

eWON Application User Guide

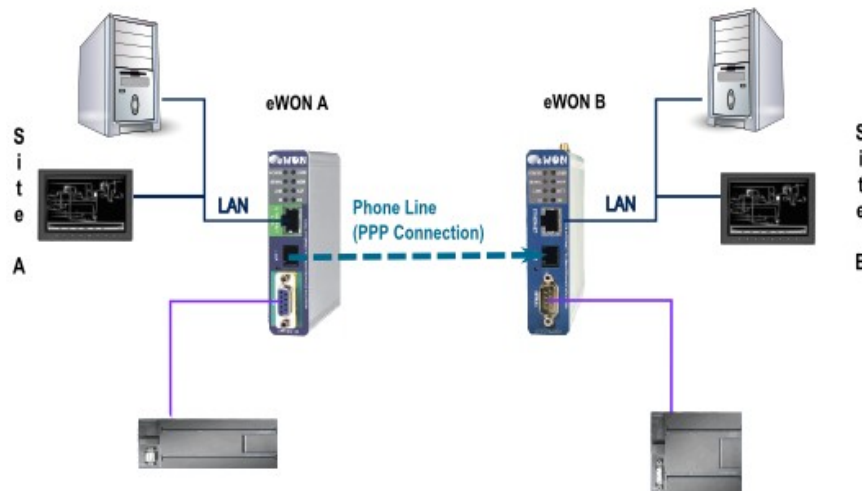
AUG 016 / Rev 1.0



You Select, We Connect

Connect 2 eWONs Together Using a Phone Connection

How to



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This guide is intended to explain how to connect 2 sites together using a phone connection.

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Hardware and software requirements

Hardware requirements

In order to follow this guide you will need:

- 2 eWONs with integrated modem (for example : eWON 2001)

Software requirements

eWON configuration software:

The eWON is configured through its web server. So all you need is a standard Web Browser software like Internet Explorerⁱ or Firefoxⁱⁱ.

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 upgrade the firmware of your eWON (if required).

Other programming software:

N/A

eWON Firmware Version

To be able to follow this guide your eWON needs a firmware version 5.0 or higher. A simple way to realize the eWON firmware upgrade is to use eBuddy, the eWON software companion.

Introduction

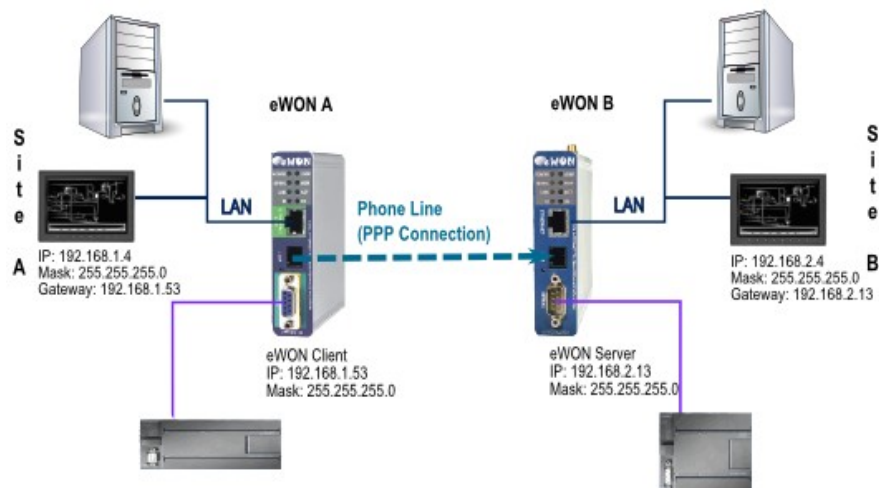
With its embedded PSTN, ISDN or GSM/GPRS modem, the eWON is your access point to field applications and your service gateway to perform *remote maintenance* on distant equipments.

In this document, we will see how to link 2 remote sites together using a PPP connection. We will use 2 eWONs.

The feasible connections are:

- PSTN to PSTN
- PSTN to GSM data
- ISDN to ISDN

Be aware that PSTN and ISDN are *not* compatible.



Here are the steps to make 2 networks communicate (eWON A – eWON B) through a PPP connection:

- Configure the outgoing modem connection on the eWON Client (eWON A)
- Configure the incoming modem connection on the eWON Server (eWON B)
- Set the eWON A LAN address as default gateway of your devices of site A
- Set the eWON B LAN address as default gateway of your devices of site B
- Activate the IP forwarding on both eWONs

NOTE Make sure that the IP address of site A is on a different range than the address of site B. Otherwise, the routing will be impossible.



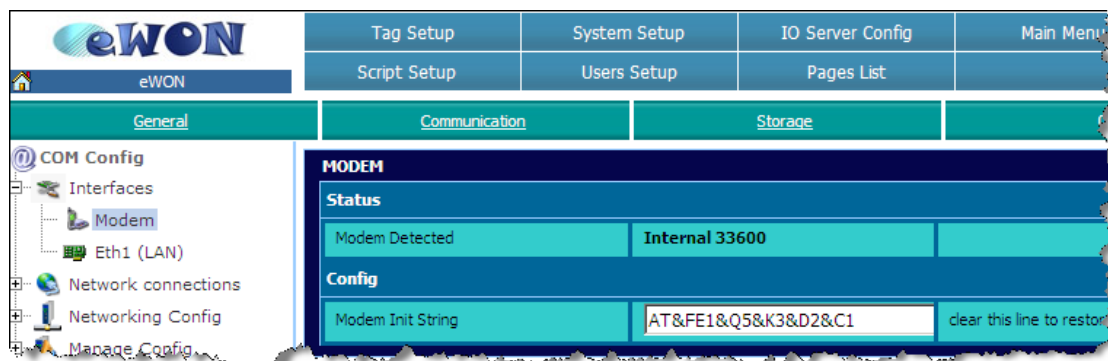
eWON Client Configuration

Modem Configuration

In our example, the eWON Client is eWON A. Depending on the type of modem, you will have to configure different parameters.

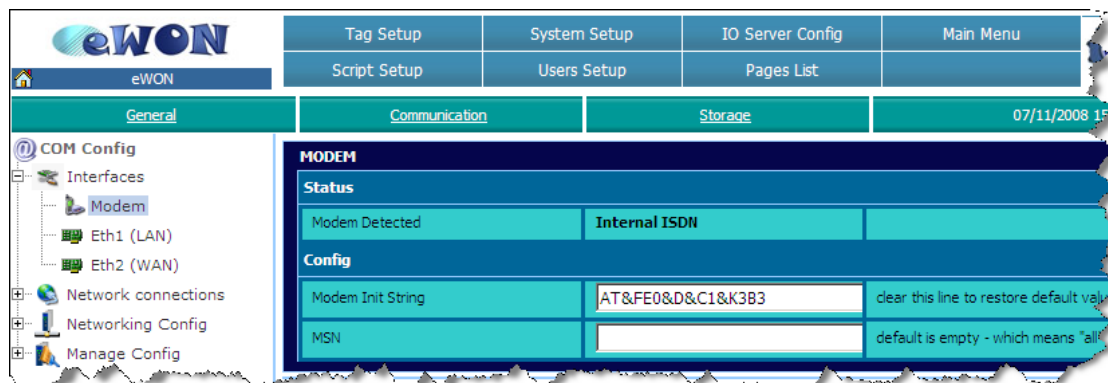
Configuration → System Setup → Communication → Interfaces → Modem

PSTN Modem Configuration



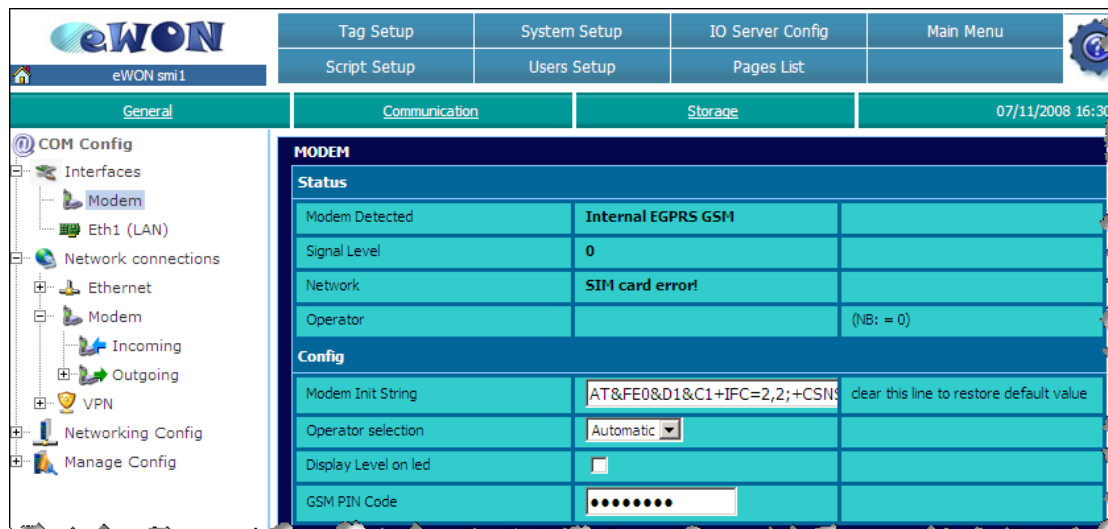
Let the **Modem Init String** unchanged. You might have to adapt it only to fit your local telephone requirements on some special situations.

ISDN Modem Configuration



Let the **Modem Init String** unchanged. If needed, you may insert the identification number of your line in the **MSN** field.

GSM data Modem Configuration



Let the **Modem Init String** to its default value. Insert the **PIN Code** of your SIM card.

NOTE



Reboot your eWON for your PIN code to be applied.

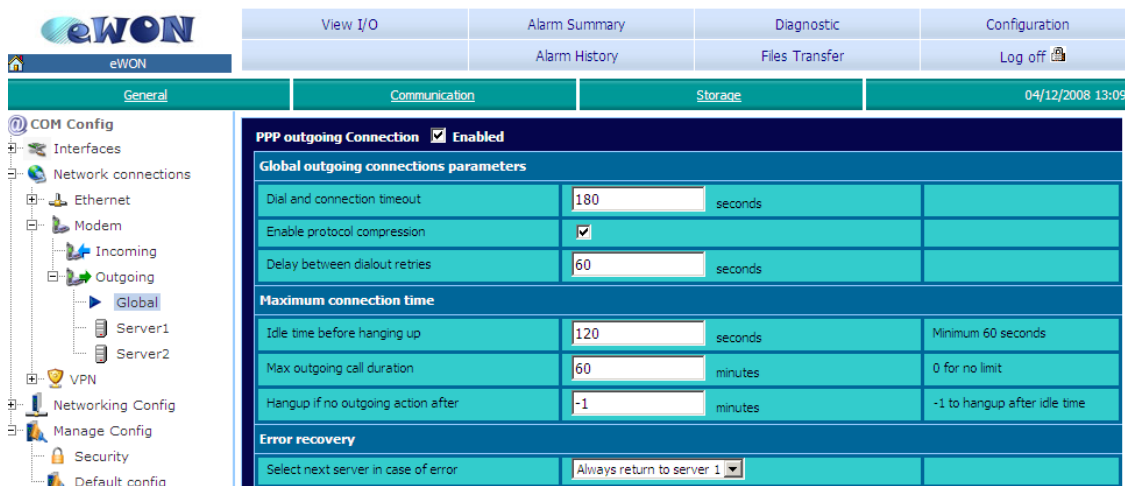
In the **Operator selection** field, you can choose if your mobile phone operator should be allocated automatically or forced.

The other fields (upper part) cannot be modified, they only give you status information:

- The **Modem Detected** field displays the textual description of the eWON internal modem detected.
- The **Signal Level** field shows the current signal level of your GSM/GPRS communication. The signal level must be between 20 and 31 (signal levels below 18 could work, but the communication could be slower or even interrupted). If you get 0 or 99, check your local environment and your antenna isolation/power.
- The **Network** field indicates if you are able to connect to the GSM/GPRS network. You should read «**Home network**» (when you are in your country) and «**Roaming**» (when you are abroad) to communicate safely.
- The **Operator** field displays the current GSM provider that you are using.

Outgoing PPP Connection Configuration

Configuration → System Setup → Communication → Network Connections → Modem → Outgoing → Global



First of all, enable the **PPP outgoing Connection**.

As you can see, the **Idle Time before hanging up** is at 120 by default. This means that the eWON will drop the line after 120 seconds if there is no traffic between both eWONs.

The **Max outgoing call duration** is at 60, meaning that the maximum duration of call will be 60 seconds. The eWON will drop the line whether there is traffic or not between the eWONs.

Of course, you can modify those values according to your needs.

3. eWON Client Configuration

Configuration → System Setup → Communication → Network Connections → Modem → Outgoing → Server1

The screenshot shows the eWON web interface with the following configuration details for 'Server 1':

Server access setup	
Connection type	Remote access connection
Server phone number	123456789
User name	adm
Password	*****
Require secure authentication (CHAP)	<input type="checkbox"/>
Otherwise allow PAP (password is sent in clear text)	

Configuration common to all servers (summary) - editable in global outgoing configuration	
Dial and connection timeout	180 sec
Enable protocol compression	<input checked="" type="checkbox"/>
Idle time before hanging up	120 sec

In the **Server phone number** field, insert the phone number that the eWON Client will use to call the eWON Server. In **User name** and **Password** fields, type a valid user name and password of the eWON Server. Do not check the **CHAP** box.

Routing Configuration

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

The screenshot shows the eWON web interface with the following configuration details for 'Internet Connection':

Internet connection setup	
Internet access	
Network connection	Modem Connection
Maintain connection	<input type="checkbox"/>
Publish WAN IP address	
Publish IP address	Disabled Configure publish IP address
Re-publish interval	0 minutes
0 for publication only at initial connection	

In the **Network connection** field, select **Modem Connection**. There is no need to check the **Maintain connection** box. If you check it, this will force the eWON Client to establish an outgoing connection every time the connection is interrupted which can be very expensive.

Configuration → System Setup → Communication → Network Config → Routing

3. eWON Client Configuration

The screenshot shows the 'Routing setup' page in the eWON configuration interface. The 'IP Forwarding' section has a checked checkbox for 'Enable IP forwarding between IP interfaces'. The 'NAT and TF (Transparent Forwarding)' section has a dropdown menu set to 'NAT and TF disabled'. Below these sections is a 'Static routes table' with three rows: 'Route 1', 'Route 2', and 'Route 3'. Each row has input fields for 'Destination', 'Mask', and 'Gateway', and a 'Hops' dropdown menu. The 'Clear' button is visible next to each row. At the bottom of the page, there is a note: 'These changes will be effective from next WAN connection' and an 'Update' button.

	Destination	Mask	Gateway	Hops	Clear
Route 1	0.0.0.0	0.0.0.0	0.0.0.0	0	Clear
Route 2	0.0.0.0	0.0.0.0	0.0.0.0	0	Clear
Route 3	0.0.0.0	0.0.0.0	0.0.0.0	0	Clear

If you want to reach the devices connected to the eWON LAN port, enable the **IP forwarding between IP interfaces** box. Do not enable the **NAT and TF**.

If you want to reach the eWON only, do not enable this box so that you avoid to connect to the device(s) on the LAN side.

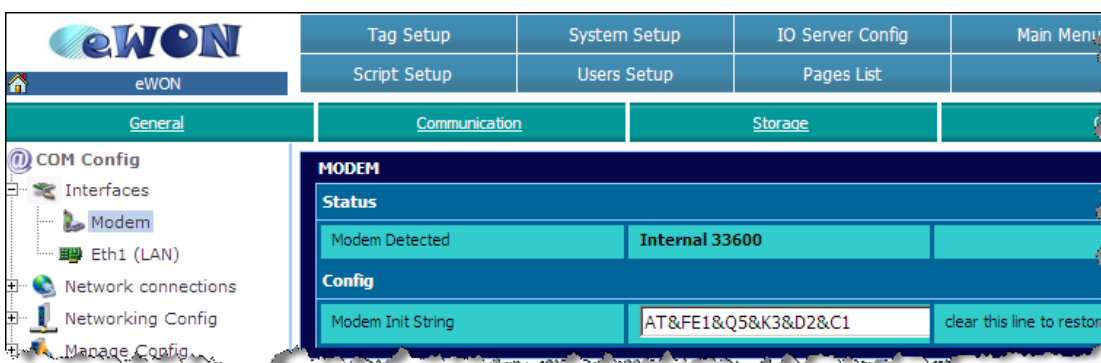
NOTE In eWONs with VPN capabilities (e.g.: eWON 2005 CD, eWON 4101,...) the **IP forwarding** option is activated by default and does not appear on the **Routing** setup page.

eWON Server Configuration

Modem Configuration

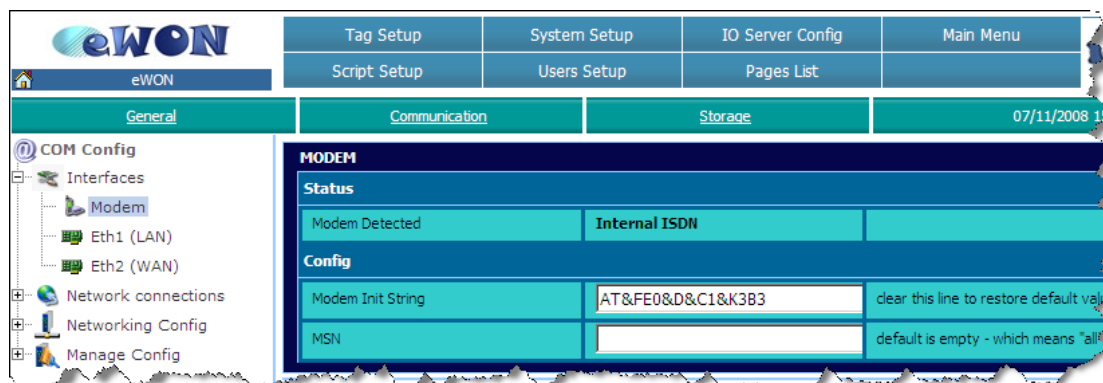
In our example, the eWON Client is eWON B. Depending on the type of modem, you will have to configure different parameters.

PSTN Modem Configuration



Let the **Modem Init String** unchanged. You might need to adapt it only to fit your local telephone requirements on some special situations.

ISDN Modem Configuration



Let the **Modem Init String** unchanged. Here you may need to insert the identification number of your line in the **MSN** field if you have several equipments on your ISDN line.

GSM data Modem Configuration



Let the **Modem Init String** to its default value. Insert the **PIN Code** of your SIM card.

NOTE



Reboot your eWON for your PIN code to be applied.

In the **Operator selection** field, you can choose if your mobile phone operator should be allocated automatically or forced.

The other fields (upper part) cannot be modified, they only give you status information:

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- The **Network** field indicates if you are able to connect to the GSM/GPRS network. You should read «**Home network**» (when you are in your country) and «**Roaming**» (when you are abroad) to communicate safely.
- The **Operator** field displays the current GSM provider that you are using.

Incoming PPP Connection Configuration

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

PPP incoming Connection		
<input checked="" type="checkbox"/> Server enabled		
PPP Server Setup		
eWON PPP server IP address	202.0.0.240	
PPP Client IP address	202.0.0.1	
Enable protocol compression	<input checked="" type="checkbox"/>	
Use incoming for outgoing	<input checked="" type="checkbox"/>	Connected client is a gateway
Number of rings before modem answers	1	Default = 1
Idle time before hanging up	240	seconds
Reset eWON if no incoming connection after...	0	Hours 0 = disable watchdog.

Check the **PPP incoming Connection** box and enable the **Use incoming for outgoing** box so that the incoming connection becomes default gateway.

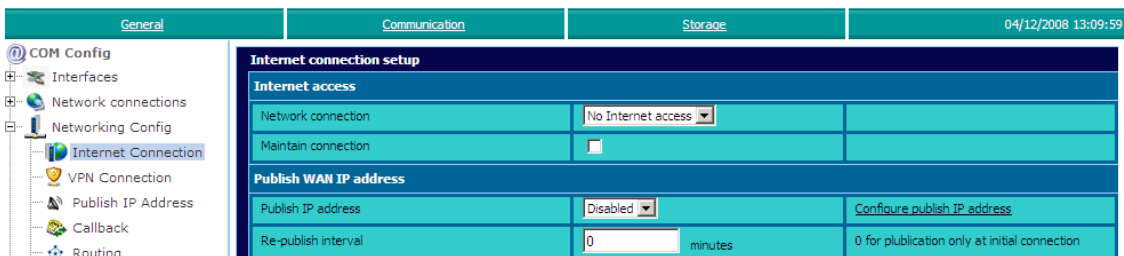
Set the **Idle time before hanging up** (by default, the line is interrupted after 240 seconds of inactivity). Bear in mind that there is no need to change the **eWON PPP server IP address** and the **PPP Client IP address**. Of course, you can adapt those parameters according to your needs.

When the PPP connection is established, the eWON receives a PPP IP address and will thus be reachable at address 202.0.0.240 over the PPP connection. Of course, you can still reach your eWON through its local LAN IP address using the same PPP connection.

NOTE The PPP IP address MUST differ from the eWON local IP address. Otherwise, the routing is impossible. This is the reason why there is no need the default settings.

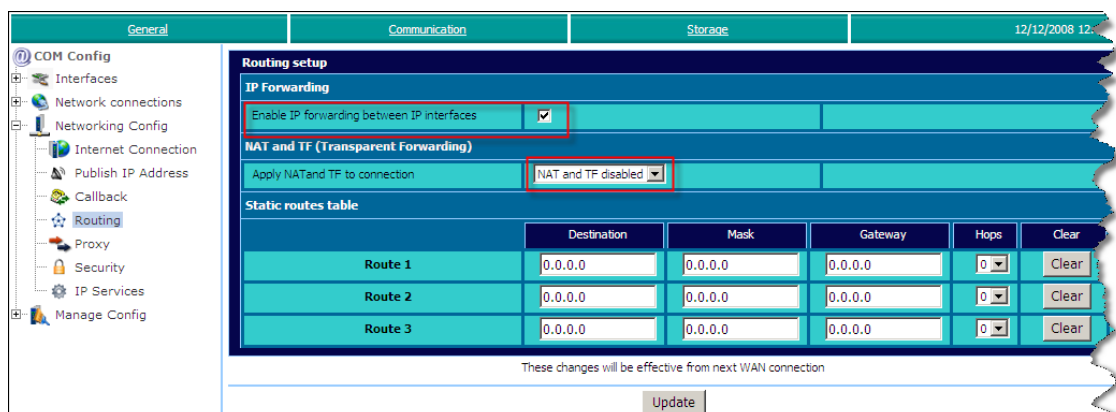
Routing Configuration

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



Select **No Internet access** in the **Network connection** field. No need to check the **Maintain connection** box as this eWON (Server) will wait until the eWON Client calls it.

Configuration → System Setup → Communication → Network Config → Routing



If you want to reach the devices connected to the eWON LAN port, enable the **IP forwarding between IP interfaces** box. Do not enable the **NAT and TF**.

If you want to reach the eWON only, do not enable this box so that you avoid to connect to the device(s) on the LAN side.

NOTE In eWONs with VPN capabilities (e.g.: eWON 2005 CD, eWON 4101,...) the **IP forwarding** option is activated by default and does not appear on the **Routing** setup page.

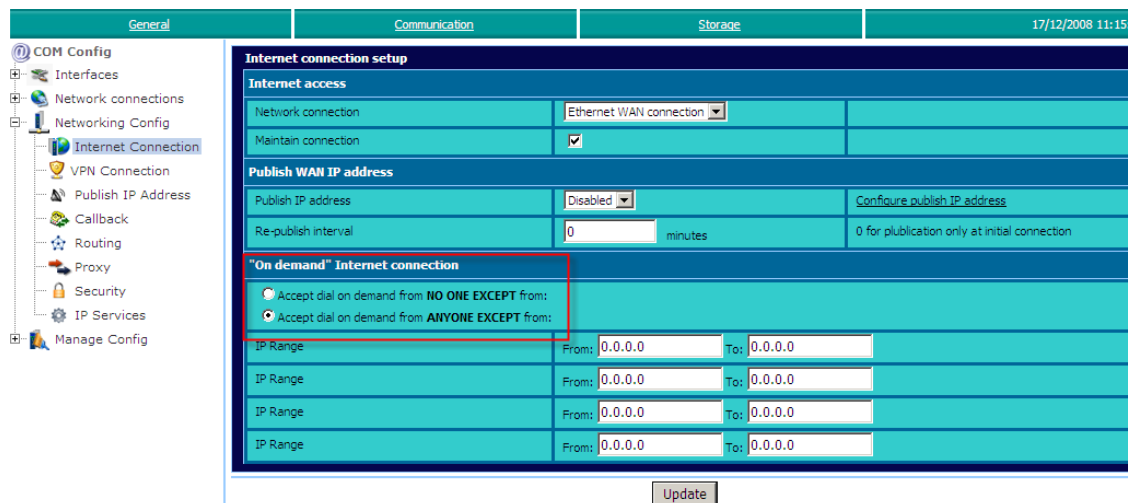
Connection Establishment

Permanent connection

In the eWON A, check the **Maintain Connection** box so that the eWON A will try to re-establish the connection if it was interrupted. Make sure that connection settings are correctly configured (the max call duration and call budget).

Triggered by a device behind eWON server A

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



Select the **Accept dial on demand from ANYONE EXCEPT from** option. So, every time a device on site A needs to connect to side B, the outgoing connection will be triggered.

By scripting

Thanks to a Tag (in eWON A), it is possible to activate an outgoing connection or only establish the connection on a certain time.

An example of script allowing the activation of an outgoing connection thanks to the variation of a Tag can be found in our document KB-0017-0 (<http://support.ewon.biz/kb.html>).

Troubleshooting

eWON A cannot reach eWON B

- Check the phone number, user name and password used for the PPP connection.
- Maybe you need to add an access code before your phone number.
(e.g. 0, 0032212345678)

The PPP connection is established, but the devices are unreachable

- Check that the devices on site A are not on the same LAN IP address range as the LAN IP address range of devices on site B.
- Make sure that each eWON is the default gateway of the devices linked to it.
- Verify that you have activate the ***IP forwarding between IP interfaces*** option during the routing configuration.

Revisions

Revision Level	Date	Description
1.0	2008-12-20	First release.

- i Microsoft, Internet Explorer, Windows and Windows XP are either registered trademarks or trademarks of Microsoft Corporation
- ii Firefox is a trademark of the Mozilla Foundation

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