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# VLAN tags transformation

Starting from the Stingray Service Gateway version 7.4 the new feature of VLAN tags transformation is added. Transformation mode is very similar to the [Substitution mode](#), but in this case the number of VLAN tags within the subscriber packet may differ from the number specified in the `bras_vlan_subst` configuration option.

The examples:

```
bras_vlan_terminate=3  
bras_vlan_subst=1071
```

For such mode:

- if the incoming packet does not have VLAN tags, VLAN=1071 will be added to it
- if the incoming packet has one VLAN tag then its value will be replaced by VLAN=1071
- if the incoming packet has two VLAN tags (Q-in-Q) then the one of them will be cut off, the second one will be assigned VLAN = 1071

```
bras_vlan_terminate=3  
bras_vlan_subst=1071.65
```

For such mode:

- if the incoming packet does not have VLAN tags or has only one - the Q-in-Q outerVLAN = 1071, innerVLAN = 65 will be added to it
- if the incoming packet has two VLAN tags (QinQ) then their values will be changed to outerVLAN = 1071 and innerVLAN = 65

When the traffic is originated the reverse rules are applied.



SSG legacy `pf_ring`-version, CentOS 6: It should be taken into account that the modes implying VLAN tags adding/removing are very resource-consuming for the Stingray Service Gateway, i.e. when the packet size is changing (that is, VLAN tags deleting/adding), which can significantly affect the total SSG performance.



The DPDK version of SSG on CentOS 8 is practically devoid of this drawback - there is almost no decrease in fastDPI performance due to optimizations of packet processing