

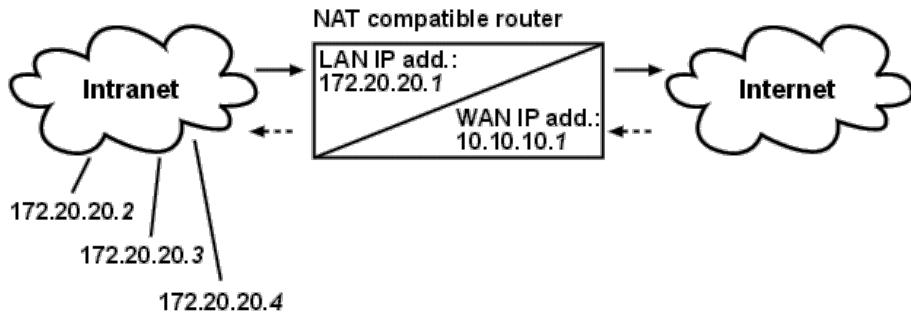
Application for the serial Com-Server:

Accessing several serial terminal devices over one IP address? IP masquerade makes this possible!

With the growing importance of the Internet, it has become a wish of many companies to make serial terminal devices available in both the intranet and on the Internet, e.g. for remote maintenance and diagnosis. This is possible by means of a Com-Server.

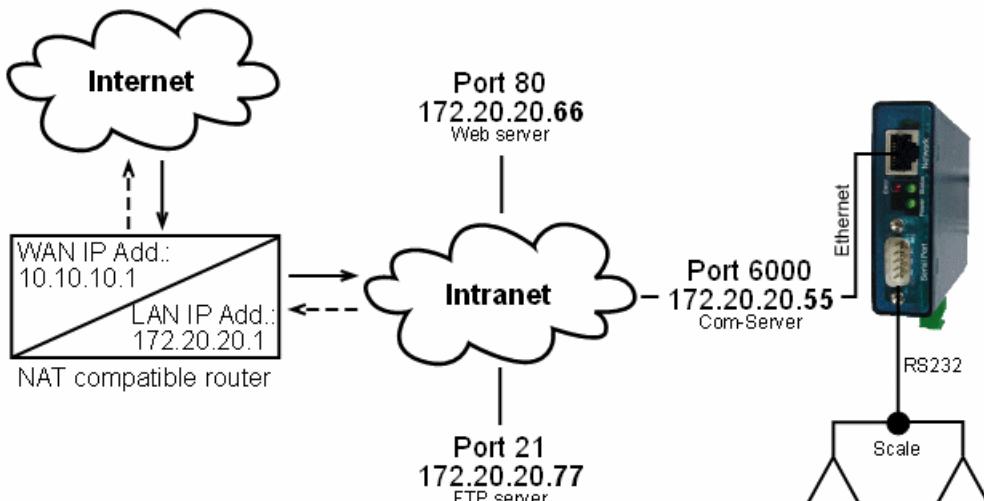
The solution is NAT (Network Address Translation). NAT-capable routers are able to use the limited resources of official network addresses in a more sustainable way by representing a complete intranet with various stations over only one official IP address.

Figure 1 shows how the entire Internet traffic of all stations of network 172.20.20.0 is handled over only one official IP address (10.10.10.1) of the provider. For most of the established applications, the action is initiated by a client in the intranet using the services of a server on the Internet. The router is therefore able to ensure proper allocation of the data retrieved from the Internet.



To make devices within a private network accessible from the Internet, NAT has been extended with the option to route incoming data packets from the WAN side to certain stations in the intranet. For this purpose, the TCP or UDP port numbers are used. Their original purpose is to access specific applications.

Figure 2 shows how this "alternative use" of the port number works. The router includes a NAT table to be maintained by the administrator. The TCP or UDP port number in this table determines to which IP address of one's own network incoming connections are to be forwarded.



In our example, a client sends a TCP/IP packet with port number 6000 to the official WAN IP address 10.10.10.1. The activated router allocates the packet, based on the NAT table, to LAN IP address 172.20.20.55, thereby providing a clear data channel to the serially connected scales.

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