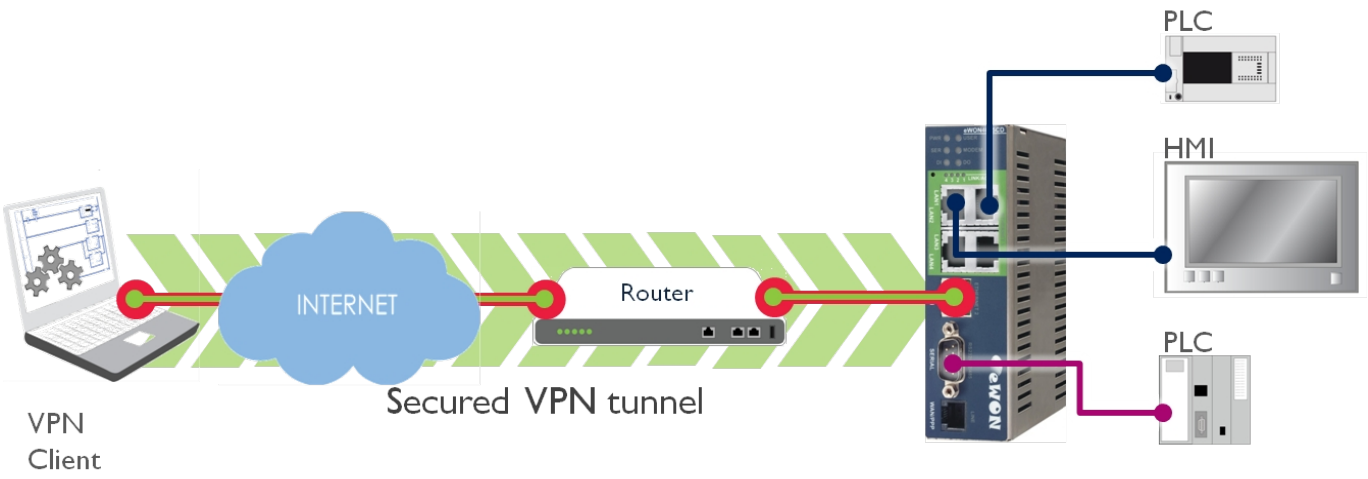
eWON Application User Guide
AUG 020 / Rev 1.1

Direct VPN Connection Using the 2nd Ethernet Port



Content

This guide explains how to configure the eWON to act as a VPN-server on its second Ethernet interface and how to establish a VPN connection from your PC to this eWON.

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Hardware and Software Requirements

Hardware Requirements

In order to follow this guide you will need:

- 1 eWON with a second Ethernet interface (for example : eWON 2005CD, 4005CD)

Software Requirements

eWON configuration software:

The eWON is configured through its embedded web server. So all you need is a standard Web Browser software like Internet Explorer[i] or Firefox[ii].

Additionally we suggest you to download the eBuddy utility on our website : http://support.ewon.biz. This utility allows to list all the eWONs on your network and to change the default IP address of an eWON to match your LAN IP address range. With eBuddy you can also easily backup/restore your configuration or upgrade the firmware of your eWON (if required).

eGrabit:

To establish the VPN connection you need to install eGrabit on your PC. This software will act as VPN Client for the VPN connection to the VPN server (eWON).

eGrabit can be downloaded for free from our website: http://support.ewon.biz.

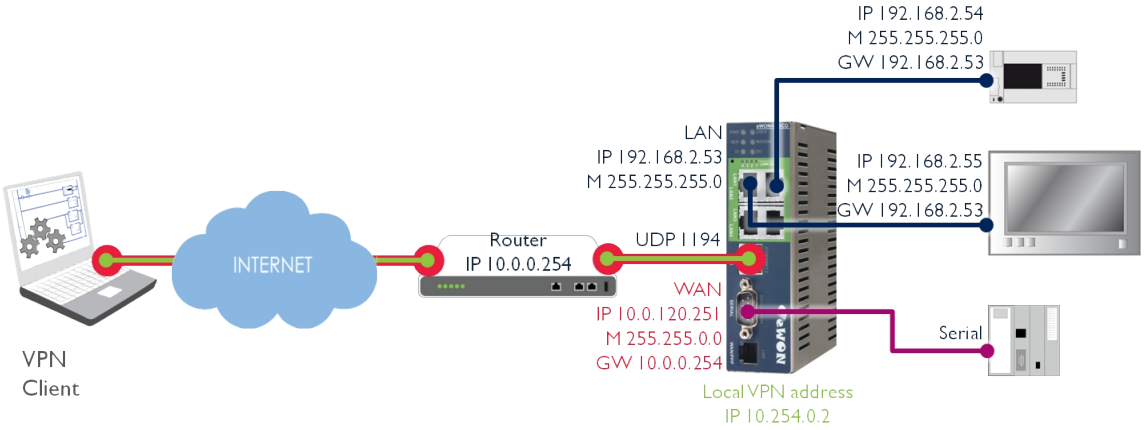
eWON Firmware Version

To be able to follow this guide your eWON needs a firmware version 5.2s0 or higher. A simple way to realize the eWON firmware upgrade is to use eBuddy, the eWON software companion.

Introduction

With its embedded PSTN, ISDN or GSM/GPRS modem, the eWON is your access point to field applications and your service gateway to perform remote maintenance on distant equipments.

Instead of using the modem, you can also use the 2nd Eth. Interface to reach your eWON through the local Internet access or an ADSL connection.



In this document, we will see how to reach your eWON and PLC(s) from your PC through a VPN connection over the Internet.

Here are the steps to reach your eWON through a VPN connection:

- Configure your eWON for ***Internet*** connection
- Configure your eWON for ***VPN*** connection
- Configure the ***eGrabit*** VPN connection
- Configure the ***Router*** connected to the eWON

If you want to reach the devices connected to your eWON:

- Set the eWON LAN IP address as default gateway on the devices behind the eWON

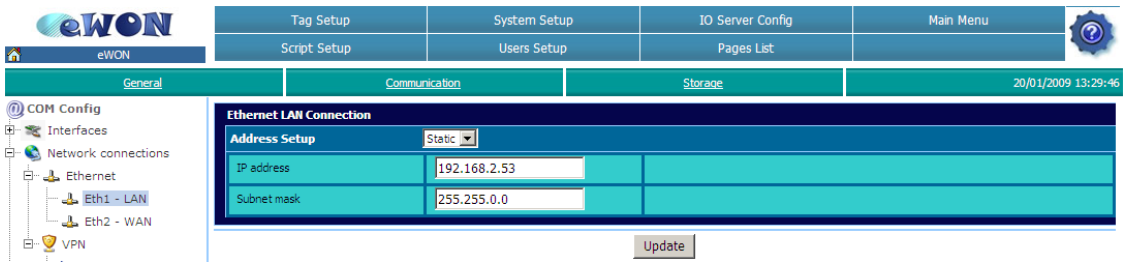
eWON Configuration for Internet Connection

To establish an Internet connection using the eWON 2nd Ethernet interface, you can configure it manually or use the eWON Wizard which is efficient and easier. To open the eWON Wizard, click on ***Configuration*** in the toolbar and then on the icon. Should you have any problem in configuring your eWON for the Internet connection using Wizard, refer to our document AUG-019-0-EN (http://support.ewon.biz)

In the current guide, we will focus on the manual configuration only.

LAN and WAN IP Interface Configuration

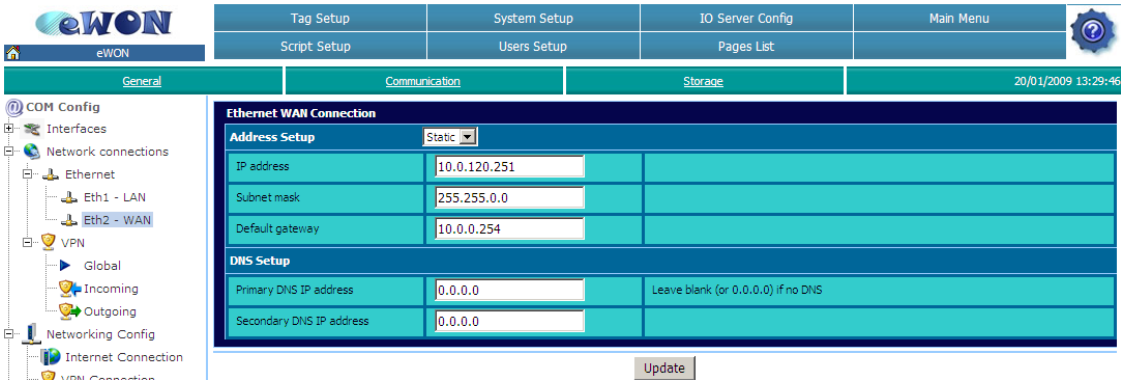
Configuration → System Setup → Communication → Network Connections → Ethernet → Eth1-LAN



Set the eWON ***LAN IP Address.***

The devices are connected to the Ethernet side of the eWON .

Configuration → System Setup → Communication → Network Connections → Ethernet → Eth2-WAN



Set the eWON ***WAN IP Address.***

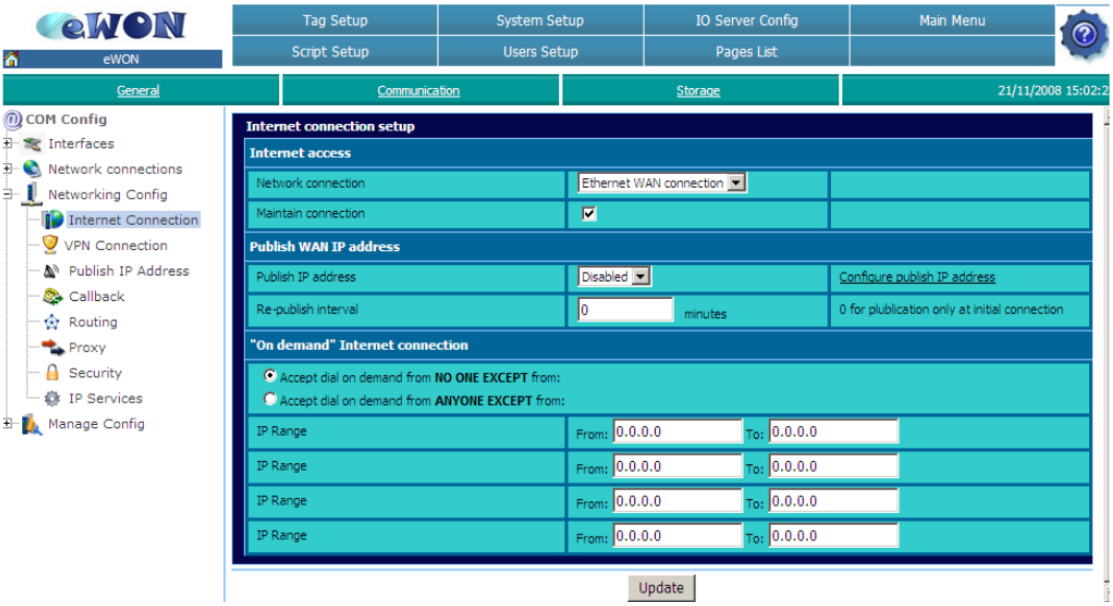
The Ethernet side of the eWON will be used to establish the Internet connection.

The ***default gateway*** should be the IP address of the Router of your eWON.

NOTE The LAN IP address and the WAN IP address must be on different IP addresses ranges. Otherwise the routing will not be possible.

Internet Connection Configuration

Configuration → System Setup → Communication → Networking Config → Internet Connection



Select ***Ethernet WAN connection*** for the Network connection.

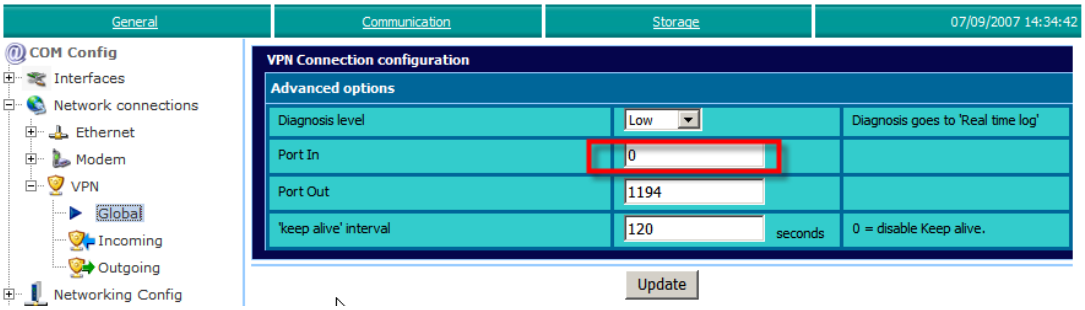
Check ***Maintain connection***.

Disable the ***Publish WAN IP address***.

eWON Configuration for VPN Connection

Specify the VPN Incoming Connection

Configuration → System Setup → Communication → Network connections → VPN → Global

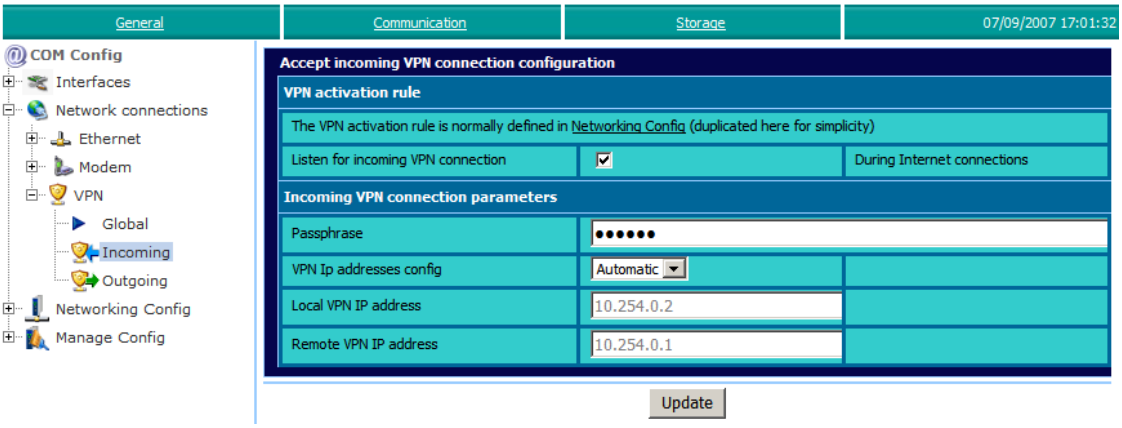


Here you can change the Port number on which eWON will «listen for» incoming VPN traffic.

NOTE ***Port in***: 0 = default behavior

If VPN is initiated by an external source (eGrabit), then eWON listens on port 1194 (hard coded).

Configuration → System Setup → Communication → Network connections → VPN → Incoming

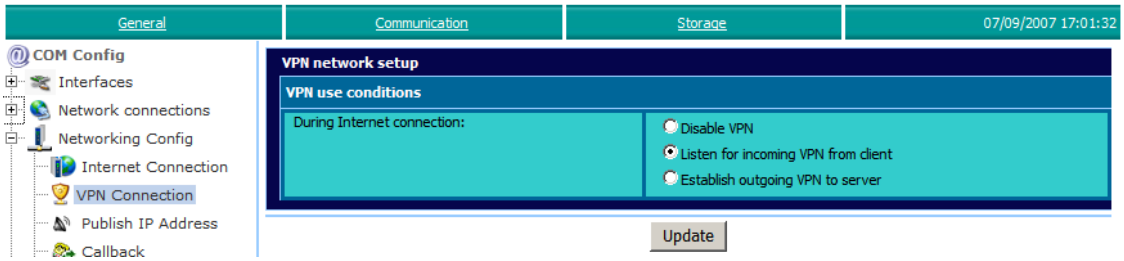


Check ***Listen for incoming VPN connection***.

Enter a ***Passphrase*** and remember this **Passphrase** for the eGrabit configuration.

Let the ***VPN IP addresses config*** on ***Automatic***.

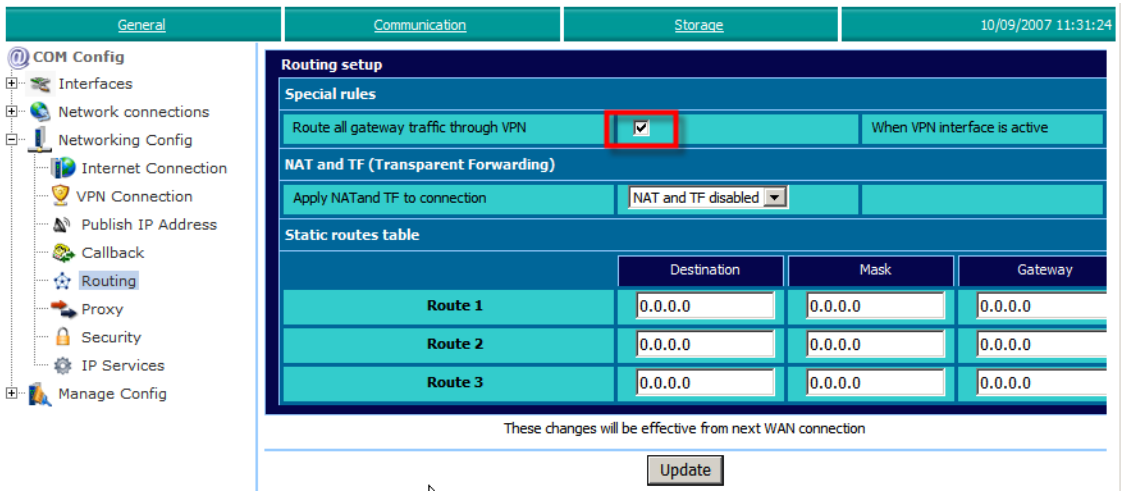
Configuration → System Setup → Communication → Networking Config → VPN Connection



Check the ***Listen for incoming VPN from client***.

Specify the VPN Routing

Configuration → System Setup → Communication → Networking Config → Routing



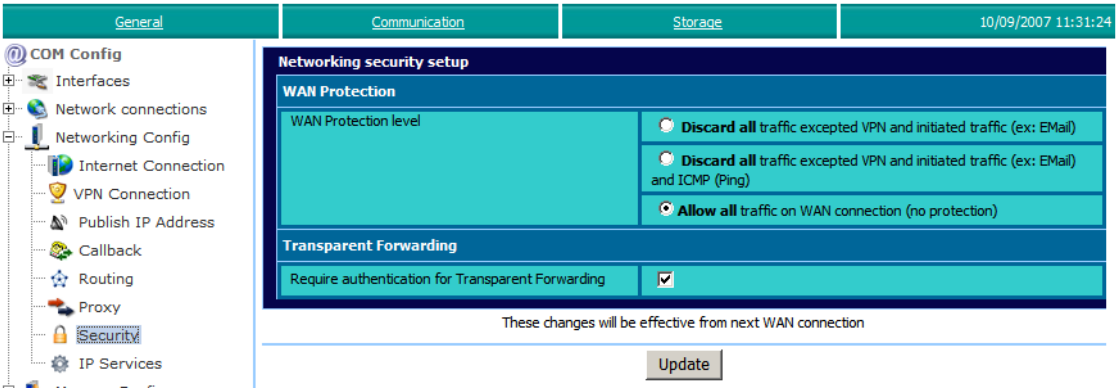
Check the ***Route all Gateway Traffic through VPN*** to route all the gateway traffic through the VPN tunnel.

Do not enable the ***NAT and TF***.

NOTE

The ***NAT and Transparent Forwarding*** are not needed because the packets will use the VPN tunnel. Only for special networking configurations the ***NAT and TF*** have to be activated.

Specify the Security Level



Choose the ***WAN Protection level*** you want to apply.

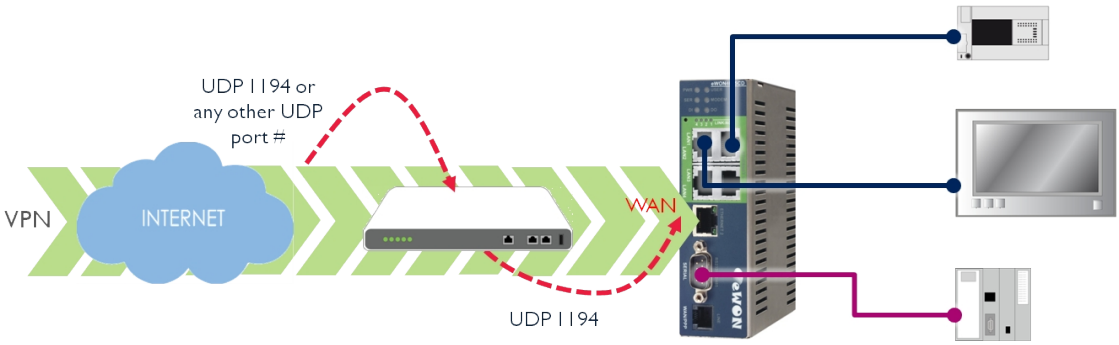
For testing purposes, it is better to start first with the ***Allow all traffic*** option.

Once your VPN connection has been tested, you can then choose the ***Discard all traffic excepted VPN*** to restrict the Internet access on your eWON. Your eWON will then be accessible only through VPN.

Configure the Router

Port Forwarding

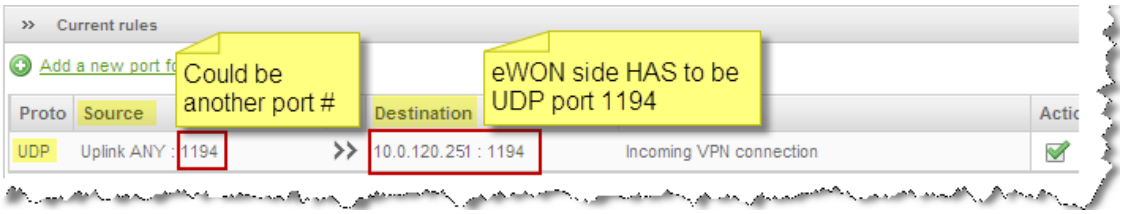
You will have to configure the Router to make a port forwarding.



For example, if you use the eWON standard VPN configuration you will have to define that the incoming packets from the **UDP port** (1194 or any other UDP port) will have to be redirected to the WAN IP address of your eWON on **UDP port 1194**.

Note: here we talk about the UDP port and not the TCP port.

Example of a UDP port forwarding configuration (@ router level):



Public IP Address

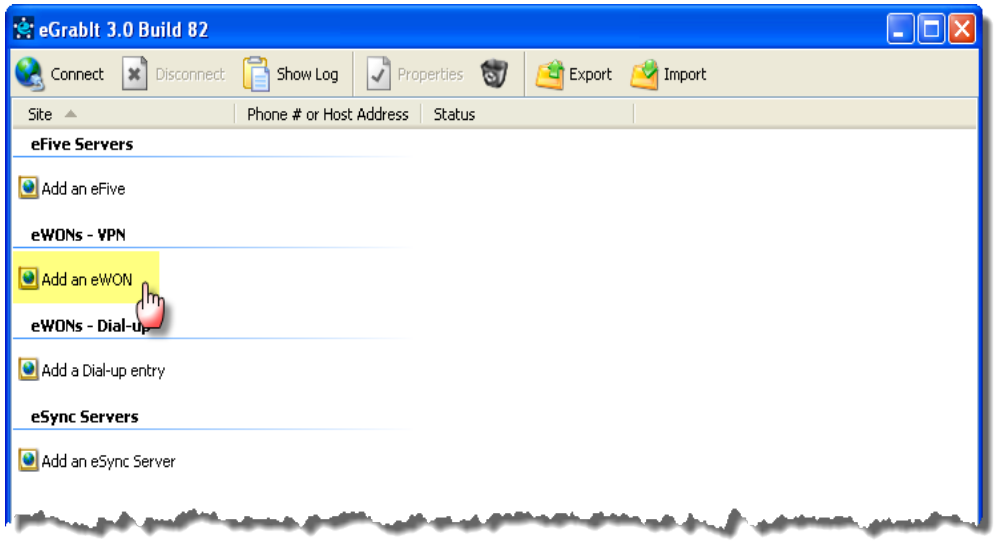
To make the VPN connection work from your PC, you need to specify the public IP address of the Router your eWON is connected to in the VPN client configuration on your PC. So, you need a static public IP address for the router. If you do not have a static IP address, then you can configure your router for dynamic DNS and use the dynamic domain name in the eGrabit configuration.

eGrabit Configuration

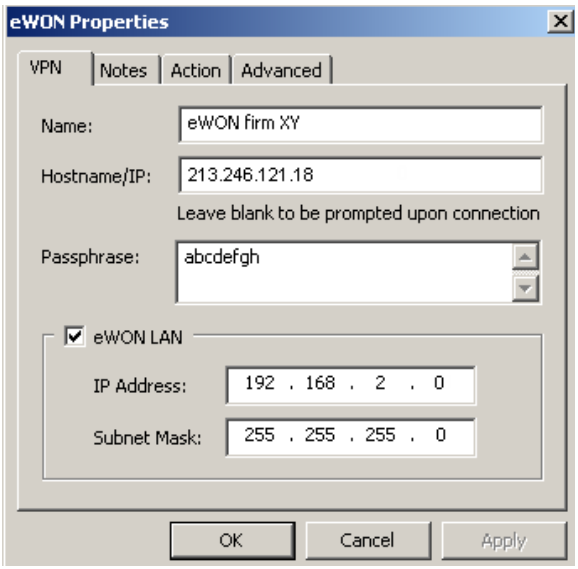
On the PC, we will use eGrabit to manage the VPN connection.

In the VPN connection, eGrabit will act as VPN Client and the eWON as VPN server. eGrabit can be downloaded for free from our website: http://support.ewon.biz.

Launch eGrabit.



Click on ***Add an eWON*** in the ***eWONs -VPN*** section.



Enter a ***Name*** for your VPN connection (**ex**.: eWON firm XY)

In the ***Hostname/IP*** field, enter the public IP address or the domain name of the Router on the eWON side.

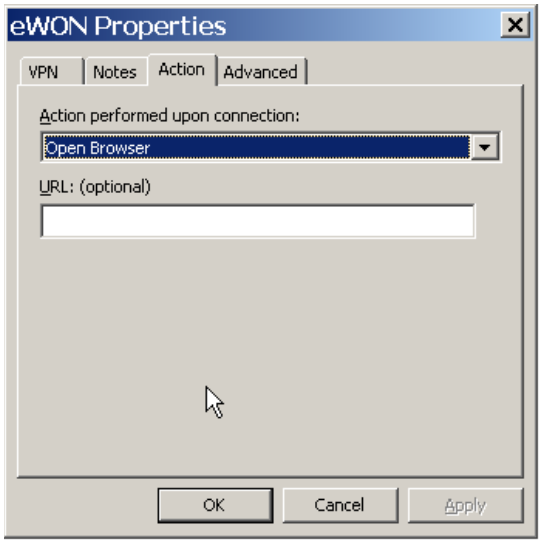
If you have configured your eWON to publish address by DNS, the ***Hostname/IP*** should be this Dynamic DNS name.

In the ***Passphrase*** field enter the passphrase you have configured in your eWON.

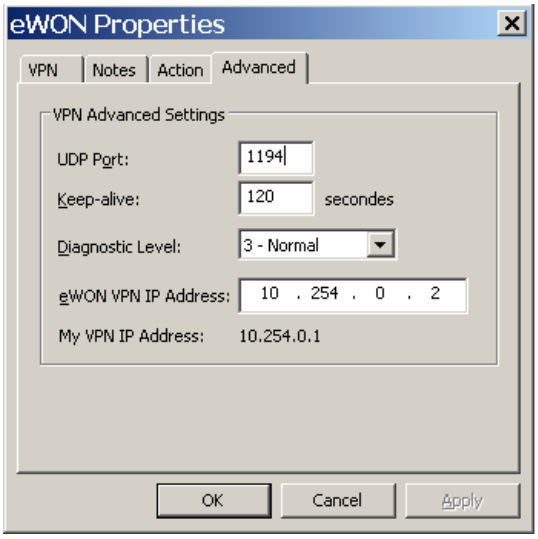
In the ***eWON LAN*** section enter the IP address range of the devices connected to the LAN side of the eWON. This information will be used to automatically add the route on your PC to route the packets through the VPN tunnel.

NOTE Make sure you insert the IP address range and *NOT* the IP address.

So, if the eWON IP address is 192.168.2.53 and mask 255.255.255.0, enter **192.168.2.0** mask 255.255.255.0.



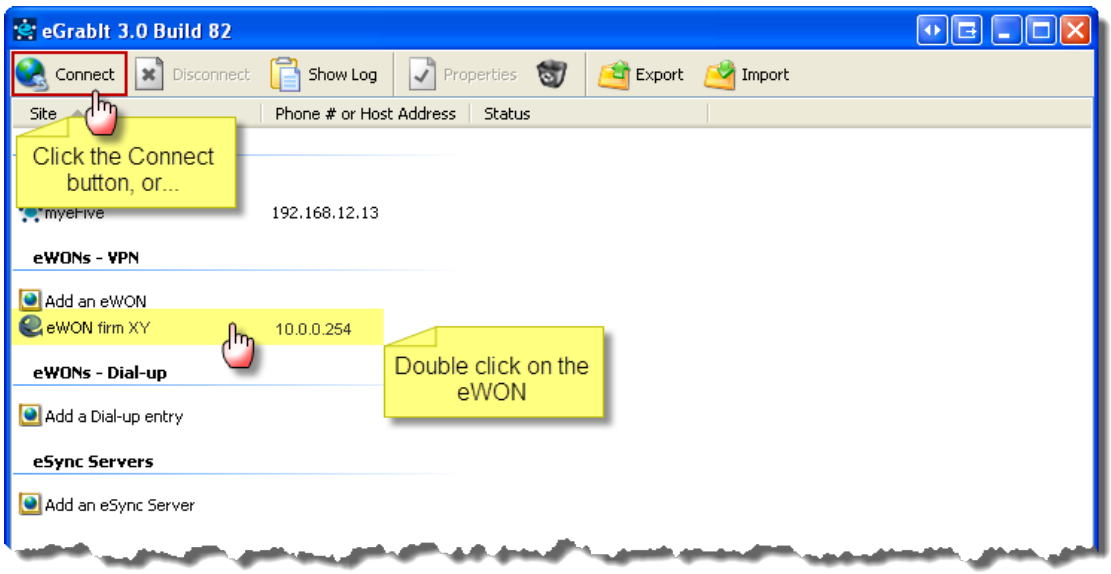
In the «Action», tab choose the action to perform once the VPN connection is established. By default the eWON internal Web pages will be displayed.



In the «Advanced» tab, you can specify the UDP port to use for the VPN connection. By default 1194 is used because eWON uses port 1194 in default config (see page 7).

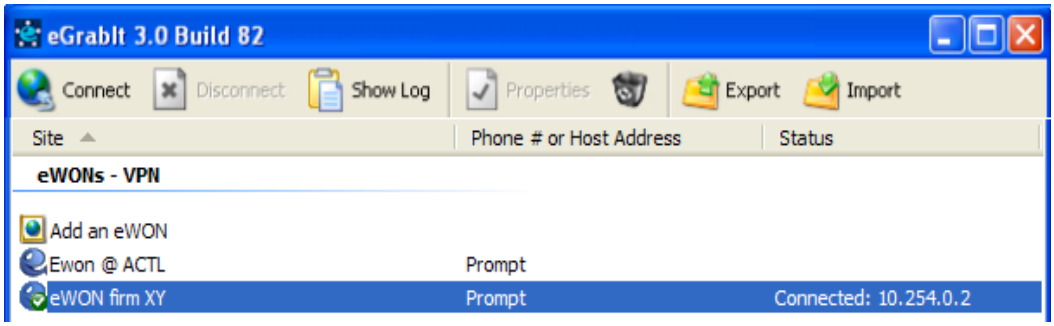
Establish the VPN Connection

Launch eGrabit and double click on the link of the eWON VPN you have just created.



eGrabit tries to establish the VPN connection to the eWON.

Once the connection is established, you will see the following information in the eGrabit window:



As you can see, eGrabit is connected to the «eWON firm XY».. The address 10.254.0.2 is the default VPN address of the eWON (refer to page 7).

If you have introduced the eWON LAN IP address when configuring eGrabit, you will now be able to access your eWON on its local LAN IP address and also the devices behind the eWON using the VPN tunneling.

With its default configuration, eGrabit will automatically launch your Web browser to open the eWON Web Interface on IP address 10.254.0.2 (= eWON VPN IP address)

IMPORTANT

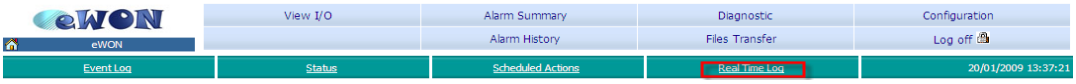
To be able to reach the Ethernet devices connected to the eWON using the VPN tunnel you will have to specify on every Ethernet device the **eWON as default Gateway**, (or create the adequate routing).

In our introduction example: the default gateway of the Ethernet devices is 192.168.2.53 which corresponds to the eWON LAN IP address.

Troubleshooting

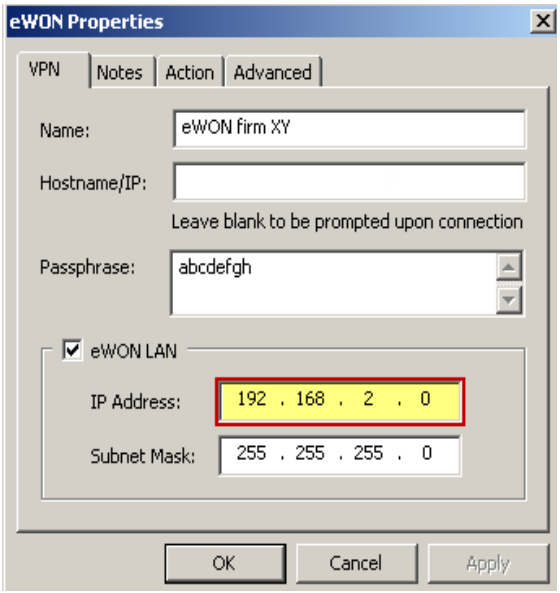
PC cannot connect to the eWON

- Check the Passphrase that you chose when configuring eGrabit.
- Make sure that the Router's Internet connection does actually allow incoming connections on port UDP 1194. Ask your Internet provider to open this port or adapt the port used for the VPN connection to another opened port.
- To have more information on the VPN connection problem click on ***Diagnostic*** and then, on the ***Real Time Log*** link.

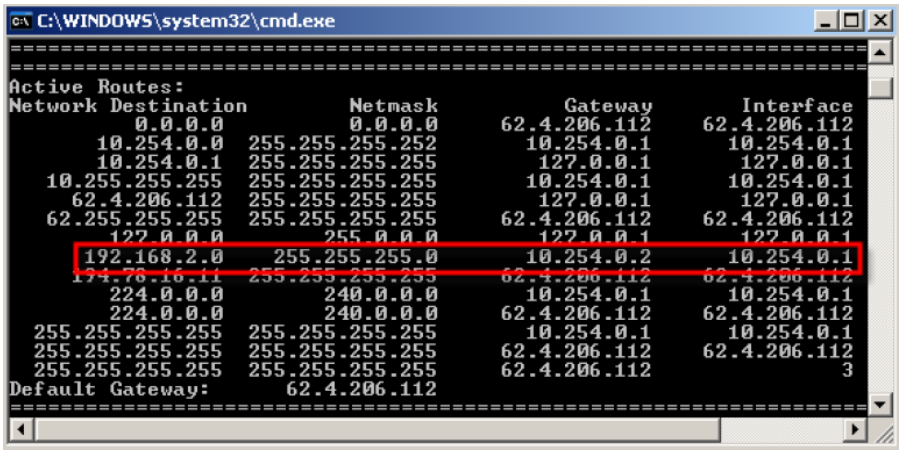


If a VPN connection has been established, but the devices cannot be reached

- Check the eGrabit settings. Make sure that you have introduced the eWON IP address ***range*** and not the whole IP address.

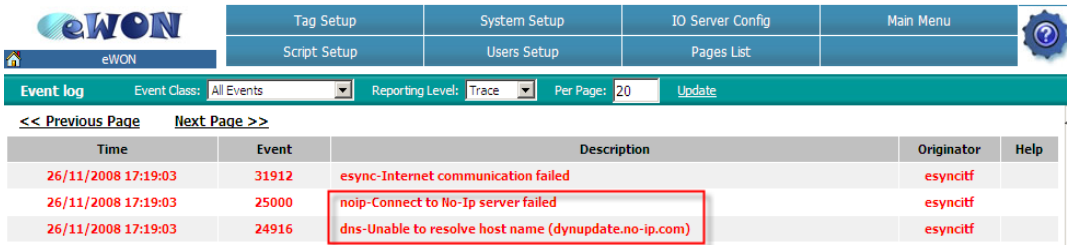


- You can also have a look at the route that has been created by eGrabit on your PC. Open a DOS command window (Run: cmd) and type «route print».You will have to find a route for the eWON LAN as you specified in eGrabit. As you can see the address for the LAN 192.168.2.0 will be routed through the VPN connection (10.254.0.2 = eWON VPN address).

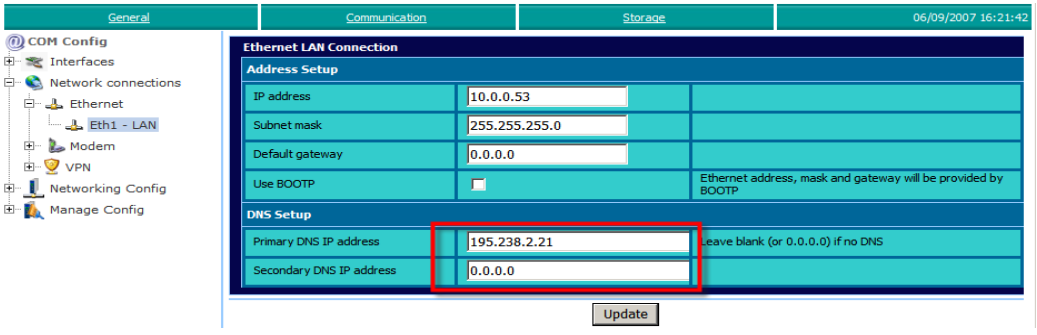


Publish IP Address of the eWON does not Work

- If the dyn DNS does not work, have a look to the ***Event Log*** of the eWON. If the message is «DNS-Unable to resolve host name», check the DNS address entered in your eWON which should be the IP address of the Router if it allows DNS or a compatible DNS server on the Internet.



Configuration → System Setup → Communication → Network connections → Ethernet → Eth1 - LAN



Here you can specify the ***DNS IP address*** if needed.

Revisions

Revision Level	Date	Description
1.0	2009-01-20	First release.
1.1	2013-10-11	Update diagrams and eGrabit

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ii Firefox is a trademark of the Mozilla Foundation

Document build number: *191*