Cloud service provider disclosure

The form is to be completed for each cloud service provided. For questions not applicable or not disclosed, indicate accordingly in the remarks.

Cloud Service Provider Contact Information

Company name: IBM Cloud (f/k/a SoftLayer)
 	
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      Dallas TX 75240
 	
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Certification Body Contact Information
Company name: Singapore ISC Pte Ltd Web address: http://isc-global.net/ Contact name: Sanjeev Gupta Contact email: sanjeev.gupta@isc-global.net
Cloud Service Provider Background
Overview of service offering: IBM Cloud provides infrastructure services including: **Compute:** • Bare Metal Servers • Virtual Servers (Private and Public) • Hardware Security Modules • VMWare **Network** • Content Delivery Network • Direct Link • DNS • Cloud Internet Services • Load Balancers • Virtual Router • Fortigate Security Appliance • Hardware Firewall (Shared) **Storage** • IBM Cloud File Storage • IBM Cloud Block Storage

- Cloud Object Storage
- eVault Backup

Service model:

☐ Virtual machine instances owned by the user

☐ Network facilities

☐ Compliance with applicable standards

Deployment model:

☐ Private cloud

☐ Community cloud

☐ Hybrid cloud

☒ Public cloud

Tier:

☐ Level 1

☐ Level 2

☒ Level 3

No.	Criteria	Description	Remarks
		Legal and Compliance	
1.	Right to audit	The user has the right to audit: ☒ Virtual machine instances owned by the user ☐ Network facilities ☒ Compliance with applicable standards ☐ Technical controls ☐ Policies and governance ☐ Data centre facilities ☐ Others _____ ☐ None Regulators recognised by Singapore law have the right to audit: ☒ Virtual machine instances owned by the user ☒ Network facilities ☒ Compliance with applicable standards	Customers can perform their own compliance audit on their virtual infrastructure (servers, network, storage, etc.). IBM Cloud makes numerous certifications and attestations available to customers to verify compliance such as SOC 2, multiple ISO standards, PCI, etc. Regulators get full access to IBM Cloud. Physical access is allowed if there is a demonstrated need after review of certifications,

		☒ Technical controls ☒ Policies and governance ☒ Data centre facilities (see IBM Cloud documents) ☐ Others _____ ☐ None Audit / assessment reports that can be made available on request: ☐ Penetration test ☐ Threat and vulnerability risk assessment ☐ Vulnerability scan ☒ Audit reports (e.g. Statement on Standards for Attestation Engagements (SSAE) No. 16, Reporting on Controls at a Service Organisation)	documentation, and evidence has been performed.
2.	Compliance	The following guidelines / standards / regulations are adhered to: ☒ Singapore Personal Data Protection Act ☒ ISO / IEC 27001 ☒ ISO 9000 ☐ ISO / IEC 20000 ☒ CSA Open Certification Framework ☒ PCI-DSS ☒ Others_SSAE 16 SOC1 Type II	See https://www.ibm.com/cloud/compliance IBM Cloud also has ISO 27017 and 27018 certificates, and FedRAMP Agency Authority to Operate in the United States. The Singapore Personal Data Protection Act was assessed and the appropriate agreements were executed in early 2015. IBM Cloud uses IBM's Singapore DPO, Lorinne Yoong.
Data Control			
3.	Data ownership	All data on the cloud service is owned by the cloud user except for: log data related to the infrastructure stack The cloud User retains the ownership on the derived data or attributes of cloud usage except for the following: ☐ Advertising or marketing ☒ Statistics analysis on usage ☐ Others_____	IBM Cloud customers own all right, title, and interest on their data. See http://www-03.ibm.com/software/sla/sladb.nsf/sla/saas?OpenDocument for more information.

| 4. | Data retention | Data deleted by the user is retained as follows:

☐ Minimum data retention period is: _____

☐ Maximum data retention period is: _____

☒ Deleted immediately

Log data is retained for a period of:

☒ Minimum data retention period as follows: <u>1 year</u>

☐ Maximum data retention period is: _____

☐ Not retained (Customer data)

User data is retained for a period of:

☐ Minimum data retention period is: _____

☐ Maximum data retention period is: _____

☒ Not retained

The following types of data are available for download by the cloud user:

☒ Log data

☐ Other _____ | Data on de-provisioned servers or failed hard disks is overwritten using US DoD 7-pass wipe algorithms before returned into a pool of available resources. Internal IaaS log data from incidents, access controls, or change management is kept for a minimum of one year. This log data is not shared with customers, but with regulators when required.

Log data for customer owned virtual servers is in the responsibility of the customer.

Log data related to the customer workload on the delivery network and customer portal usage logs are available for customer review and download and are the customer's responsibility. |
| 5. | Data sovereignty | The primary data locations are:

☒ Singapore

☒ Asia Pacific <u>Hong Kong</u>

☐ Europe_____

☐ United States

☐ Other ___

The backup data locations are:

☒ Singapore

☒ Asia Pacific <u>Hong Kong</u>

☐ Europe_____

☐ United States

☐ Other ___ | Customers will be able to choose between two MTCS certified data centres (Hong Kong, Singapore) as primary and backup data locations. IBM Cloud will never move data out of the selected data centre (see www.ibm.com/privacy) unless asked by the customer. In case of maintenance or hardware failures virtual machines may be migrated to other servers at the customer's direction, but will always stay in the selected data centre. |

		No. of countries in which data centres are operated: 11 (all), 2 (MTCS certified) The user's data stored in the cloud environment will never leave the locations specified in item 5: ☒ Yes ☐ Yes, except as required by law ☐ Yes, except as noted: _____ ☐ No User's consent is required prior to transferring data to a location not specified in item 5 or a third party: ☐ Yes ☐ Yes, except as required by law ☐ Yes, except as noted: _____ ☐ No *Note: Cloud users are responsible for determining the impact of data protection and data sovereignty laws on the locations where data is stored. In addition, users should understand the risks associated with relevant laws that may allow for law enforcement or other government access to data in-transit or storage with Cloud Service Providers.*	For a complete list of all data centres and their accreditation status see https://www.ibm.com/cloud/data-centers/ It is the customer's responsibility to set up high availability and disaster recovery procedures. IBM Cloud offers load balancers, storage replication services, and free-of-charge private virtual network interlinks between the data centres enable these solutions to customers. .
6.	Non-disclosure	☒ Non-disclosure agreement template can be provided by Cloud Service Provider ☒ Cloud Service Provider may use customer's NDA (pending legal review)	
Provider Performance			
7.	Availability	The committed network uptime is: ☒ 100 % ☐ Varies according to price plan The committed system uptime is: ☒ 100 % (for the cloud management portal and infrastructure, excluding the virtual machine or bare-metal server managed by a client – see right side) ☐ Varies according to price plan The cloud environment has the following single points of failure:	IBM Cloud provides the cloud infrastructure up to the provisioned operating system above the hypervisor for virtual servers, and up to the physical server for bare-metal servers. IBM Cloud's SLA for those parts of the cloud environment it controls (as stated on http://www-03.ibm.com/software/sla/sladb.nsf/sla/saas

		☒ <u>Physical infrastructure in each data centre is redundant (N+1 model), including the network connections from client access points to data centre ("Point of Presence") and between data centres. The cloud management infrastructure and customer portal are active-active configured and fail over seamlessly in case of an outage. Customer servers can be ordered with redundant power supply and redundant network cards. Storage can optionally be ordered as RAID array. The Power Distribution Units and Hypervisors are potential single points of failure. However, client best practices eliminate these points of failure. Clients are encouraged to implement their own backup and recovery strategies for such situations, or to implement active-active or active-standby clustering via a second application instance at a backup/secondary data centre leveraging IBM Cloud's storage replication and load balancing features. Another potential single point of failure can be the uplink from customer's data centre to IBM Cloud's access points. It is recommended that customer establish two direct links to primary and secondary/backup data centre to mitigate that risk.</u> ☐ none	?OpenDocument) is 100%. Unavailability caused by misconfiguration of the operating system or a component above caused by the client are not included as an SLA violation.
8.	BCP / DR	☒ Disaster recovery protection ☒ Backup and restore service ☒ User selectable backup plans ☐ Escrow arrangements ☐ No BCP / DR is available ☐ RPO_____ ☐ RTO_____ ☐ Others, please specify:. _____ _____	IBM Cloud offers various ways to backup customer's data, and disaster recovery plans (see also question #5). However as IBM Cloud does not own or have access to customer's data, it is in the responsibility of the customer to choose the right options for an appropriate backup and disaster recovery plan. IBM Cloud does not determine or manage backups for customers.
9.	Liability	The following terms are available for the users on failure of the provider to meet the service commitment: ☒ Network failure Liability: http://www-03.ibm.com/software/sla/sladb.nsf/sla/saas?OpenDocument ☒ Infrastructure failure Liability: http://www-03.ibm.com/software/sla/sladb.nsf/sla/saas?OpenDocument	The IBM Cloud Services Agreement (CSA) and Services Descriptions are available at: http://www-03.ibm.com/software/sla/sladb.nsf/sla/saas?OpenDocument Handling of failures above the provided virtual or bare-metal server are the responsibility of the customer.

		☐ Virtual machine instance failure Liability: ☐ Migrations Liability:_____ ☐ Unscheduled downtime Liability:_ _____ ☐ Database failure Liability:_____ ☐ Monitoring failure Liability:_____	
Service Support			
10.	Change management	The Cloud Service Provider has established the following for changes, migrations, downtime, and other potential interruptions to cloud services: ☒ Communication plan and procedures for proactive notification ☐ Assistance in migration to new services when legacy solutions are discontinued ☐ Ability to remain on old versions for a defined time period ☐ Ability to choose timing of impact	IBM Cloud has a communication plan in place as described in the SOC2 report available to all customers. Communication between customer and IBM Cloud staff are managed via the notification system accessible via the customer self-service portal. In addition, unplanned events and incidents are announced via email, twitter, forum posts, or "yellow" notifications at the portal.
11.	Self-service provisioning and management portal	Provide self-service provisioning and management portal for users to manage cloud services: ☒ Yes ☐ No If yes, describe the functions of the self-service provisioning and management portal provided: ☒ Allow role-based access control (RBAC)	The self-service portal is available at control.softlayer.com. Customers can add new cloud administrators/operators for their virtual infrastructure and grant each user control over certain IBM Cloud services (storage, network,

		☒ Manage resource pools (e.g. VMs, storage, and network) and service templates ☒ Track and manage the lifecycle of each service ☒ Track consumption of services ☐ Others: _____ _____	etc.) or restrict management capabilities to certain servers.
12.	Incident and problem management	Delivery mode of support: ☒ Access via email ☒ Access via portal ☒ Access via phone support ☒ Direct access to support engineers (via live chat) Availability of support: ☒ 24 x 7 ☐ During office hours support, please specify the hours of operations: _____ ☐ After office hours support, please specify the hours of operations: _____ Service response time: _ use commercially reasonable efforts to respond to new incidents within 20 minutes and provide answers back by the next business day _____ The following are available to users upon request: ☐ Permanent access to audit records of customer instances ☐ Incident management assistance Incident response time: _____ Mean time to repair on detection of faults: _____	See https://www.ibm.com/cloud/support. In addition to phone and email, support team can be reached via live chat on the self-service customer portal. Expect a helpful response within 20 minutes of your ticket submission.
13.	Billing	The following billing modes are available (please elaborate granularity of charges and measurement): ☒ Pay per usage: Hourly/Monthly (up to per min/hour/day/month for compute/storage for IaaS/PaaS, and per user per hour/day/month/year for SaaS) ☐ Fixed pricing_____(up to yearly/monthly/daily) ☐ Other pricing model_____	IBM Cloud servers can be paid on an hourly or monthly basis. Other services like public network traffic or storage are based on usage. For a complete overview of services and pricing see https://www.ibm.com/

		☐ Not disclosed ☐ Available billing history: ___TBD_____Months	cloud/products.
14.	Data portability	Importable VM formats: <u>ISO, VHD</u> Downloadable formats: <u>VHD</u> Supported operating systems: <u>CentOS, RedHat Enterprise Linux, Ubuntu, Microsoft Server</u> Standard Language versions of supported operating systems: <u>not restricted</u> Supported database formats: <u>not limited</u> API: ☒ Common <u>Object Storage can be automated using the OpenStack Object Storage API or tools. Import/Export operations can be automated using the IBM Cloud API on top of IBM Cloud Object Storage.</u> ☐ Customised _____ Upon service termination, data is available through: ☐ Physical media ☒ Standard methods as described above ☐ Other methods __ USB, DVD, CD data can be sent to IBM Cloud as part of its data transfer service (see http://knowledgelayer.IBM Cloud.com/topic/data-transfer-service	For image import see http://knowledgelayer.softlayer.com/procedure/import-image. For exporting images see http://knowledgelayer.softlayer.com/faq/what-image-importexport-feature .
15.	Access	Type of access to the service is through: ☒ Public access ☒ Private access (e.g. VPN, dedicated link) ☒ IPv6 access is supported IPv6 is natively supported (see http://www.IBM Cloud.com/network). ☐ Other access methods _____ _____ _____	IBM Cloud offers a variety of VPN access (see http://knowledgelayer.softlayer.com/topic/vpn). In addition customers can connect their company's intranet via so called direct-links through Point-of-Presence directly with the IBM Cloud network (see http://www.softlayer.com/direct-link).

		Public access speed (shared bandwidth) in Mbps: Up to 10Gbps per server. Each data centre has multiple redundant 10Gbps connections to top tier transit and peering carriers.	
16.	User management	☒ Identity management (for cloud administrators on self-manage portal, additionally two-factor authentication is supported as described at http://knowledgelayer.IBM Cloud.com/procedure/what-two-factor-authentication) ☒ Role based access control for cloud administrators on self-manage portal, see #12 for more information) ☐ Federated access model ☒ Integration with Identity management solutions (IBM Cloud allows to integrate other IAM solutions for cloud administrators on self-manage portal via API http://sldn.IBM Cloud.com/reference/IBM Cloudapi) ☐ Others_____	User management for users of the provisioned servers is in the responsibility of the customer and customer is free to use any on premise or off premise IAM solution for that.
17.	Lifecycle	The cloud user may select the following for service upgrades and changes: ☒ Automatic provisioning ☒ User customisable provisioning	IBM Cloud offers an intuitive to use self-service portal (control.softlayer.com), which gives you full control about all deployment para-meters, including an auto-scale option to add additional virtual machines when needed. Cloud orchestration is supported via a powerful API (http://sldn.softlayer.com/reference/softlayerapi).
	Security Configurations		
18.	Security configuration enforcement checks	Security configuration enforcement checks are performed: ☒ Manually ☒ Using automated tools How often are enforcement checks being performed to ensure all security configurations are applied?	IBM Cloud monitors the management network for vulnerabilities, suspicious activity, and network activity via a centralized Security Operations Center. All networks are managed by the Network Operations

				Center for DDoS and other network security issues. Security configuration of the customer's infrastructure is in the responsibility of the customer (see http://www.softlayer.com/security).
19.	Multi-tenancy	☒ Distinct physical hosts ☐ Distinct physical network infrastructure ☒ Virtual instance grouping ☒ User definable security domains ☒ User customisable firewall ☒ User definable access policies		IBM Cloud's infrastructure services reach from public virtual servers and multi-tenant environments to dedicated servers and security devices (load balancers, firewalls, etc.). Only the network is always virtualized using VLAN tagging on top of IBM Cloud's physical network. For dedicated servers, storage, and security devices please see http://www.softlayer.com/bare-metal-servers , http://www.softlayer.com/Quantastor and http://www.softlayer.com/network-appliances.

Service Elasticity		

20.	Capacity elasticity	The following capacity elasticity options are available: ☒ Programmatic interface to scale up or down ☐ Mean time to start and end new virtual instances _____ ☒ Alerts to be sent for unusual high usage ☐ Minimum performance during peak periods_____ ☐ Minimum duration to scale up computing resources _____ ☐ Minimum additional capacity guaranteed per account _ (number of cores and GB memory)	IBM Cloud comes with a powerful API which allows to perform all operations available via the self-service customer portal also via latest programming languages, such as C#, Perl, PHP, Ruby, Python, etc. (see http://sldn.softlayer.com/article/softlayer-API-Overview).

21.	Network resiliency and elasticity	The following network resiliency and elasticity options are available: ☒ Redundant Internet connectivity links ☒ Redundant Internal connectivity ☒ Selectable bandwidth up to 2x20.000____Mbps ☒ Maximum usable IPs None ☒ Load balancing ports 80,443,53,110,25,21, etc. ☒ Load balancing HTTP, HTTPS, FTP, POP3, DNS, etc ☒ Anti-DDOS protection systems or services ☐ Defence-in-depth mechanisms, please specify: Host based IPS, Antivirus, Malware Network based firewalls, WAF, IDS, IPS ☒ Network traffic isolation, please specify: VLAN tagging IEEE 802.1 ☒ Shared or dedicated bandwidth, please specify: Shared ☐ QoS traffic control services ☒ Alerts to be sent for unusual high usage ☐ Minimum performance during peak periods_____ ☐ Minimum period to scale up network throughput _____	For network see https://www.ibm.com/cloud-computing/bluemix/our-network. IBM Cloud has different types of IP addresses, depending on your setup and needs (e.g. own cloud on bare-metal server, public IP addresses, etc.). See http://knowledgelayer.softlayer.com/articles/static-and-portable-ip-blocks for details. For load balancer see http://knowledgelayer.softlayer.com/faqs/211. For network based IDS/IPS see https://www.ibm.com/cloud-computing/bluemix/our-network under "Fortigate Security Appliance". For host based security see https://www.ibm.com/cloud/infrastructure/security.
22.	Storage redundancy and elasticity	The following storage redundancy and elasticity options are available: ☒ Redundant storage connectivity links within each data centre ☒ Redundant storage connectivity links between data centres belonging to the same cloud ☒ Storage traffic isolation, please specify: VLAN tagging IEEE 802.1 ☒ Shared or dedicated storage network bandwidth, please specify: No bandwidth limits ☐ Quality of service storage traffic control services	IBM Cloud provides a variety of different storage architectures (object/SWIFT storage, NAS, SAN, etc.). Some are shared, some are also available as dedicated storage. Please see https://www.ibm.com/cloud/storage.

		☒ Maximum storage capacity for entire cloud, please specify: Unlimited ☒ Maximum storage capacity for single user, please specify: Unlimited ☒ Maximum expandable storage, please specify: Unlimited ☐ Alerts to be sent for unusual high usage ☐ Minimum storage I / O performance during peak periods _____ ☐ Minimum period to scale up storage I / O throughput _____	