

Application Note

Remote Ethernet Access to a PLC Using DynDNS or NoIP

Scenario

We have a device with an Ethernet port which we want to access remotely via Internet using the TCP port 502. The Ethernet device has a local IP address of 192.168.1.70.

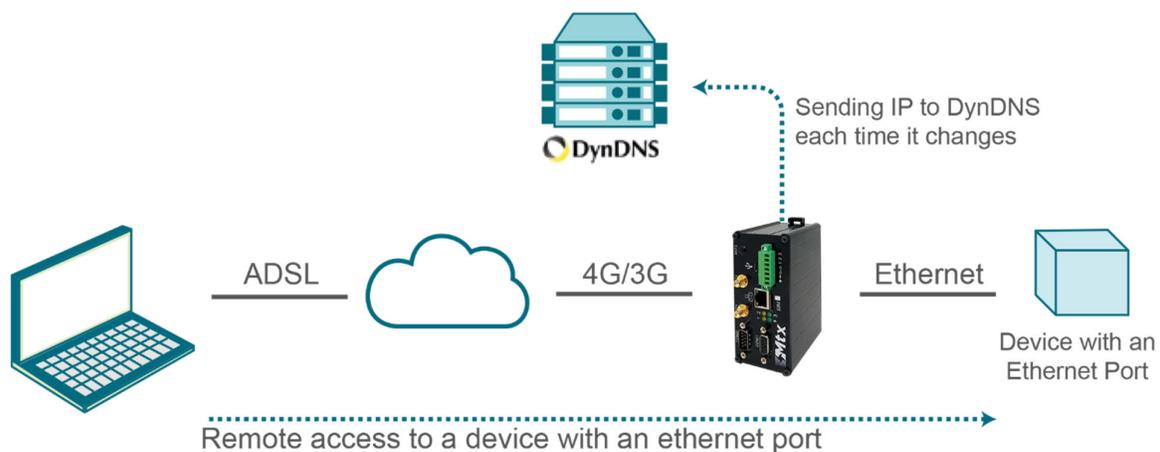
We have to be able to access the router's configuration remotely in the standard TCP port 80.

We want to be able to remotely access the device. SIM cards with a dynamic/public IP addresses will be used, therefore we will use the DynDNS or No-IP services.

Solution

MTX-Router-Titan-II-S-4G AUS and suitable SIM card

If using Telstra then the SIM would have to be enabled for the APN: telstra.extranet (public dynamic IP)



Details:

After the router has started, access the router's configuration with the default username and password: "admin" and "admin", using the default IP address "192.168.1.2".

Check the configuration in the menus "Wan>Basic Settings" and make sure the APN, username and password are set correctly.

Ensure "Remote Management" is checked, this allows access to the router for remote configuration.

Remember that in order to work, the PLC's IP address should be in the same range as the router's LAN IP address and we should specify the PLC's Gateway IP address with the router's LAN IP address. In this example, it would be 192.168.1.2.

Configure the settings for DynDNS under "Other>DynDns, these settings enable the device to update the DynDNS server with the units current IP details.

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Finally configure the settings under “Wan>Basic Settings”, “Firewall>Nat”. These settings Map the ports for devices to allow access, in this case remotely, to the connected device.

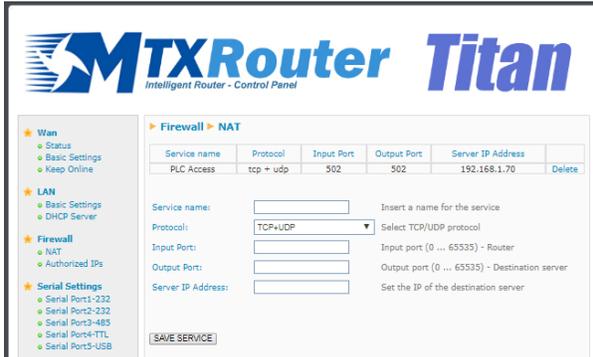
The screenshot shows the WAN Basic Settings page. The left sidebar contains a navigation menu with categories: Wan (Status, Basic Settings, Keep Online), LAN (Basic Settings, DHCP Server), Firewall (NAT, Authorized IPs), Serial Settings (Serial Port1-232, Serial Port2-232, Serial Port3-485, Serial Port4-TTL, Serial Port3-USB), External Devices (Logger configuration, Temperature Sensor, ModBus Devices, Distance Sensor, Wavenia Concentrator, W-MBus Concentrator, GPS Receiver, Generic Serial Device, USB Camera), and VPN (OpenVPN Server, OpenVPN Client, OpenVPN EasyLink). The main content area is titled 'WAN Basic Settings' and includes the following fields: Enabled WAN (checked), Session Time (0), Enable GSM WAN interface, Time in minutes (0 = always on), APN (telstra.internet), Username (username), Password (password), Call center (099***), SIM Pin, Authentication (PAP), Network selection (Auto), DNS selection (Selected DNS Servers), DNS1 (8.8.8), DNS2 (8.8.4.4), Remote management (checked), and Remote TCP Port (80). A 'SAVE CONFIG' button is at the bottom.

The screenshot shows the LAN Basic Settings page. The left sidebar is identical to the previous screenshot. The main content area is titled 'LAN Basic Settings' and includes the following fields: Static IP (checked), IP Address (192.168.1.2), IP Subnet Mask (255.255.255.0), DNS 1 (8.8.8), DNS 2 (8.8.4), and IP Gateway (blank). A 'SAVE CONFIG' button is at the bottom.

The screenshot shows the Other DynDns page. The left sidebar is identical to the previous screenshots. The main content area is titled 'Other DynDns' and includes the following fields: Enabled (checked), Server (dynupdate.no-ip.com), Domain (mtxroutertitan.no-ip.org), Login (myUser), Password (*****), Period (60), and Hide WAN IP (unchecked). A 'SAVE CONFIG' button is at the bottom.

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The screenshot shows the MTXRouter Titan control panel. The main heading is "MTXRouter Titan Intelligent Router - Control Panel". On the left is a navigation menu with categories: Wan (Status, Basic Settings, Keep Online), LAN (Basic Settings, DHCP Server), Firewall (NAT, Authorized IPs), and Serial Settings (Serial Port1-232, Serial Port2-232, Serial Port3-485, Serial Port4-TTL, Serial Port5-USB). The "Firewall > NAT" section is active, displaying a table of NAT services and a configuration form below it.

Service name	Protocol	Input Port	Output Port	Server IP Address	
PLC Access	tcp + udp	502	502	192.168.1.70	Delete

Service name: Insert a name for the service
Protocol: Select TCP/UDP protocol
Input Port: Input port (0 ... 65535) - Router
Output Port: Output port (0 ... 65535) - Destination server
Server IP Address: Set the IP of the destination server