

# Staselog Network Equalizer

## Bandwidth Management for Network Professionals



Staselog Network Equalizer classifies, controls and measures traffic in IP networks. It features fully dynamic traffic control capable to redistribute bandwidth packet by packet .

In operator use, Staselog Network Equalizer is capable of solving congestion problems without the need to identify and reduce P2P traffic. Network delays are minimized and full network capacity yielded even in the presence of aggressive P2P traffic. Network reliability and quality of service are improved, requirements for routers and other hardware are decreased. Performance is maintained even when a large number of network management rules is applied. This enables subscriber-specific on-line settings in broadband provisioning.

### Typical Applications for ISPs:

- **Dynamical network capacity optimization in wired and wireless networks**
- **Solving congestion problems without need to positively identify and filter P2P traffic**
- **Fine granularity traffic measurement**
- **Technical broadband provisioning with StaseGovernor™ software which controls several SNE units**

- **High performance and fine granularity: up to 100 000 classification rules at nominal throughput**
- **Unlimited number of TCP sessions**
- **XML interface format**
- **Graphic user interface via browser**
- **Operates as a transparent, stateless Ethernet bridge**

### Features

Network capacity can be either fairly allocated to all users, or each user may have their own bandwidth settings. If one is not using all the reserved bandwidth, it will be distributed to the others. High priority applications or users can get the bandwidth they need. There is no need to limit traffic. Instead, bandwidth can be ensured and guaranteed for all users. A hierarchical network structure can be modeled and the whole network controlled with a single unit.

Network usage can be controlled and monitored individually per user even in large networks with thousands of users without severe performance degradation. Other criteria, such as port number or packet size, can also be applied in the traffic classification.

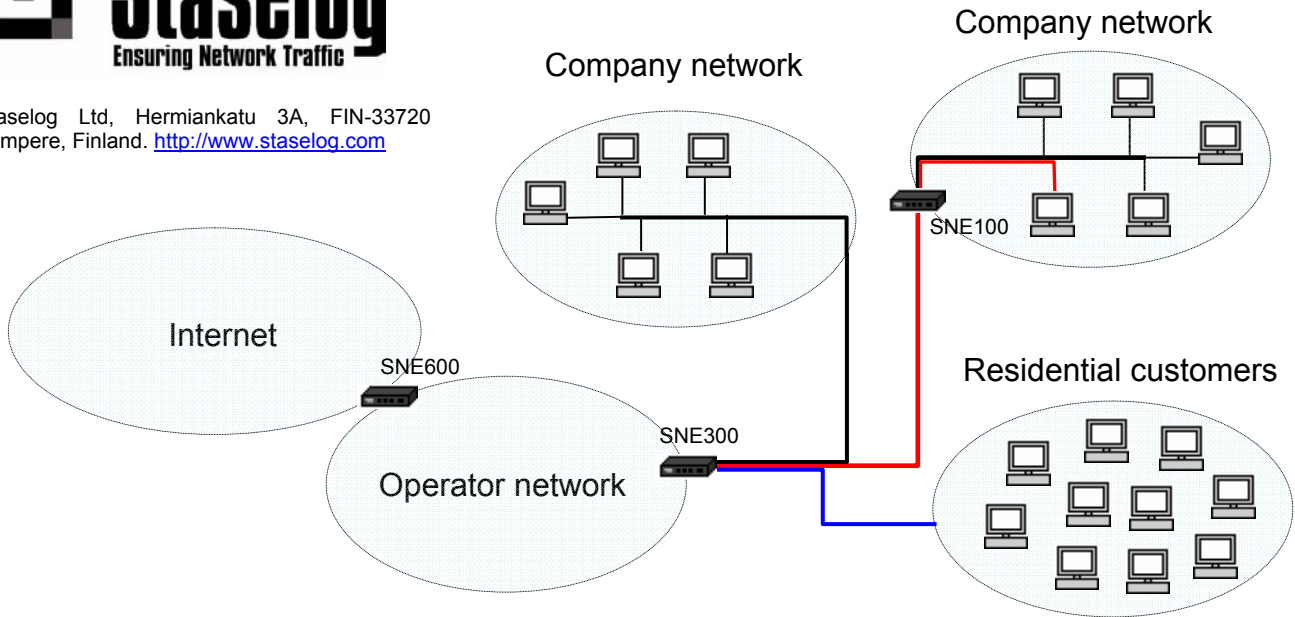
The XML based configuration makes it possible to integrate Staselog Network Equalizer into existing network management systems, such as user management or a billing application. There is also a simple-to-use graphical user interface included.

### Models

Staselog Network Equalizer is available in several throughput classes. Throughputs below 100+100 Mbit/s or above 1200+600 Mbit/s are available by request, including networks with 10 Gbit/s technology.

Image: Sun Fire X2200 Server by Sun Microsystems, Inc.

- **Product Models: SNE100, SNE300, SNE600, SNE800, SNE1200a, and up.**
- **Throughputs beyond 1 Gbit/s**
- **High Availability Option**
- **Optional Dual Power Units**



## Staselog Network Equalizer Data

USER INTERFACE	All models
User interface types	Browser UI, Command line UI
Configuration and report format	www -browser, XML
Web browser requirements	HTML4 compatible, JavaScript support recommended
Ethernet access	Browser UI, Command line UI over SSH
Serial port access	Command line UI

TRAFFIC CLASSIFICATION CRITERIA	All models
Traffic direction	WAN to LAN, LAN to WAN, both independently
IP address	Source IP address, Destination IP address, IP address groups
Protocols	TCP, UDP, ICMP
Ports	TCP or UDP port numbers, port groups
Other	ICMP message type, TCP flags, VLAN-ID, DSCP, packet size

PERFORMANCE *	SNE100	SNE300	SNE600	SNE800	SNE1200a
Maxthroughput, both directions together	200 Mbit/s	600 Mbit/s	1 200 Mbit/s	1 600 Mbit/s	1 800 Mbit/s
Max. throughput, one direction only	200 Mbit/s	300 Mbit/s	600 Mbit/s	800 Mbit/s	1 200 Mbit/s
Max throughput, typical packet size distribution	200 Mbit/s	600 Mbit/s	600 Mbit/s	1 600 Mbit/s	1 800 Mbit/s
Packets per second	406 200 p/s	406 200 p/s	406 200 p/s	520 200 p/s	520 200 p/s
Max. number of network users	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Max. number of connections	Unlimited	Unlimited	Unlimited	Unlimited	Unlimited
Max. number of traffic control rules	100 000	100 000	100 000	100 000	100 000
Max. number of pipes & filters	10 000 each	10 000 each	10 000 each	10 000 each	10 000 each
Statistics storage time	400 days	400 days	400 days	400 days	400 days
Statistics resolution	5 minutes	5 minutes	5 minutes	5 minutes	5 minutes
Dynamical control resolution	Per packet	Per packet	Per packet	Per packet	Per packet
Overhead latency	0.3 ms	0.3 ms	0.3 ms	0.3 ms	0.3 ms

HARDWARE	SNE100 - SNE600	SNE800 - SNE1200a
Hardware platform	Sun Fire X2200 M2	Sun Fire X2250
Dimensions (W x H x D)	426 x 43 x 634 mm (1U)	426 x 43 x 634 mm (1U)
Network interface	10/100/1000 Ethernet	10G Ethernet
Connectors	3x RJ-45 (or optical)	optical
High Availability	Two hard disks in RAID configuration. Double units optional.	

\* Large number of control rules applied in all measurements. Typical packet size distribution given by Institute of Communications Engineering, Tampere University of Technology 2003.