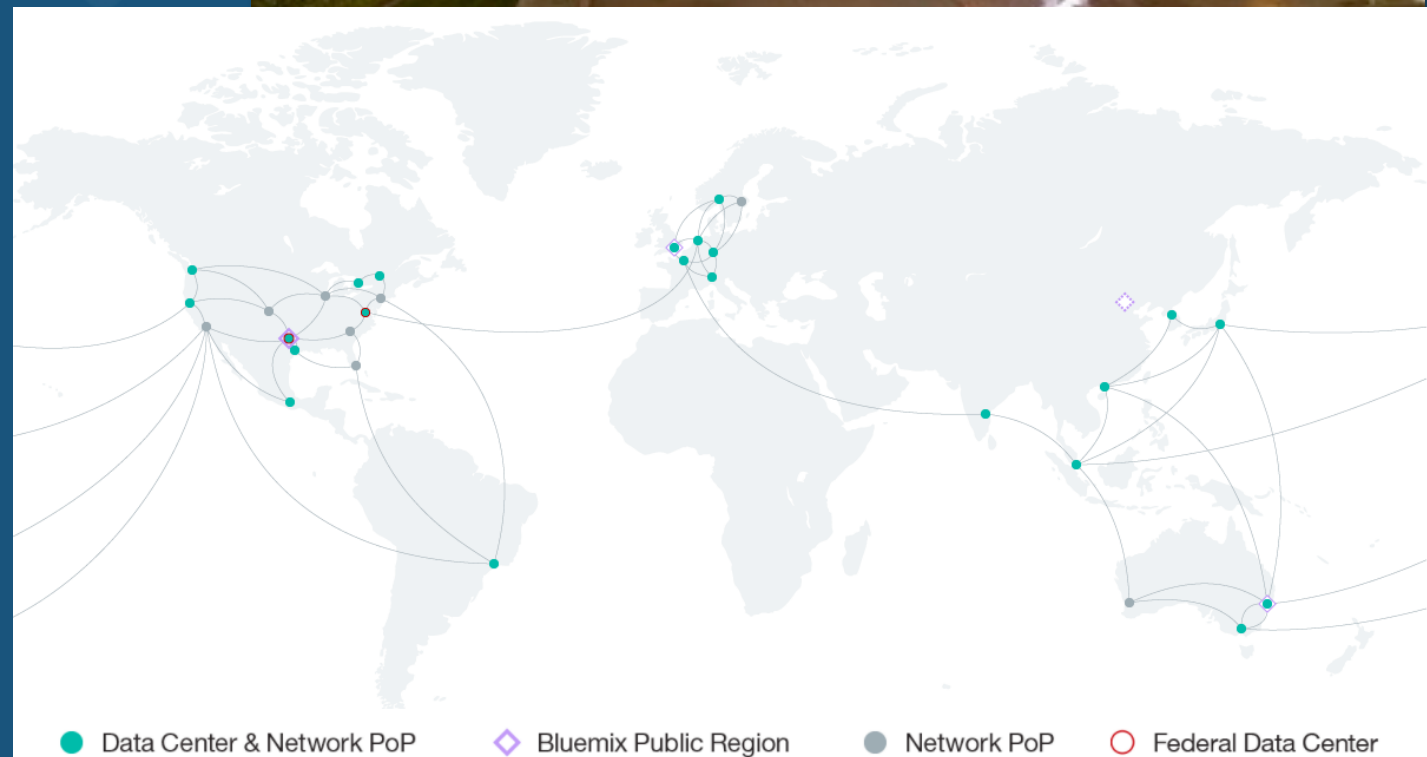
SOFTLAYER®

an IBM Company

Founding Philosophy:

“To provide the control and transparency of traditional data centers with the consumptive billing and elasticity of Cloud”

- Formed by ten industry veterans in 2005
- Acquired by IBM in July 2013
- 2017 – 39 Dedicated IBM Cloud Data Centers



SoftLayer Federal Cloud (SFC)

2 FedRAMP Moderate Data Centers

- Ashburn, VA and Dallas, TX
- Reserved for Government workloads ONLY
- Connected by and independent, high speed private network

Standards / Certification

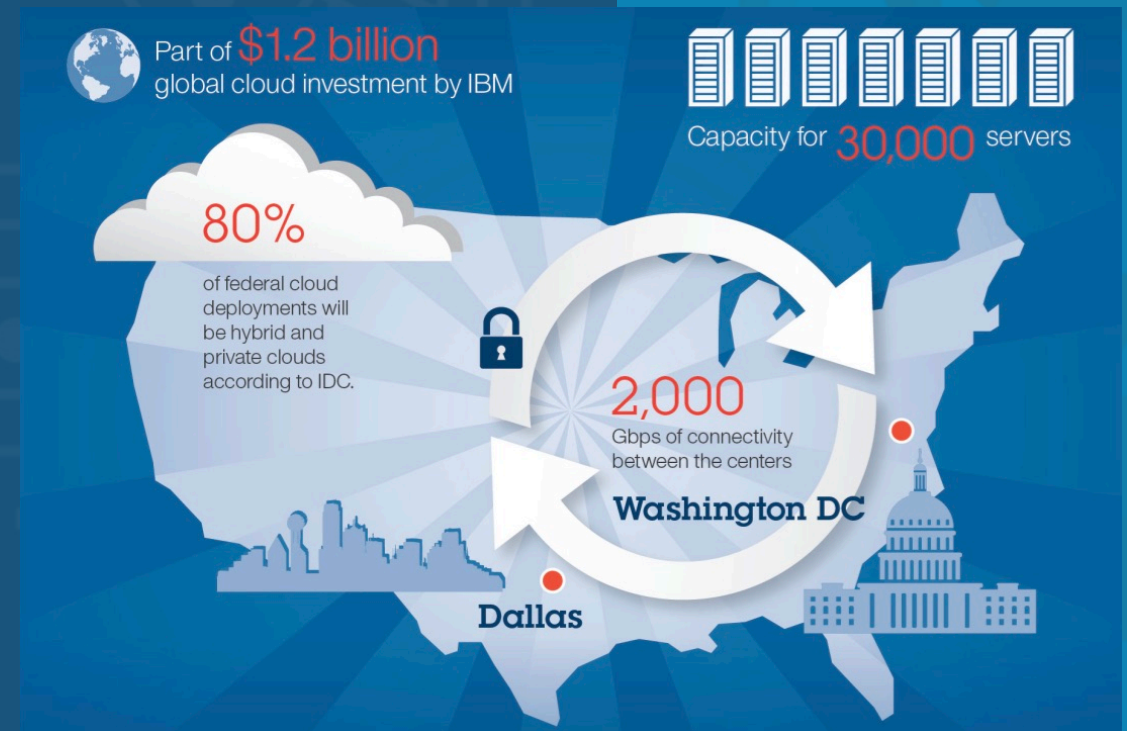
- Authorization Type = JAB P-ATO
- Built to meet FedRAMP and FISMA privacy and security standards

Compliant with:

- SOC 2 Type II/SSAE 16
- HIPAA and PCI-DSS workloads

Example Federal Customers

- National Institutes of Health
- Center for Disease Control
- Department of Agriculture
- Department of Homeland Security
- Department of the Interior
- Federal Communications Commission
- United States Citizenship and Immigration Services
- United States Forest Service



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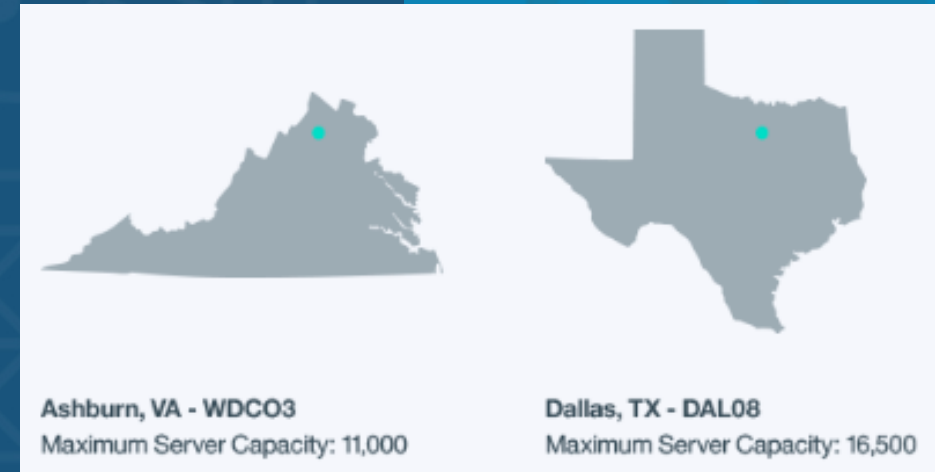
SoftLayer Federal Cloud (SFC)

IaaS options available hourly or monthly

- Virtual Machine called a VSI (Virtual Server Image)
 - Public
 - Dedicated
- Bare Metal Servers
- Storage (Performance, Endurance, Object Storage, Backup)
- Software (DB, OS, Backup)
- Hypervisor (VMWare)
- Security

Pay for ONLY what you need!

We have support available to architect and help provision your environment when you are ready.



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SoftLayer Options

Single Processor Multi-Core Servers

MANUFACTURER	CPU MODEL	CORE COUNT	CPU SPEED	STORAGE	RAM	PRIVATE NETWORK ONLY	GPU SUPPORT	STARTING PRICE PER MONTH
Intel	Intel Xeon E3-1270 v3	4 Cores	3.50 GHz	Up to 4 drives	8 GB up to 32 GB	-	-	\$260.85

Dual Processor Multi-Core Servers

MANUFACTURER	CPU MODEL	CORE COUNT	CPU SPEED	STORAGE	RAM	PRIVATE NETWORK ONLY	GPU SUPPORT	STARTING PRICE PER MONTH	STARTING PRICE PER HOUR
Intel	Intel Xeon E5-2620 v3	24 Cores	2.40 GHz	Up to 4 drives	64 GB up to 512 GB	-	-	\$693.75	-
Intel	Intel Xeon E5-2620 v4	16 Cores	2.10 GHz	Up to 4 drives	64 GB up to 512 GB	-	-	\$760.35	-
Intel	Intel Xeon E5-2650 v3	40 Cores	2.30 GHz	Up to 4 drives	64 GB up to 512 GB	-	-	\$782.55	-
Intel	Intel Xeon E5-2620 v3	24 Cores	2.40 GHz	Up to 12 drives	64 GB up to 512 GB	-	Yes	\$842.49	-
Intel	Intel Xeon E5-2650 v4	24 Cores	2.20 GHz	Up to 4 drives	64 GB up to 512 GB	-	-	\$849.15	-
Intel	Intel Xeon E5-2690 v3	48 Cores	2.60 GHz	Up to 4 drives	64 GB up to 512 GB	-	-	\$882.45	-
Intel	Intel Xeon E5-2620 v3	24 Cores	2.40 GHz	Up to 36 drives	64 GB up to 512 GB	-	-	\$1,007.88	-
Intel	Intel Xeon E5-2690 v3	48 Cores	2.60 GHz	Up to 12 drives	64 GB up to 512 GB	-	Yes	\$1,031.19	-
Intel	Intel Xeon E5-2650 v4	24 Cores	2.20 GHz	Up to 36 drives	64 GB up to 512 GB	-	-	\$1,163.28	-
Intel	Intel Xeon E5-2690 v3	48 Cores	2.60 GHz	Up to 36 drives	64 GB up to 512 GB	-	-	\$1,196.58	-
Intel	Intel Xeon E5-2690 v4	28 Cores	2.60 GHz	Up to 36 drives	64 GB up to 512 GB	-	-	\$1,263.18	-

Quad Processor Multi-Core Servers

MANUFACTURER	CPU MODEL	CORE COUNT	CPU SPEED	STORAGE	RAM	PRIVATE NETWORK ONLY	GPU SUPPORT	STARTING PRICE PER MONTH
Intel	Intel Xeon E7-4820 v2	32 Cores	2.00 GHz	Up to 24 drives	128 GB up to 3072 GB	-	-	\$1,655.01
Intel	Intel Xeon E7-4850 v2	48 Cores	2.30 GHz	Up to 24 drives	128 GB up to 3072 GB	-	-	\$1,877.01
Intel	Intel Xeon E7-4890 v2	60 Cores	2.80 GHz	Up to 24 drives	128 GB up to 3072 GB	-	-	\$2,876.01

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SoftLayer Options – Build EXACTLY what you need

Server

- Dual Intel Xeon E5-2620 v3 (12 Cores, 2.40 GHz) [\$382.95]
- Dual Intel Xeon E5-2650 v3 (20 Cores, 2.30 GHz) [\$471.75]
- Dual Intel Xeon E5-2690 v3 (24 Cores, 2.60 GHz) [\$571.65]

Server Security

- None
- Intel TXT (Trusted Execution Technology) [\$2.22]

RAM

Attention! RAM selection is required.

- 64 GB RAM [\$439.56]
- 128 GB RAM [\$688.20]
- 256 GB RAM [\$972.36]
- 512 GB RAM [\$1,505.16]

Computing Instance

- Public Node
- Private Node

Attention! Computing Instance selection is required.

- 1 x 2.0 GHz Core [\$16.65]
- 2 x 2.0 GHz Cores [\$33.30]
- 4 x 2.0 GHz Cores [\$66.60]
- 8 x 2.0 GHz Cores [\$133.20]
- 12 x 2.0 GHz Cores [\$199.80]
- 16 x 2.0 GHz Cores [\$266.40]

RAM

Attention! RAM selection is required.

- 1 GB [\$13.99]
- 2 GB [\$27.97]
- 4 GB [\$55.94]
- 6 GB [\$79.92]
- 8 GB [\$103.90]
- 12 GB [\$143.86]
- 16 GB [\$155.40]
- 32 GB [\$311.69]
- 48 GB [\$407.59]
- 64 GB [\$503.50]

Public Bandwidth

- Limited
- Unlimited
- Private Network Only

- 500 GB Bandwidth
- 1000 GB Bandwidth [\$49.95]
- 5000 GB Bandwidth [\$410.70]
- 10000 GB Bandwidth [\$757.02]
- 20000 GB Bandwidth [\$1,108.89]

Uplink Port Speeds

- Public & Private
- Private Only

- 100 Mbps Public & Private Network Uplinks
- 1 Gbps Public & Private Network Uplinks [\$22.20]
- 10 Gbps Public & Private Network Uplinks [\$111.00]
- 100 Mbps Redundant Public & Private Network Uplinks
- 1 Gbps Redundant Public & Private Network Uplinks [\$222.00]
- 1 Gbps Public & Private Network Uplinks (Unbonded) [\$22.20]
- 1 Gbps Dual Public & Private Network Uplinks (Unbonded) [\$44.40]
- 100 Mbps Dual Public & Private Network Uplinks (Unbonded) [\$44.40]

Public Secondary IP Addresses

- None
- 4 Public IP Addresses [\$4.44]

Operating System

- CentOS
- Citrix
- CloudLinux
- Debian
- FreeBSD
- Microsoft
- OSNEXUS
- Other
- Redhat
- Ubuntu
- VMware
- Vyatta

Attention! Operating System selection is required.

- CentOS 7.x (64 bit)
- CentOS 6.x (64 bit)

Hard Drives

Please complete the configuration of the storage on your server below.

Disk Controller		\$0.00	\$0.00
[Select All Disks] [Select None] [Assign Disks] [Create RAID storage group]			
		MO.	SETUP
▶ SATA			
▶ SAS			
▶ SSD			
Disks Click on disks and then press the assign disks button to give them a capacity and type.		Primary Disk Partitions Select a partition template to use for the first disk. The partition templates available will depend on the OS selected and the disk type assigned.	
<input checked="" type="checkbox"/> 1	1 of 1 TB SATA	\$19.98	Partition Template: <input type="text"/>
<input type="checkbox"/> 2	None		
<input type="checkbox"/> 3	None		
<input type="checkbox"/> 4	None		

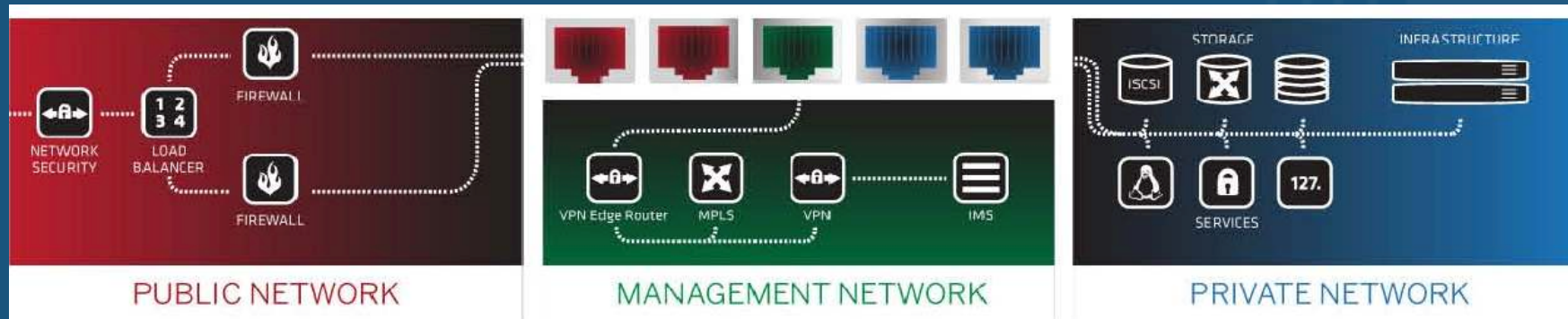
SoftLayer Differentiators

Bare Metal Server Provisioning

- Performance Benefits - Ideal for processor-intensive and disk I/O-intensive workloads
- Dedicated environments (firewalls, load balancers, servers, and storage)
- Transparency - Access to the serial numbers, power supply, physical location, for servers and storage
- Support VMWare and OpenStack Installations to eliminate migration challenges and support hybrid clouds

Triple Network Architecture(Public/Private/Mgt)

- Better performance through network isolations
- Reduced Threat Profile
- Improved Security



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SoftLayer Differentiators for Security

Dedicated Hardware

Dedicated Racks

Private network between data centers and to your network

Intel TXT Availability – Hardware-based security technology for Trusted Boot on Trusted Hardware

Geo Fencing / Widely used in the intel community

HyTrust Partnership – Encryption, policy enforced data access controls and reporting

Approved by NIST

DOD level disk erasure - Ensures data is destroyed during planned or unplanned events or data leaks

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SoftLayer Differentiators for Cost Savings

Predictable Billing = Manage / Eliminate Egress Charges

- SoftLayer site to site @ no cost
- 500 GB per month bare metal
- 250 GB per month virtual servers
- Pooling of egress buckets per server is allowed

Enterprise level 7x24 support is included. No surprises.

Consistent performance at a consistent price

- Virtual CPUs are aligned to physical CPUs so there is no over-provisioning of hardware



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Summary of Differentiators

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Performance

- Bare Metal Servers
- Consistent Performance



Security

- Dedicated Environment (Servers, Storage, Firewalls, Load Balancers)
- Triple Network Architecture
- Transparency and auditability at all levels
- Private / dedicated WAN



Cost Savings

- Manage / Eliminate Egress Charges
- Support is included at no extra charge
- Consistent Performance
- Customization – Only provision what is needed



Workload Flexibility

- Run your own hypervisor
- Eliminate migration requirement
- Avoid vendor lock-in

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