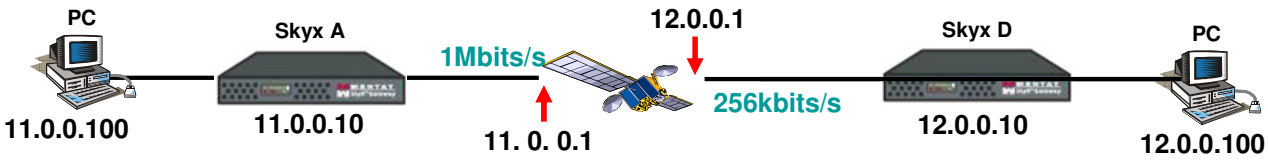
In the case SkyX Gateways are installed and it seems that TCP Acceleration is not processing, there are some basic troubleshooting steps to help finding the root cause.



Statistics don't show TCP Acceleration and Users complain about the same throughput as without SkyX.

Note: Don't use PING to verify better throughput. UPD packets don't get acceleration.

SKYX-A> linkstat –f 1 Link 1: 0 Kbits/sec 0 Drops Link 1: 0 Kbits/sec 0 Drops	SKYX-D> linkstat –f 1 Link 1: 69 Kbits/sec 0 Drops Link 1: 103 Kbits/sec 0 Drops
SKYX-A> skystat –f 1 1% Mem 1% CPU 1 Connections 0 C/s 0 Kbits/sec 1% Mem 0% CPU 1 Connections 0 C/s 0 Kbits/sec 1% Mem 1% CPU 1 Connections 0 C/s 0 Kbits/sec	SKYX-A> skystat –f 1 1% Mem 1% CPU 1 Connections 0 C/s 0 Kbits/sec 1% Mem 0% CPU 1 Connections 0 C/s 0 Kbits/sec 1% Mem 1% CPU 1 Connections 0 C/s 0 Kbits/sec

1. Basic Connectivity Problems

Verify that local SkyX Processing is consistently enabled or disabled (**CLI Command**: 'skyx status') ☐

Example:

```
SKYX-A> skyx status

-> Skyx processing is on
-> Skyx interception is on
-> Skyx uses XTP
```

Verify that Bridging Mode is enabled (**CLI Command**: 'bridge status') ☐

Example:

```
SKYX-A> bridge status
Briding is ON
Autoroute is OFF
```

Verify that eth0 is connected to LAN and packets are traversing SkyX Gateway (ping eth0 from client) ☐
Verify that eth1 is connected to WAN and packets are traversing SkyX Gateway (ping eth1 from client) ☐
Verify that Ethernet Interfaces are operational and link is up (**CLI Command**: 'ifether show') ☐

Example:

```
SKYX-A> ifether show
eth0: Autonegotiation On, Allowable Modes: 100FD 100HD 10FD 10HD
eth0: Speed 100 Mode Full-Duplex Link up
eth1: Autonegotiation On, Allowable Modes: 100FD 100HD 10FD 10HD
eth1: Speed 100 Mode Full-Duplex Link up
```

Verify that IP Addresses and Netmask are correctly entered (**CLI Command**: 'ifconfig show') ☐

Example:

```
SKYX-A> ifconfig show
br0: flags=000001043<UP, BROADCAST,RUNNING,MULTICAST>
         inet 11.0.0.10 netmask 255.255.255.0 boradcast 11.0.0.255
         mtu 1500 metric 0 index 2
lo: flags=000001049<UP, BROADCAST,RUNNING,MULTICAST>
       inet 127.0.0.1 netmask 255.0.0.0
       mtu 8156 metric 0 index 1
```

2. Find a dead Route ☐

Have a network drawing with involved IP Addresses ready

Ping across – Log on to each SkyX Device and ping each remote SkyX

If Ping is dead, run a traceroute to find the dead interface
If Bridge auto-route feature is off, verify that Static IP entries are correct
(**CLI Command**: 'ip-route show')

Example:

```
SKYX-A> ip-route show
Type          Dest/Netmask                Gateway     If          MTU         Metric
C             11.0.0.10/255.255.255.0     11.0.0.10   br0         8156        0
C             11.0.0.0/255.255.255.0      11.0.0.10   br0         1500        0
S             12.0.0.0/255.255.255.0      11.0.0.1    br0         0           1
SKYX-A>

SKYX-D> ip-route show
Type          Dest/Netmask                Gateway     If          MTU         Metric
C             12.0.0.10/255.255.255.0     12.0.0.10   br0         8156        0
C             12.0.0.0/255.255.255.0      12.0.0.10   br0         1500        0
S             11.0.0.0/255.255.255.0      12.0.0.1    br0         0           1
SKYX-D>
```

3. Firewall Settings

Verify that ' IP Protocol 36' = XTP is allowed to cross the firewall on **Remote** Site ☐
Verify that ' IP Protocol 36' = XTP is allowed to cross the firewall on **Local** Site ☐

4. Verify Retransmissions

Run **CLI Command**: 'skystat –f 1 during download to see if any XTP retransmits

Example:

```
SKYX> skystat -f 1
1% Mem    1% CPU      1 Connections     0 C/s      72 Kbits/sec            0 TCP rexmit    15 XTP rexmit
1% Mem    0% CPU      1 Connections     0 C/s      32 Kbits/sec            0 TCP rexmit    12 XTP rexmit
1% Mem    1% CPU      1 Connections     0 C/s       0 Kbits/sec            0 TCP rexmit    12 XTP rexmit
1% Mem    0% CPU      1 Connections     0 C/s       0 Kbits/sec            0 TCP rexmit    12 XTP rexmit
```

Reasons for Retransmission could be:

- Mismatched Ethernet Interface settings ☐
- Outbound link rate configured too high ☐
- Link RTT configured to low ☐
- Bad link (high BER) ☐
- XTP packets out of order -> better use SCPS ☐

No Retransmission would look like that:

```
SKYX-A> skystat -f 1
1% Mem    1% CPU      2 Connections     0 C/s      240 Kbits/sec
1% Mem    0% CPU      2 Connections     0 C/s      240 Kbits/sec
1% Mem    1% CPU      2 Connections     0 C/s      256 Kbits/sec
```

Run 'linkstat' during download to see if the configured link rate is being reached ☐

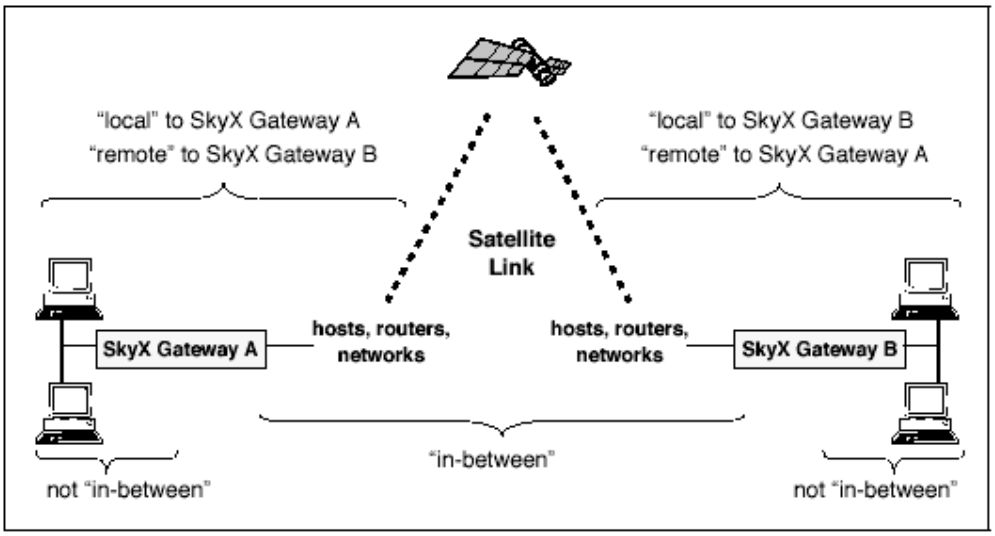
Example:

```
SKYX-A> linkstat –f 1
Link 1:     253  Kbits/sec     0 Drops
Link 1:     252  Kbits/sec     0 Drops
Link 1:     252  Kbits/sec     0 Drops
```

Remember, in this example we can only utilize up to 256kbits/s. One link has been configured for 256kbits/s.

Mapping of WEB & CLI Reference

Depending what type of Interface is used for configuration review, there are some different naming conventions. Following table should help to map WEB Interface to DISPLAY output.



Interface Type	**LOCAL**	**LOCAL IN-BETWEEN**	**REMOTE IN-BETWEEN**	**REMOTE**
WEB-Interface	Local Address	Local Exclusion	Remote Exclusion	SkyX Network
CLI: display	localskyx	noskyx (without Link Index)	noskyx (with Link Index)	remoteskyx

Address Type	**Characteristics**
localskyx (Local Address)	• Localskyx addresses are on the same side of the satellite link or WAN router as the SkyX Device being configured • Connections involving these addresses receive SkyX processing
remoteskyx (SkyX Network)	• Remoteskyx addresses are on the other side of the satellite link or WAN router relative to the SkyX device being configured • Connections involving these addresses should receive SkyX processing
noskyx (Local & Remote Exclusions)	• Noskyx addresses may be on either side of the satellite link or WAN router • Connections involving these addresses will not receive SkyX processing