

Traffic Shaping Guidelines



In order for you to achieve the very best performance from Telstra based Exetel services, we require you to configure your routers/end devices to match the purchased rate using traffic shaping.

Customer Premises Equipment (CPE) traffic shaping should be implemented on any Layer 2 or Layer 3 device which is directly connecting to the Network Termination Unit (NTU).

The following technical guidelines will help you to understand the traffic shaping configuration.

When configuring a Layer 3 CPE device, you need to take into account the Layer 2 Ethernet overheads. When configuring the traffic shaping, we suggest allowing 2% for the Layer 2 Ethernet overhead.

E.g. For a 20M service connecting to a Layer 3 CPE router, the shape rate is calculated as $20 \times 0.98 = 19.6$ Mbps

How to configure traffic shaping

Traffic shaping configurations can be different for every vendor and there can be differences within a single vendor's product versions.

The following configuration is a common CISCO configuration which is provided only for guidance purposes. We strongly recommend that you contact your CPE vendor if you are not familiar with traffic shaping configuration.

Define a policy-map and then apply that policy-map to the egress interface or sub-interface (VLAN).

Recommended Approach

Step 1.

```
Create Policy Map
policy-map
class class-default
shape average
```

E.g. For a 20Mbps service: router(config)# policy-map Exetel_20M_service

```
class class-default
shape average 19600000 200000 0
```

If the CPE does not accept '0' for excess-burst, input a small value. E.g. 1000

If you leave out the sustained and excess burst values, Cisco devices will calculate default values based on shaping rate. This will result in degraded throughput.

Step 2.

```
Apply Policy Map to interface/sub-interface
interface ethernet
service-policy output
```

E.g. attach our 20M Service policy to the outgoing Fast Ethernet interface

```
router(config)# interface FastEthernet4
service-policy output Exetel_20M_service
```

We're here to help

If you have any questions regarding traffic shaping configuration, please contact our corporate support team on 02 8030 1050 or 1300 190 525 and one of our L2 engineers will assist you.

Exetel provided routers

All Exetel provided routers are pre-configured with traffic shaping and other requirements. Our engineers will provide constant support and perform any necessary configuration changes and troubleshooting assistance you may require.

If the router is not provided by Exetel, we strongly advise you consult your CPE vendor for the configuration support. Please be aware that some hardware devices may not be equipped with traffic shaping and may not have the capability to set certain traffic shaping functions. E.g. 'Burst bit rate' which is an important function.

Please check with our engineers regarding recommended routers.

Appendix – CPE burst setting values for traffic shaping

Offered Speed (Mbps)	Shaping Rate (Mbps)	Shaping Burst (Bits)	Extended Burst (Bits)
2	1.96	32000	0
4	3.92	32000	0
6	5.88	64000	0
8	7.84	80000	0
10	9.80	104000	0
20	19.60	200000	0
30	29.40	320000	0
40	39.20	400000	0
50	49.00	504000	0
60	58.80	600000	0
70	68.60	704000	0
80	78.40	800000	0
90	88.20	920000	0
100	98.00	1000000	0
150	147.00	1504000	0
200	196.00	2000000	0
300	294.00	3000000	0
400	392.00	4000000	0
500	490.00	5000000	0
600	588.00	6000000	0
800	784.00	7600000	0
1000	980.00	8240000	0