

## SERVICE SPECIFICATION: PRIVATE CLOUD

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### 1. Service Description

The PRIVATE CLOUD service provides the CUSTOMER with a suite of secure, redundant computing capabilities for building their own CLOUD environment with centralized control of their virtual machines.

The PRIVATE CLOUD service offers two virtualization platforms:

- Microsoft Hyper-V with System Center (Virtual Machine Manager and Operations Manager) and Web Windows Azure Pack Self-Service Portal.
- VMware vSphere with vCenter and Web vCloud Director Self-Service Portal.

With these platforms, the customer can manage the PRIVATE CLOUD computing capabilities.

Power, Space, Connectivity and Managed Services (added to the administration of the PRIVATE CLOUD Structure) are sold separately. EQUINIX Brazil's PRIVATE CLOUD service can be hired through the MODES described in item 3 (three) herein.

### 2. Features

#### I. Support

Find below a description os the Support offered by EQUINIX Brazil:

Basic Support	Administrative Support	Commercial Support	Technical Support
<b>Available 24/7</b>	<b>Schedule from 9 a.m. to 6 p.m. (business days)</b>	<b>Schedule from 9 a.m. to 6 p.m. (business days)</b>	<b>Available 24/7</b>
Registration changes; Registration of authorized people	Billing and Collection;	Request for additional services; Request for product change;	Warning of failure observed while monitoring; Support for use of the service features;

for the customer portal; Call opening Technical visit scheduling;			Hardware profile maintenance;
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## II. Responsibilities

EQUINIX Brazil is responsible for the initial physical installation of the equipment according to the MODE purchased by the CUSTOMER.

The equipment included in the PRIVATE CLOUD product shall not exceed the CAPACITY limits of the physical space and electric power purchased by the CUSTOMER (as detailed in the COLLOCATION Service Specifications).

EQUINIX Brazil is responsible for the initial enablement of the capability package on the virtualization platform according to the MODE purchased by the CUSTOMER. The virtual machine is created according to the Virtual Hardware Profiles pre-configured by EQUINIX Brazil.

EQUINIX Brazil is not responsible for the operating features of the software or the systems used by the CUSTOMER to access the PRIVATE CLOUD service and therefore, it shall not be liable for any damage that their malfunction can cause the CUSTOMER or third parties related to them.

EQUINIX Brazil is responsible for managing the PRIVATE CLOUD service infrastructure, that is, the CUSTOMER will only have access to the Self-service portal for managing the pool of capabilities contracted.

## III. Virtual Hardware profiles in the Self-Service Portal

In all MODALITIES available in Microsoft PRIVATE CLOUD offer, the CUSTOMER can create virtual machines by following predefined Virtual Hardware Profiles for the Microsoft PRIVATE CLOUD offerings, or request the creation of a new profile through a request to EQUINIX Brazil's technical support.

A table with the minimum and maximum configurations allowable per suite is presented below:

Microsoft Private Cloud*						
Suites	Minimum configuration			Maximum configuration**		
	vCPU	RAM	vHD	vCPU	RAM	vHD
CP1, CP2, CP3, CP4, CP5 and CP6.	1	2 GB	20 GB	32	64 GB	2 TB

*\*When the CUSTOMER creates a virtual machine, it will always be created with the "2 vCPUs – 4 GB RAM" profile and, after that process, they can change it to another hardware profile. The data disk of the virtual machine will always be created with 20 GB (20 gigabytes) of CAPACITY and, after its creation, the CUSTOMER may expand it up to 2 TB (two terabytes) of CAPACITY.*

*\*\* The CUSTOMER must hire the necessary CAPACITIES for the RAM Memory and Storage MODES in order to use the maximum configuration allowed in the Self-Service Portal.*

For all MODES available in the VMware PRIVATE CLOUD offering, the CUSTOMER can create virtual machines with the maximum profile provided by vCloud Director.

A table with the minimum and maximum configurations allowable per suite is presented below:

VMware Private Cloud						
Suites	Minimum configuration			Maximum configuration		
	vCPU	RAM	vHD	vCPU	RAM*	vHD*
CP1, CP2, CP3, CP4, CP5 and CP6	1	1 GB	20 GB	128	4 TB	62 TB

*\*The CUSTOMER must hire the necessary CAPACITIES for the RAM Memory and Storage MODES in order to use the maximum configuration allowed in the Self-Service Portal.*

#### IV. Self-Service Portal features

The PRIVATE CLOUD service offers the following features via the Self-Service Portal:

- Create/change/delete virtual machines using the predefined hardware profiles;
- Add/change the data disk size;
- Add/remove network boards to/from Public and Service networks;
- Map the media (ISO image) of the operating system on the virtual machine;
- Access the virtual machine console;
- Create checkpoints (Snapshots);
- View capability usage of virtual machines (vCPU, memory, storage and network) by uptime;
- View capability usage of the purchased suite;
- Create/change/delete access to portal administration (co-administrators);
- Provisioning of disks in different TIERS in the Equinix Shared Storage\*;

*\*Only available in the VMware PRIVATE CLOUD offerings.*

#### V. Operating systems for quick provisioning

The PRIVATE CLOUD service has the following predefined operating system images on the Self-Service Portal for quick provisioning:

- Windows Server 2008 R2 Enterprise\*;
- Windows Server 2012 R2 Standard\*;
- Linux RedHat Enterprise 7;
- Linux CentOS 7;
- Linux Ubuntu Server 14.04 LTS;

*\*The use of Windows Operating Systems via Windows Azure Pack does not require that a license is entered (Windows Server 2012 R2 Enterprise license is already included).*

For the VMware PRIVATE CLOUD offerings, a Microsoft license for the Operating System needs to be inserted in the proposal, according to the CUSTOMER's need.

If the CUSTOMER requires another operating system or a different version from the one mentioned above, provisioning and support shall be their responsibility.

## **VI. Additional Services**

The following items are not included in the PRIVATE CLOUD MODES and must be purchased separately upon request to the COMMERCIAL DEPARTMENT:

1. Physical space and Power for hosting DATACENTER equipment as detailed in the Service Specifications for the COLLOCATION products.
2. 2 SWITCHES to ensure connectivity redundancy.
3. Management of top-of-rack (TOR) switch, as detailed in the Service Specification for EQUINIX Brazil's MANAGEMENT product.
4. Source Transfer Switch (STS).
5. Patch Panel for 24 (twenty-four) or 48 (forty-eight) ports.
6. IPv4 or IPv6 CIDR Blocks.
7. Use of the EQUINIX Brazil DNS structure for CUSTOMER domains or networks.
8. EQUINIX Dedicated Firewall or Firewall as a Service;
9. Firewall management as detailed in the Service Specification of EQUINIX Brazil's MANAGEMENT product.

The following items are not included in the PRIVATE CLOUD MODALITIES and if necessary, must be purchased separately upon request to the COMMERCIAL DEPARTMENT:

1. CROSS CONNECT products as detailed in the Service Specification of EQUINIX Brazil's CROSS CONNECT product.
2. Data or system BACKUP as detailed in the Service Specifications of EQUINIX Brazil's BACKUP products.
3. Management of virtual machines as detailed in the Service Specification of EQUINIX Brazil's MANAGEMENT product.
4. EQUINIX Dedicated Load Balance or Load Balance as a Service.
5. Load Balance management as detailed in the Service Specification of EQUINIX Brazil's MANAGEMENT product.

## **3. Modalities**

### **I. Private Cloud**

For the Microsoft PRIVATE CLOUD offerings, EQUINIX Brazil provides six different virtual processor quantity packages to the CUSTOMER:

Microsoft Private Cloud					
CP1	CP2	CP3	CP4	CP5	CP6
Up to 144 vCPUs	Up to 192 vCPUs	Up to 288 vCPUs	Up to 384 vCPUs	Up to 576 vCPUs	Up to 768 vCPUs

For the VMware PRIVATE CLOUD offerings, EQUINIX Brazil provides six different Gigahertz (GHz) quantity packages to the CUSTOMER:

VMware Private Cloud					
CP1	CP2	CP3	CP4	CP5	CP6
Up to 42 GHz	Up to 56 GHz	Up to 86 GHz	Up to 114 GHz	Up to 127 GHz	Up to 171 GHz

The CAPACITIES were scaled to a variable workload.

The specific features of the purchased items must be listed in the BUSINESS PROPOSAL and shall comply with the limitations described herein.

## II. RAM for Private Cloud

EQUINIX Brazil provides the CUSTOMER with different RAM CAPACITY options per suite:

RAM capacities available per suite					
CP1	CP2	CP3	CP4	CP5	CP6
16 GB RAM		32 GB RAM		48 GB RAM	
32 GB RAM		64 GB RAM		96 GB RAM	
64 GB RAM		128 GB RAM		192 GB RAM	
128 GB RAM		192 GB RAM		288 GB RAM	
192 GB RAM		384 GB RAM		384 GB RAM	
384 GB RAM		768 GB RAM		576 GB RAM	
768 GB RAM		1536 GB RAM		1152 GB RAM	
				2304 GB RAM	

The specific features of the purchased items must be listed in the BUSINESS PROPOSAL and shall comply with the limitations described herein.

## III. Private Cloud Storage

EQUINIX Brazil provides the CUSTOMER with two Storage options (DEDICATED or SHARED) with different CAPACITIES:

### ▪ Shared SAN

The available CAPACITIES are in accordance with the features described in the Service Specification of the SHARED SAN STORAGE product.

### ▪ Dedicated SAN

EQUINIX Brazil provides the following CAPACITY options for DEDICATED STORAGE:

- Dedicated SAN for Private Cloud - 3 TB;
- Dedicated SAN for Private Cloud - 6 TB;
- Dedicated SAN for Private Cloud - 10 TB;

- Dedicated SAN for Private Cloud - 20 TB;

## 4. Service Level Agreement

The PRIVATE CLOUD service is designed to offer the following minimum monthly availability:

Services	SLA (Service Level Agreement)	Maximum time for crash recovery (contract month)	How is it calculated?
Private Cloud	99.90%*	45 minutes	$\frac{\text{Total hours available}}{\text{Total hours in the measurement period}}$

\* The SLA is applied to the PRIVATE CLOUD infrastructure and not to the applications or the operating system. Connectivity redundancy in the Private Cloud structure is necessary in order to ensure the delivery of this service level.

EQUINIX Brazil shall provide the CUSTOMER with a discount equivalent to 1 (one) day of service in the event of outage in the provision of infrastructure that, together, take more than 45 (forty-five) minutes for the PRIVATE CLOUD service during a given contract month. Additionally, the CUSTOMER shall be entitled to discounts equivalent to 1 (one) hour of service for each outage period of 15 (fifteen) minutes that follows the initial period of 45 (forty-five) minutes for the PRIVATE CLOUD service.

EQUINIX Brazil will perform routine scheduled maintenance on the IBX. In the scheduled routine maintenances, the CUSTOMER EQUIPMENT and/or EQUINIX Brazil's EQUIPMENT may be prevented from transmitting and/or receiving data for the time that it takes to solve the situation and the CUSTOMER may be prevented from accessing them, without such event generating any liability to EQUINIX Brazil. EQUINIX Brazil will inform the CUSTOMER about the schedule for performing routine scheduled maintenance with 15 days in advance, preferably, and at least with 48 hours in advance for imminent situations. Scheduled preventive maintenance by EQUINIX Brazil and notified to the CUSTOMER within the minimum of 48 (forty-eight) hours in advance will not be counted for the calculation of the availability mentioned above.

EQUINIX Brazil can perform emergency maintenance at any time. In this case, the CUSTOMER's EQUIPMENT and/or EQUINIX Brazil's EQUIPMENT may be prevented from transmitting and/or receiving data for the time that it takes to solve the situation and the CUSTOMER may be prevented from accessing them. In this case, the CUSTOMER will be entitled to the discounts as stated in the Service Level Agreement, as mentioned above.

The maximum number of discounts that EQUINIX Brazil can offer a CUSTOMER in a particular contract month is limited to the value of 30 (thirty) days of the value purchased by the CUSTOMER, regardless of the number of times that the service provided to the CUSTOMER remains inoperative, or the duration of the above-mentioned inoperativeness during the same contract month.

The discount will be calculated using the fee related to the month in which the event took place as a reference.

## 5. General provisions

The availability of the PRIVATE CLOUD product shall be reported to the CUSTOMER by means of written communication sent to the email address of the CUSTOMER's TECHNICIAN IN CHARGE, who shall have 48 (forty-eight) business hours, counted from the moment that the message is sent by EQUINIX Brazil, to pronounce on any failures or defects in the configuration of the EQUINIX Brazil EQUIPMENT.

After such period, in case the CUSTOMER has not pronounced on it, the services shall be considered fully enabled with retroactive billing from the date that the communication on the enablement was sent.

EQUINIX Brazil reserves the right to use internally approved HARDWARE and SOFTWARE, and changes to HARDWARE or SOFTWARE may happen without prior notice.

EQUINIX Brazil will not be responsible for the configuration, operation, technical support and administration of any other development programs (software) or applications to be used by the CUSTOMER, except for the execution of *ad hoc* tasks.