

SERVICE SPECIFICATION: ANTI-DDOS PROTECTED IP BANDWIDTH

Document Control					
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1. Service Description

The ANTI-DDOS PROTECTED IP BANDWIDTH service comprises providing protection to the CUSTOMER's network using a SHARED structure that avoids saturation of Internet IP Bandwidth in case of *Distributed Denial of Service* - DDoS, thus ensuring further protection against malicious traffic, in addition to its identification and removal.

The Service includes traffic monitoring, automatic detection of possible DDoS attacks, automatic mitigation of DDoS attacks and informative report. This product shall be used with the EQUINIX BRAZIL's INTERNET IP BANDWIDTH product, purchased by the CUSTOMER.

The purchased MODE shall be specified in the BUSINESS PROPOSAL approved by the CUSTOMER. Each MODE can be purchased in different CAPACITIES, which are detailed in item 3 (three) herein.

2. Features

I. Support

Find below the description of the Support offered by EQUINIX BRAZIL:

Basic Support	Administrative Support	Commercial Support	Technical Support
Available 24/7	Schedule from 9:00 am to 6:00 pm (working days)	Schedule from 9:00 am to 6:00 pm (working days)	Available 24/7
Registration changes; Registration of authorized people for the customer portal; Call opening; Technical visit scheduling;	Billing and Collection;	Request for additional services; Request for increased capacity;	Warning of Attack Mitigation failure; Investigate and solve availability problems; Support for use of service functionalities; Attack Mitigation Report Request; Request for Blocking or

			Unblocking in Blackhole; Attack Mitigation Request;
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II. Responsibilities

EQUINIX Brazil's structure used to carry out the ANTI-DDOS PROTECTED IP Bandwidth service will be shared by all CUSTOMERS who have signed up for this service.

If a CUSTOMER is suffering an attack, protection will be competing with other CUSTOMERS, limiting the equipment CAPACITY to 2.5 Gbps (two point five Gigabits per second) per EQUINIX Brazil IBX. In case the attack surpasses the equipment mitigation CAPACITY, the attacked destination will be redirected to BLACKHOLE (RTBH - RFC 3882) and will remain there until the attack is completed.

EQUINIX Brazil is not responsible for any intrinsic features of the software operation or ANTIDDOS systems manufactured by third parties and used to provide the service. EQUINIX Brazil shall not be liable for any damage caused to the CUSTOMER or to related THIRD PARTIES as a result of these features.

Upon signing up for this service, the CUSTOMER must inform the IP Bandwidth to receive the Anti-DDoS Protection.

III. Functionalities

The ANTI-DDOS PROTECTED IP Bandwidth service contains the following functionalities:

TRAFFIC MONITORING:

The ANTI-DDOS PROTECTED IP Bandwidth service monitors the CUSTOMER's environment through traffic samples sent by edge routers (Flows). Based on these samples, the system creates the CUSTOMER's traffic profile.

ATTACK DETECTION:

An attack will be detected in 2 (two) situations: When there is a significant change in the traffic profile created by the system, or when one of the predefined values is violated.

ATTACK MITIGATION:

The mitigation plan includes procedures to mitigate or eliminate the occurrence of risks involving DDoS attacks directed to CUSTOMERS on the EQUINIX Brazil's network or CUSTOMERS in transit.

When an alert classified as "high" is generated on the CUSTOMER's network, the traffic is directed to a mitigation infrastructure where it will be analyzed. The traffic that is considered an attack shall be discarded, and the valid traffic is routed as usual to the CUSTOMER's environment.



EQUINIX Brazil's team monitors the mitigation process, enabling proactive actions that protect the CUSTOMER's network from malicious intrusion and ensure service availability.

REPORTING

The ANTI-DDOS PROTECTED IP Bandwidth service allows the CUSTOMER to request reports with information regarding detected and mitigated attacks. On-demand request, limited to 1 (one) report per month.

IV. Predefined Values

The ANTIDDOS PROTECTED IP Bandwidth service has been configured with the following signatures, according to the table below:

Signatures	Details
DNS	Number of DNS requests
ICMP	Number of ICMP packets
IP FRAGMENT	Fragmented IP packets
TCP NULL	TCP packets without FLAGS enabled
TCP RST	RESET TCP packets
TCP SYN	SYN TCP packets
UDP	UDP packets

When the High Severity Rate of any signature is exceeded and remains that way for 60 (sixty) seconds, the mitigation process starts within 15 minutes. At this time, all traffic intended to the attacked IP is redirected to the device responsible for analyzing and separating the attack from the valid traffic. This analysis is carried out through various automated testing in the tool. From there, what is considered an attack is discarded and the valid traffic is returned to the customer's network and routed as usual to its destination.

3. Modalities

The ANTI-DDOS PROTECTED IP Bandwidth service comprises only one MODE, the CUSTOMER's network is filtered through a structure of equipment dedicated to this function, SHARED with other CUSTOMERS. EQUINIX Brazil's ANTI-DDOS system filters the communication of the CUSTOMER's equipment hosted in an EQUINIX Brazil DATA CENTER with: Internet public network, remote private networks owned by the CUSTOMER and connected directly to EQUINIX's Brazil network - if there are any -, and with the other CUSTOMERS using the service.

This service is sold in relation to the CAPACITY of the INTERNET IP Bandwidth used by the CUSTOMER, in one of the product's contracted MODALITIES (IPREMIUM or IP), with speeds ranging from 1 Mbps (one megabit per second) to 100 Mbps (100 megabits per second), as detailed in the IP Bandwidth product Service Specification. The contracted CAPACITY will be described on the BUSINESS PROPOSAL approved by the CUSTOMER.

4. Service Level Agreement

The ANTI-DDOS PROTECTED IP Bandwidth service is designed to offer the following service availability:

Services	SLA (Service Level Agreement)	Maximum time for crash recovery (contract month)	How is it calculated?
Mitigation service availability	99.50%	03 hours and 39 minutes	$\frac{\text{Total hours available}}{\text{Total hours in the measurement period}}$

In the event of unavailability of the service used by the CUSTOMER as a result of failures occurring in the EQUINIX Brazil's environment due to software, hardware or connectivity, EQUINIX Brazil shall offer the CUSTOMER a discount equivalent to 1 (one) day of service, each time the service provided to the CUSTOMER remains inoperative for more than 3 (three) hours and 39 (thirty-nine) minutes during a given contractual 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 3 (three) hours and 39 (thirty-nine) minutes.

Services	RPO (Recovery Point Time) *	RTO (Recovery Time Objective) **
Automatic traffic mitigation process	Up to 15 (fifteen) minutes	Up to 3 (three) hours***

* The Recovery Point is the maximum acceptable period in which data can be lost in a disaster scenario in an IT service.

** The Recovery Time is the maximum acceptable time to get an IT service restored after a disaster, without unacceptable consequences for the business.

*** After that time, the attacked destination will be redirected to BLACKHOLE (RTBH - RFC 3882) and will remain there until the end of the attack.

EQUINIX Brazil shall provide a discount equivalent to 1 (one) day of service to the CUSTOMER in the event of delay in the traffic mitigation process. Additionally, discounts equivalent to 1 (one) hour of service shall be given for every 15 (fifteen) minute delay following the start of the legitimate attack warning.

EQUINIX Brazil shall perform routine scheduled maintenance on the IDC. In cases of routine scheduled maintenance, the CUSTOMER EQUIPMENT and/or EQUIPMENT FROM EQUINIX Brazil may be unable to transmit and/or receive data for the time that is necessary for the solution of the situation and the CUSTOMER may be unable to access them, without generating any responsibility 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 EQUIPMENT and/or EQUIPMENT FROM EQUINIX Brazil may be unable to transmit and/or receive data for the time necessary for the solution of the situation and the CUSTOMER may be unable to access them. Therefore, 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 value of the monthly fee of the current month of the event occurrence will be used as the reference value for discounts.

5. General provisions

The availability of the ANTI-DDOS PROTECTED IP Bandwidth service 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 service. After such period, if the CUSTOMER has not made any manifestation, the services shall be considered fully activated with retroactive billing at the date of sending the activation communication.

EQUINIX Brazil is not liable for any breach of security in the CUSTOMER's system that may occur due to the implementation or execution of the ANTI-DDOS PROTECTED IP Bandwidth service.