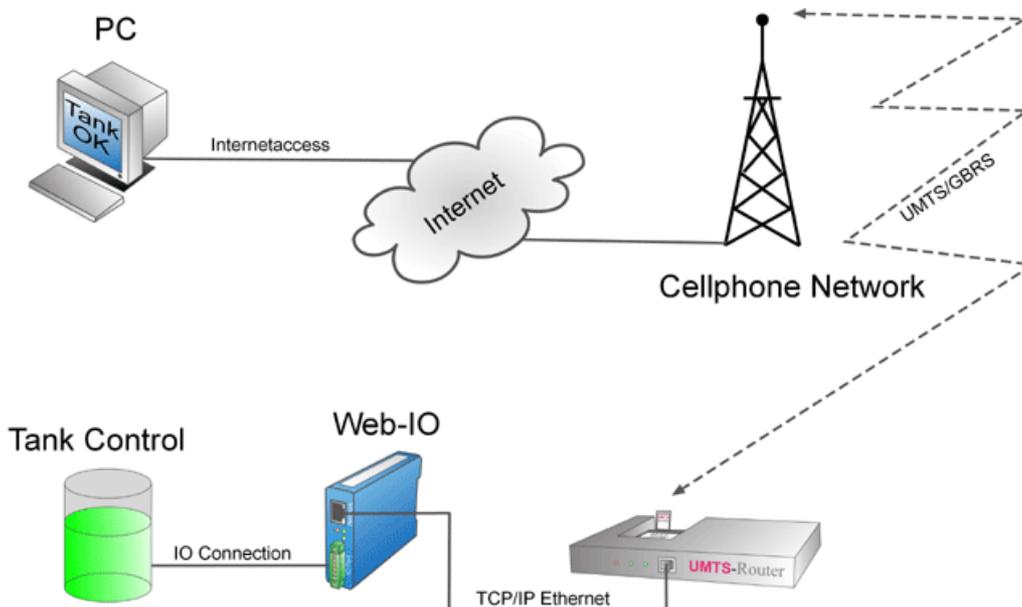


Application for the Web-IO Digital:

## Making the Web-IO accessible to the mobile cellular network via UMTS/GPRS

Web-IO products allow a variety of monitoring and control tasks to be easily implemented over the network. But another common requirement is detecting and controlling signals at locations not having fixed network access.

Here the solution is the cellular phone network, which by now has become available virtually everywhere in Europe depending on the provider. With a suitable router you can then construct a small, free-standing network at a remote location - at minimum consisting of the router and a Web-IO. But even multiple Web-IOs can be reached in this way using UMTS or GPRS.



### Establishing the UMTS / GPRS connection

Depending on what needs to be monitored, a corresponding Web-IO Digital, Web-IO Analog or Web-IO Thermometer is required. The Web-IO is connected to the UMTS router using a patch cable. To be able to operate the UMTS router a SIM card for UMTS/GPRS operation of a cellular phone provider is also required. When selecting the cellular provider you should first find out whether their network is available at the desired location and which fees apply.

In our tests we have tried this router:

- [UMTS/HSDPA router UR5 - Lucom](#)  
To operate this router the SIM card was sufficient. The router worked flawlessly with a Deutscher Telekom UMTS-SIM card.

### NAT routing and DynDNS

The UMTS router provides the connected Web-IO first with a standard Internet access as you would have at home. When the router connects with the Internet, it is assigned a public IP address for the duration of use. This address may differ each time the Internet is accessed.

This is no problem for using normal Internet access, since the user is generally only using services of another provider. Simply specify the name or IP address of the desired server and you are connected. You do not have to know your own IP address.

This means tasks such as sending alarm e-mails can be immediately handles by the Web-IO even through the UMTS router after a very basic configuration process.

An expanded configuration will only be needed if services which are provided by the Web-IO need to be reached from the Internet side.

#### DynDNS

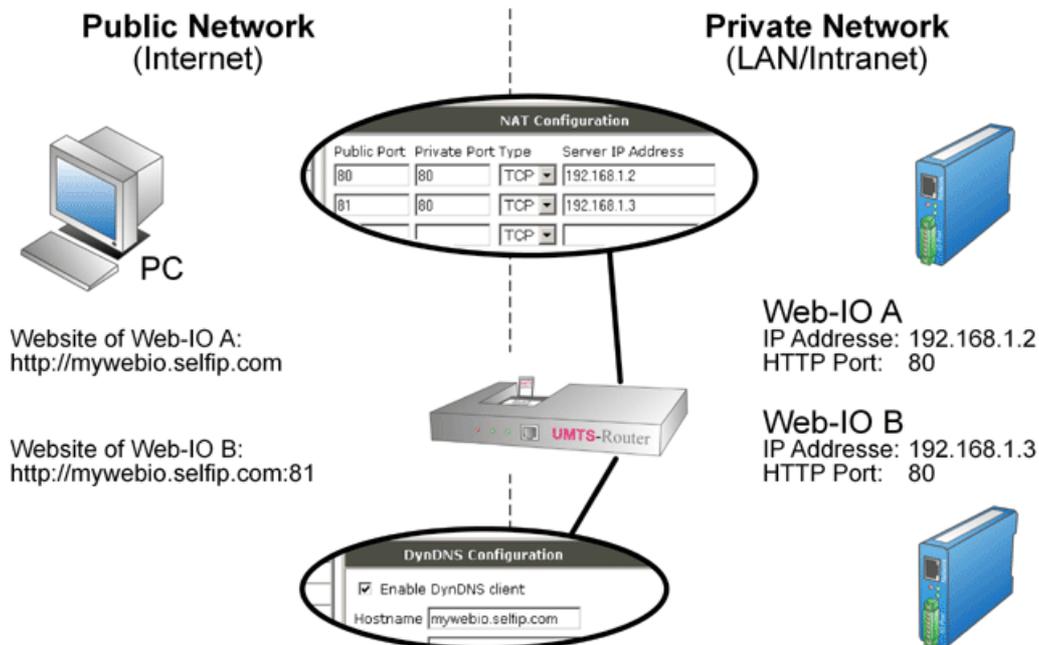
In this case you must set up a DynDNS name. DynDNS offers a (currently free) service which allows you to store a name for your own Internet access (e.g. my-webio.homeip.net). As soon as the router connects with the Internet, it passes its assigned IP address together with its DynDNS name to the DynDNS service. DynDNS then works much like a telephone directory. When an Internet user calls the name, the current address is made known and the Web-IO behind the router can

be reached.

### NAT routing

The network which is connected through the router to the Internet works internally using private, non-public IP addresses, whereby each device within this network must have its own unique IP address in the network.

To the outside world the entire private network is represented by an assigned, public IP address. If now for example two Web-IOs need to be reached on your HTTP access (normally Port 80), you have to employ a trick: NAT routing (Network Address Translation). The router can be set up such that it makes Web-IO A accessible through the public IP address on Port 80 and provides Port 81 for example for accessing Web-IO B.



We have summarized the few steps necessary for the configuration in an example:

- [UMTS/HSDPA Router UR5 - Lucom](#)
- [Greengate VPN 40 UMTS - ITXtra](#)



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