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IP source guard

Purpose

FastDPI BNG verifies the consistency between subscriber VLAN tags and the subscriber IP address.

When assigning an IP address via DHCP, FastDPI BNG stores the subscriber VLAN/QinQ tags in the built-in [UDR](#) database. These data are later used to validate the correspondence between the packet source IP and its VLAN tags.

IP source guard is applied only to outbound traffic (LAN → WAN).

Enabling the mode

To activate, set the parameter `bras_ip_source_guard` in the `fastdpi.conf` file:

- 0 — mode disabled (default)
- 1 — mode enabled and applied only to active sessions

If after restarting fastDPI the session state is unknown, IP source guard is not applied and the packet is allowed.

Packet processing logic

With `bras_ip_source_guard=1`, a packet is allowed if:

- the session is active and the packet VLAN tags match the tags registered during DHCP
- the session status is unknown

In all other cases, the packet is dropped.

AS-based termination mode

The [AS-based termination](#) mode is available.

In this mode, IP source guard is applied only to source IP addresses whose AS is marked with the term flag.

Filtering by source AS flags

Additional filtering of subscriber traffic by AS flags is supported in the `subs → inet` direction before

packet processing. The mechanism is intended to block outbound DDoS traffic with spoofed IP addresses originating from the operator network.

The parameter `ip_filter_source_as_flags` (hot) is used in `fastdpi.conf`.

Only packets whose source IP AS contains at least one of the specified flags are allowed for processing. Otherwise, the packet is dropped.

Flag values (bitmask):

- 0 — filtering disabled (default), `ip_filter_source_as_flags=0x0`
- 0x0100 — pass
- 0x0200 — local
- 0x0400 — peer
- 0x0800 — term
- 0x1000 — mark1
- 0x2000 — mark2
- 0x4000 — mark3