

## Stingray AntiDDoS – a solution for protecting internet service providers from DDoS attacks & BotNet activity

The solution uses DPI, IPFIX Fullflow, QoE technologies, and machine learning algorithms to detect attacks, analyze network traffic, and automatically apply mitigation and protection mechanisms.

### Solution Characteristics

**< 1 minute**

Response time

**100+**

Simultaneous attacks

**Up to 5 Tbps**

Filtering capacity

**Up to 600M packets/sec**

Traffic processing performance

### How It Works

1

#### Traffic Analysis

Stingray DPI transmits IPFIX Fullflow to the QoE module for detailed analysis

2

#### Threat Detection

QoE builds a baseline of healthy traffic and identifies deviations from the norm

3

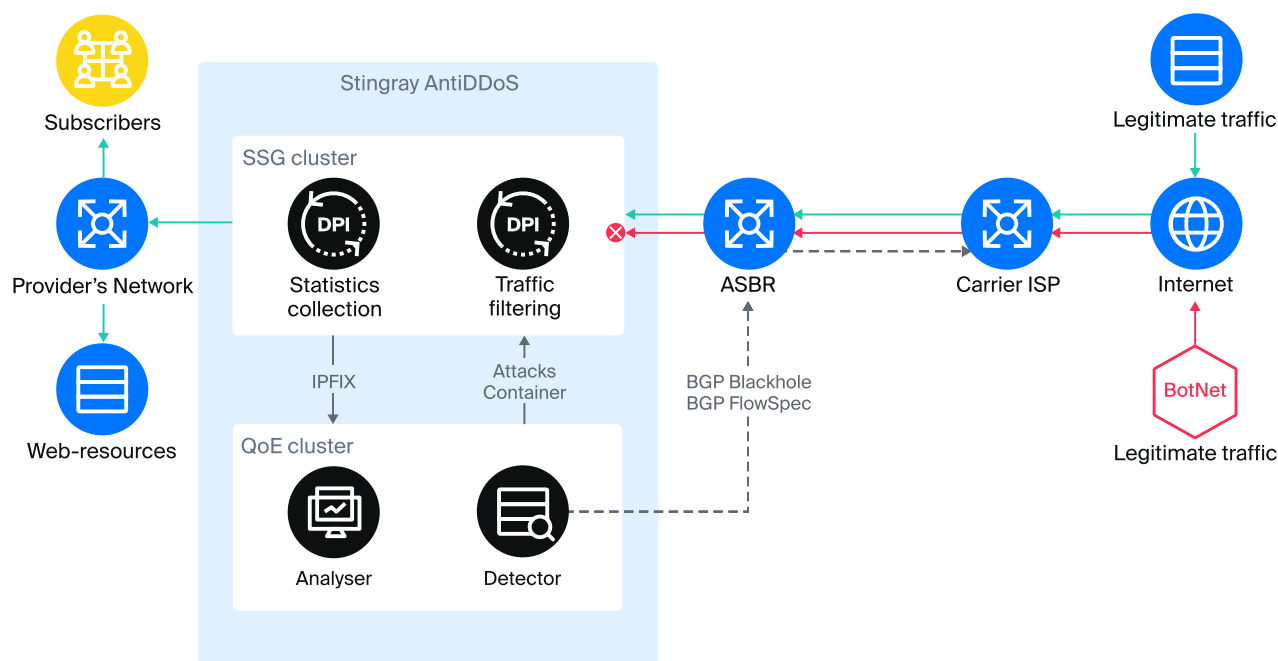
#### Identifying Attacking IPs

The detector classifies threats & identifies attacker IP addresses using machine learning algorithms

4

#### Filtering and Blocking

Stingray DPI either completely drops malicious packets or applies precise rate limiting to the traffic



# Protection Against Common Attack Types

## Flood, SYN Flood

Traffic is redirected to Stingray for filtering or blackholing the attacked addresses

## Amplification attacks (DNS, NTP, UDP Flood и др.)

Blackholing the attacked addresses or applying FlowSpec on the uplink channel

## BotNet attacks

Blackholing the attacked addresses, FlowSpec on the uplink channel, creating a list of BotNet network addresses and blocking them on Stingray

## Compromise of operator network elements

Compromise risk is identified by scanning of the operator's address space. Such sessions are detected and blocked by their external address

## A Tool for Neutralizing DDoS & BotNet Risks for Operators

- ⚠ Overload of the uplink channel
- ⚠ Financial and reputational losses
- ⚠ Inability to provide services
- ⚠ Increased load on equipment
- ⚠ Subscriber complaints and customer churn
- ⚠ IP addresses being added to blacklists

## Advantages of Stingray AntiDDoS

### Distributed architecture

Ensures high availability and fault tolerance

### Flexible configuration

Supports various blocking and protection scenarios

### Neural network algorithms and DPI

Provide deep traffic analytics

### Adaptive protection

Automatic rule updates and response to changes in network activity

### Attack analytics

The QoE module provides statistics:

- By source and destination IP addresses
- Attacker geolocation
- Number of sessions
- By protocol

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