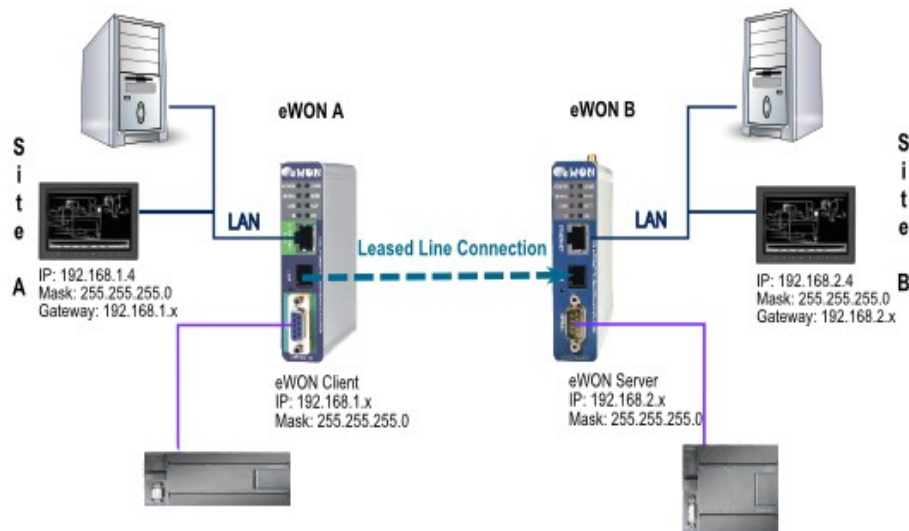


KB Name	How to establish a Leased Line Connection		
Type	KB		
Since revision	5.4s4		
KB Number	KB-0022-0	Build	51
Mod date	17. Nov 2008		

Knowledge Base Information

How to establish a Leased Line Connection

1 Link two sites using eWON Leased Line



To be able to link both sites together, the following rules must be fulfilled:

- eWON client and eWON server IP addresses must not be compatible. Otherwise the routing will not be possible.

Valid IP addresses are for example:

eWON client 192.168.1.x, Mask 255.255.255.0
 eWON server 192.168.2.x, Mask 255.255.255.0

- The Ethernet devices behind each eWON must have the eWON IP address as default gateway
- Both eWONs can be connected together using a 2 wire cables (crossed or not)

2 Configure the eWON Client

The link is established by the CLIENT. The eWON Client outgoing communication must be configured with the following parameters:

Modem Init String	Add LLCLT or LLCLT;AT&FE1...
Primary Server Phone number	0

KB Name	How to establish a Leased Line Connection		
Type	KB		
Since revision	5.4s4		
KB Number	KB-0022-0	Build	51
Mod date	17. Nov 2008		

Knowledge Base Information

Primary Server User Name	Adm (a valid user name on the eWON Server)
Primary Server Password	Adm (a valid password on the eWON Server)

2.1 Modem Configuration

The screenshot shows the 'MODEM' configuration page in the eWON web interface. The 'Status' section indicates 'Modem Detected' as 'Internal 56K Leased line'. In the 'Config' section, the 'Modem Init String' is set to 'LLCLT; AT&FE1&Q5&K3&D2&C1'. A red box highlights the 'LLCLT;' prefix. Below the field is an 'Update' button.

Add LLCLT in front of the initial *Modem Init String* value.

2.2 Dial Up (PPP) Configuration

The screenshot shows the 'PPP outgoing Connection' configuration page, which is enabled. It is divided into several sections:

- Global outgoing connections parameters:** 'Dial and connection timeout' is set to 180 seconds (highlighted), 'Enable protocol compression' is checked, and 'Delay between dialout retries' is 60 seconds.
- Maximum connection time:** 'Idle time before hanging up' is 600 seconds (highlighted), 'Max outgoing call duration' is 0 minutes (highlighted), and 'Hangup if no outgoing action after' is -1 minutes.
- Error recovery:** 'Select next server in case of error' is set to 'Always return to server 1', and 'Reboot modem after' is 4 outgoing call failures.
- Calls budget management:** 'Allocated budget' is 0 hours (highlighted), 'Reset budget period' is 168 hours, and 'Current budget period' is 0:00:00.

 At the bottom, it shows 'Volume: IN: 14724, OUT: 19468, Last reset: 01/01/1970 00:00:00' and a 'Reset' checkbox. An 'Update' button is at the bottom right.

You will also probably need to adapt the Outgoing calls connection duration parameters and the Call Budget management parameters.

KB Name	How to establish a Leased Line Connection		
Type	KB		
Since revision	5.4s4		
KB Number	KB-0022-0	Build	51
Mod date	17. Nov 2008		

Knowledge Base Information

Enable the PPP outgoing Connection.

Outgoing Calls Config:

Idle Time before hanging up	600, means that the eWON will drop the line after 600 seconds if there is no traffic between both eWONs
Max Call out duration	0 for no connection duration limit

Calls Budget management:

Allocated budget	0 to deactivate the call budget management on the outgoing connection.
------------------	--

The screenshot shows the configuration interface for a PPP outgoing connection. The left sidebar shows a tree view with 'COM Config' expanded to 'Outgoing' and 'Server1' selected. The main panel displays the configuration for 'Server 1'. The 'Server access setup' section has the following values: Server phone number: 0, User name: adm, Password: ***. The 'Configuration common to all servers (summary)' section has: Dial and connection timeout: 180, Enable protocol compression: checked, Idle time before hanging up: 600. An 'Update' button is located at the bottom of the configuration area.

In Server1, let 0 in the «Server phone number» , insert a valid user name and password of the eWON Server in «User name» and «Password».

2.3 Router configuration

To allow the eWON to act as router between the telephone and the Ethernet connection, the «IP forwarding» feature must be enabled in the following menu: Configuration/ System Setup/ Communication/ Networking Config/ Routing.

KB Name	How to establish a Leased Line Connection		
Type	KB		
Since revision	5.4s4		
KB Number	KB-0022-0	Build	51
Mod date	17. Nov 2008		

Knowledge Base Information

The screenshot shows the 'Routing setup' configuration page. Under 'IP Forwarding', the checkbox 'Enable IP forwarding between IP interfaces' is checked. Under 'NAT and TF (Transparent Forwarding)', the dropdown menu is set to 'NAT and TF disabled'. Below this is a 'Static routes table' with the following data:

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

At the bottom, there is a note: 'These changes will be effective from next WAN connection' and an 'Update' button.

Check the «Enable IP forwarding between IP interfaces» and select the «NAT and TF disabled» feature. Be aware that on eWONs with VPN capabilities, the IP forwarding option is activated by default and does not appear on the *Routing* setup page.

In the Internet Connection (Configuration/ System Setup/ Communication/ Networking Config / Internet Connection), select «Modem Connection» and check «Maintain Connection»

The screenshot shows the 'Internet connection setup' configuration page. Under 'Internet access', the 'Network connection' dropdown is set to 'Modem Connection' and the 'Maintain connection' checkbox is checked. Under 'Publish WAN IP address', the 'Publish IP address' dropdown is set to 'Disabled' and the 'Re-publish interval' is set to 0 minutes. At the bottom, there are radio buttons for 'Accept dial on demand from NO ONE EXCEPT from:' and 'Accept dial on demand from ANYONE EXCEPT from:'.

The maintain connection will force this eWON to establish the outgoing connection every time the connection is interrupted.

2.4 Reboot your eWON

Reboot your eWON for it to take all the settings into account.

KB Name	How to establish a Leased Line Connection		
Type	KB		
Since revision	5.4s4		
KB Number	KB-0022-0	Build	51
Mod date	17. Nov 2008		

Knowledge Base Information

3 Configure the eWON Server

The eWON Server must be configured with the following parameters:

Modem Init String	Add LLSRV or LLSRV;AT&FE1...
Call direction allowed	Incoming Only

3.1 Modem Configuration

Add **LLSRV** in front of the initial *Modem Init String* value.

3.2 Dial Up (PPP) Configuration

Check the *PPP incoming Connection* box.

If the devices behind the eWON server need to communicate with devices behind the eWON client, then the «Use incoming for outgoing» check box need to be enabled.

You will also probably need to adapt the Outgoing calls connection duration parameters.

Idle Time before hanging up	600, means that eWON will drop the line after 600 seconds if there is no traffic between both eWONs
-----------------------------	---

KB Name	How to establish a Leased Line Connection		
Type	KB		
Since revision	5.4s4		
KB Number	KB-0022-0	Build	51
Mod date	17. Nov 2008		

Knowledge Base Information

3.3 Router configuration

To allow the eWON to act as router between the telephone and the Ethernet connection, the «IP forwarding between IP interfaces» feature must be enabled in the following menu: Configuration/ System Setup/ Communication/ Networking Config/ Routing.

The screenshot shows the 'Routing setup' configuration page. The 'IP Forwarding' section has the checkbox 'Enable IP forwarding between IP interfaces' checked. The 'NAT and TF (Transparent Forwarding)' section has a dropdown menu set to 'NAT and TF disabled'. Below this is a 'Static routes table' with three rows: Route 1, Route 2, and Route 3. Each row has input fields for Destination (0.0.0.0), Mask (0.0.0.0), Gateway (0.0.0.0), Hops (0), and a 'Clear' button.

Check the «Enable IP forwarding between IP interfaces» and select the «NAT and TF disabled» feature. Be aware that on eWONs with VPN capabilities, the IP forwarding option is activated by default and does not appear on the *Routing* setup page.

3.4 Reboot your eWON

Reboot your eWON for it to take all the settings into account.

4 Establish the connection

As the maintain connection is enabled on the eWON Client, it will automatically connect to the eWON Server.

Note: The establishment of the connection between the eWONs can take up to 2 minutes.