



Tight SLA Tuning on 6NET Backbone Network

Version 1.1

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Implementation Procedure

The proposed tuning commands should be implemented on the 9 * 12404 routers of 6NET.

Adding the proposed general templates can enhance the router configuration and convergence behaviour.

The configuration template exists out of four parts: Interface commands, Global commands, BGP commands and ISIS commands. These commands can be implemented without service interruption. For the activation of some commands on BGP a reset of the BGP sessions will be required however.

Interface commands

These commands should be implemented on every POS link inside the 6net core network and towards the NRNs:

```
pos ais-shut
carrier-delay msec 0
logging buffered errors (to capture link events)
pos report lrldi
pos report lais
pos report prdi
pos report pais
pos report slos
pos report slof
dampening (Initial proposed parameters are the defaults)
hold-queue 1500 in
```

For the links towards the NRN the same values can be used in case of the availability of a POS link. When the connection is established through a GigabitEthernet the following template can be used:

```
logging buffered errors (to capture link events)
dampening
hold-queue 1500 in
```

In case the connection is established through a ATM link:

```
Logging buffered errors
Dampening does not work yet for sub-interfaces
```

Global Configuration Commands

These commands must be configured on all core 12404 routers:

```
ip slow-converge
SPD headroom 1000
SPD extended 1000
ip tcp path-mtu-discovery
ip tcp window-size 65535
```

BGP Commands

These commands must be configured on all core 12404 routers:

```
neighbor <for all internal neighbours> advertisement-interval 1
neighbor <for all external neighbours> advertisement-interval 5
no bgp fast-external-fallover
```

ISIS Commands:

These commands must be configured on all core 12404 routers:

```
ip fast-converge
set-overload-bit on-startup 360
log-adjacency-changes all
lsp-mtu 4352
```

Note: Everytime there is need for reload of a router, the overload-bit should be manually set before reload in order to re-route traffic over the redundant paths (make before break).