

# Distributed Denial-of-Service (DDoS) Protection

## A Fully Managed DDoS Protection to Stop Multi-Gigabit DDoS Attacks

### Type of DDoS Attack

- **Network Volumetric DDOS Attack** - Overwhelm the targeted network capacity and centralised DDoS mitigation scrubbing facilities with high amount of traffic
- **Protocol Attack** - Consume the processing capacity of an actual server/infrastructure resource with malicious connection requests
- **Web Application Attack** - Target vulnerabilities within applications and bring them down by creating huge number of seemingly legitimate and innocent requests

### LGA DDoS Solution Benefits

- Cloud based DDoS solution, save expensive investment in hardware
- Continuous real-time monitoring
- Visibility to real-time data via dedicated portal
- Fully managed service by LGA security experts
- Dedicated 24/7 support with proactive security event management and response

### Introduction

In the year 1998, well-known hacker Khan C. Smith demonstrated to the world what a DoS (Denial-of-Service) Attack is, and the Internet since then, was never the same again.

Whereas DoS (denial-of-service) attacks are sent by one person or system, a distributed denial-of-service (DDoS) attack usually involves two or more persons or bots to make a machine, computer or network resource unavailable to its intended users. These attacks may indefinitely interrupt or suspend services of a host on the internet.

Perpetrators of DoS attacks typically target sites or services hosted on high profile web servers such as the government, banks, credit card payment gateways, e-commerce portals and even name servers.

Whatever the motives may be, ultimately the hackers want your business operations disrupted. As a testament to its effectiveness, there has been no letup in DDoS attacks ever since it emerged two decades ago. In fact, the contrary is true. Today the frequency of DDoS attacks averages at 934 per hour. It is ever on the rise, and it is a real problem.

### Characteristic of DDoS

A denial-of-service attack is characterised by an explicit attempt by attackers to prevent legitimate users of a service from using it. An attack may come in the form of the following:

- Excessive over-consumption of network or computational resources, such as bandwidth, memory, disk space, or processor time, which prevents real work from being performed by the server
- Distruption by means of misconfiguring information, such as routing information
- Exploiting errors in the Operating System to make it unproductive, or crash it entirely
- Unsolicited resetting of TCP sessions
- Inaccessibility of physical network components
- Blocking the communication between intended users and the victim, rendering meaningful communication ineffective
- Forging of IP sender addresses (a.k.a IP address spoofing) making it difficult to pinpoint location and identity of attacking machines

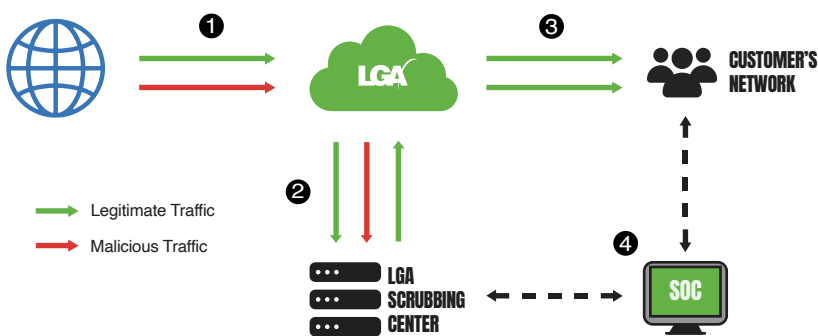
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## LGA DDoS Protection

Effective network protection against volumetric attacks goes beyond regular security devices such as firewalls and intrusion detection systems. Such attacks disrupt your business continuity or gain access to valuable customer data. LGA DDoS Protection is a comprehensive, round the clock service that responds to DDoS threats. It also comes with Data Scrubbing Service to screen and remove malicious data. DDoS service mitigates the threat outside of your network and passes only legitimate traffic to your network so that the real users remain satisfied and undenied of real service.

## Features

- Instant and complete protection for all volumetric layer 3 & 4 DDoS threats, including SYN, UDP floods, etc
- Cloud based service that able to mitigate multi-terabytes of DDoS attacks outside of organisation's network without any impact to legitimate traffic
- Continuous real-time monitoring and detection with detailed reporting on attacks
- Analyse traffic, packet by packet, for sophisticated anomalies and blocks any malicious traffic in real-time
- Self-service customer portal for real-time visibility of attack statistics and data



1 Information on the normal traffic is passed to LGA core network

2 Upon detecting a DDoS attack, the traffic travelling towards the customer's network will be routed to LGA Scrubbing Center to mitigate the DDoS attack

3 LGA then passes legitimate traffic to the customer's network and internet traffic resumes back to normal

4 LGA's SOC will use SIEM technology to analyse the traffic flow and notify the customer upon detecting an anomaly

## ABOUT LGA

In business for the last 25 years, LGA is one of the top B2B Services-Based Operators (SBO). LGA's Headquarters is in Singapore with a regional presence, as a System Integrator for Connectivity, CyberSecurity & Compute solutions, serving 2000 Enterprise, SME, regional and MNC customers. Our backbone is across multiple data centres, with our security and network operations team operating 24x7x365.

LGA is ISO/IEC 27001 certified and our key services include Mission-Critical Telco Diverse Circuits, Business Broadband, Cybersecurity SOCaaS, DDoS, WAF, Prevention of Confidential Data Loss security offering, Cloud Solution Provider for AWS, Azure, Co-Location, Mobile IoT and Edge Computing.

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