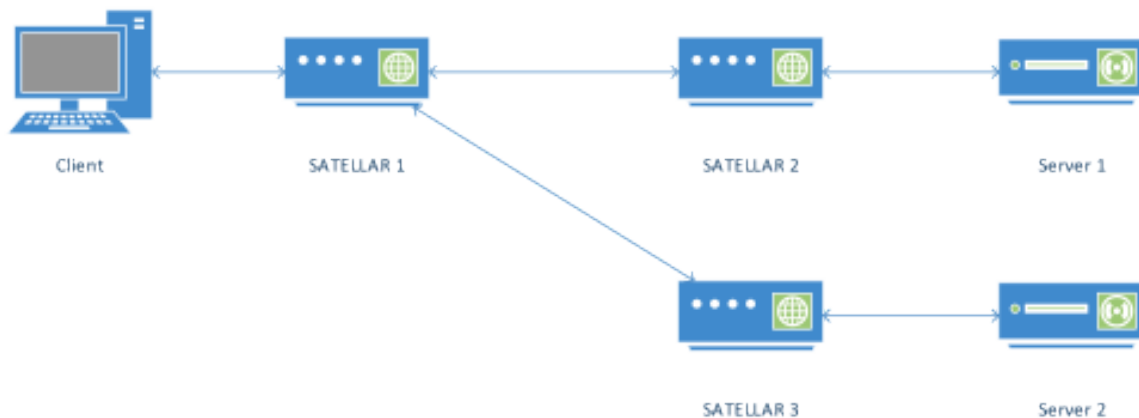


TCP/UDP Proxy

Using TCP over the radio can be secure, but it can also be quite slow and adds a lot of overhead to the traffic. In some cases it can be beneficial to create a TCP-UDP proxy that just sends the payload data over the radio network. The latency of the connection improves as does the available bandwidth.

Example

This example has the following setup:



An example of how to use the proxy will be presented here. A network consists of 3 SATELLAR devices, one client and two servers. The IP addresses of the devices are as follows:

All devices have routing tables so that they have IP connectivity. Both server machines have a TCP server

Device	IP-Address
Client	192.168.1.100
Server 1	192.168.2.100
Server 2	192.168.3.100
SATELLAR 1	192.168.1.1
SATELLAR 2	192.168.2.1
SATELLAR 3	192.168.3.1

listening at TCP port 502. The Client machine forms a TCP connection over the radio to both of them. The Client's configuration would look something like this:

- Server 1: 192.168.2.100:502
- Server 2: 192.168.3.100:502

If the proxy is to be used, it needs to be configured in all SATELLAR devices and the client need to be reconfigured.

First, two proxies must be created in SATELLAR 1, one for each server. Both proxies must listen at different

ports which can be selected freely. For this example, ports 10000 and 10001 are used. Similarly destination ports must be selected for the substations, ports 20000 and 20001 will be used here. The proxies in the master would then look like this:

	Mode	Listening IP	Listening Port	Destination IP	Destination Port	
Proxy 0	TCP->UDP ▼	0.0.0.0	10000	192.168.2.1	20000	<input type="checkbox"/>
Proxy 1	TCP->UDP ▼	0.0.0.0	10001	192.168.3.1	20001	<input type="checkbox"/>

Then, corresponding proxies must be configured in the other two SATELLAR devices. For SATELLAR 2 like this:

	Mode	Listening IP	Listening Port	Destination IP	Destination Port	
Proxy 0	UDP->TCP ▼	0.0.0.0	20000	192.168.2.100	502	<input type="checkbox"/>

And for SATELLAR 3 like this:

	Mode	Listening IP	Listening Port	Destination IP	Destination Port	
Proxy 0	UDP->TCP ▼	0.0.0.0	20001	192.168.3.100	502	<input type="checkbox"/>

Note that the mode is now UDP to TCP, and the destination Address/Port is that of the corresponding server.

When all proxies have been enabled in the SATELLAR devices, the client can access the two substations with the following configuration:

- Server 1: 192.168.1.1:10000
- Server 2: 192.168.1.1:10001

The Client computer no longer needs IP routes to the two clients, it only needs to form a TCP connection with SATELLAR 1.