Problem

I want to reach the PLC on the left from the remote PC on the right using a cellular gateway and port forwarding. The problem? The PLC either has no default gateway configured or has an existing default gateway configured pointing to an existing router for connection to the main plant and this cannot be changed.

Solution

The Digi Transport Series can perform Source NAT on the incoming traffic (a capability we have previously leveraged in eWON and Endian) to make the PLC think its just talking locally to the Digi's LAN IP: 192.168.13.31. In this manner, the lack of, or "improper" default gateway configuration makes no difference. This only requires a small firewall configuration in the Digi and we can accommodate both the new remote user connection AND maintain the existing plant connection without any user modifications required to his PLC.

CONNECTION TO PLANT NETWORK

INTERNET

IP Address:
10.100.20.10 /30
[external]

router

192.168.13.1 /24
[internal]

IP Address:
166.130.20.163 /30
[external]

Router mode with
Port Forwarding

192.168.13.31 /24
[internal]

IP Address:
209.33.181.254 /19
[external]

router

192.168.1.1 /24
[internal]

192.168.13.100
255.255.255.0
192.168.13.1

192.168.1.100
255.255.255.0
192.168.1.1