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# Network Interaction

## 1. Is STP processed transparently?

Yes.

## 2. Can SSG support a configuration with a single 10G network interface in the server, where traffic passes through SSG using two VLANs (in and out)?

No. This is not planned for future support.

## 3. Can SSG set up a BGP link with a border router for exporting prefixes that need to be routed through SSG?

Yes, this is possible. [More about router settings.](#)

## 4. If during a test connection to the internal LAN the 'ping' time hasn't changed, should there be a delay?

The delay on the device, if the hardware meets our recommendations, does not exceed 30  $\mu$ s (microseconds) or 0.03 ms (milliseconds). 'Ping' measurements start at 1 ms. Measuring such delays requires special software and equipment; in our lab, we use counters in nanoseconds supported by modern network cards.

## 5. If implementing mirroring, can SSG remove tags on the output (out\_dev=dnaX) when traffic with different tags comes on in\_dev=dna1:dna2?

SSG will send a response with the original packet tag if VLAN [translation settings](#) have not been applied.

## 6. What is SSG? Is it a router, NAT, transparent proxy, or is it transparent to network devices?

SSG is a DPI device, similar to Cisco SCE. It operates as a bridge, without IP addressing, and is invisible on the network.

The delay when using it is no more than 30 microseconds (based on tests, 16  $\mu$ s), which is virtually indistinguishable from a direct connection.

[See detailed connection diagrams for SSG.](#)

## 7. In what form is aggregated traffic provided? Are ports grouped through LACP?

Yes, you can use LACP and LAG for traffic aggregation.

[See detailed connection diagrams for SSG.](#)

## 8. At which point should the system connect, before or after termination on BRAS (in other words, at L2 or L3)?

It depends on the task: if the platform connects as a DPI, then after the termination point; if BRAS, NAT functionality is required, then the SSG platform performs traffic termination directly.

[Connection diagrams.](#)

## 9. How to optimize the WEB server network stack?

Apply the following settings in the `/etc/sysctl.conf` file:

```
net.core.netdev_max_backlog=10000
net.core.somaxconn=262144
net.ipv4.tcp_syncookies=1
net.ipv4.tcp_max_syn_backlog = 262144
net.ipv4.tcp_max_tw_buckets = 720000
net.ipv4.tcp_tw_recycle = 1
net.ipv4.tcp_timestamps = 1
net.ipv4.tcp_tw_reuse = 1
net.ipv4.tcp_fin_timeout = 30
net.ipv4.tcp_keepalive_time = 1800
net.ipv4.tcp_keepalive_probes = 7
net.ipv4.tcp_keepalive_intvl = 30
net.core.wmem_max = 33554432
net.core.rmem_max = 33554432
net.core.rmem_default = 8388608
net.core.wmem_default = 4194394
net.ipv4.tcp_rmem = 4096 8388608 16777216
net.ipv4.tcp_wmem = 4096 4194394 16777216
```

## 10. Why does one BGP session come up while another does not?

Example:

- Check tcpdump. On the client's interface, mtu = 9000.
- On one session, mss = 1480 during sync, while on the other, mss = 8500.  
This indicates that one peer has a standard mtu of 1500, while the other has an increased mtu.
- On sessions where mss is higher than 1480 and there is an IP header, set the settings in MX:

```
neighbor 95.167.18.57 {
  traceoptions {
    file as12389.log size 1m files 3;
  }
  description "-= RT AS12389 Upload =-";
  import [ bogus-reject MM-IN ];
  export REJECT-ALL;
  peer-as 12389;
  tcp-mss 1460;
}
tcp-mss 1460;
```

Administration questions