

Flexy&Cosy131 - WAN Fallback

PRE-RELEASE INFORMATION

1. Introduction

This info applies to eWON Cosy131 and Flexy devices.

Since firmware 12.3s0PR eWON integrates a new WAN Fallback feature.

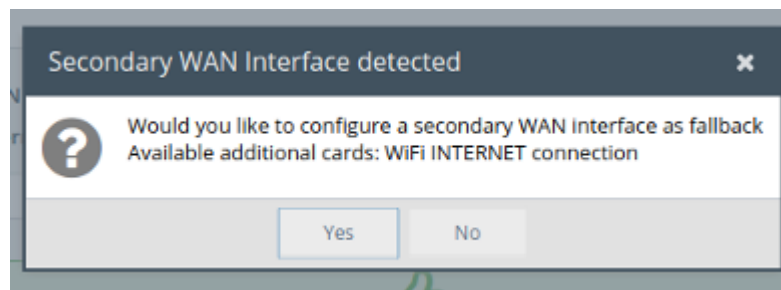
The goal of this feature is to allow fallback from one WAN interface to a secondary WAN interface. So for example, if the WAN Ethernet connection does not work, then eWON will shift automatically to the 3G connection (if configured)

2. Configuration by Wizard

To configure the WAN fallback feature on your eWON you need to (re-)launch the Internet wizard.

On a Cosy131 for example, after finishing the complete Talk2M configuration, start the Internet wizard once again.

After specifying and configuring the first WAN interface, if the eWON detects a second WAN interface it will ask you if you want to configure a WAN-Fallback interface.

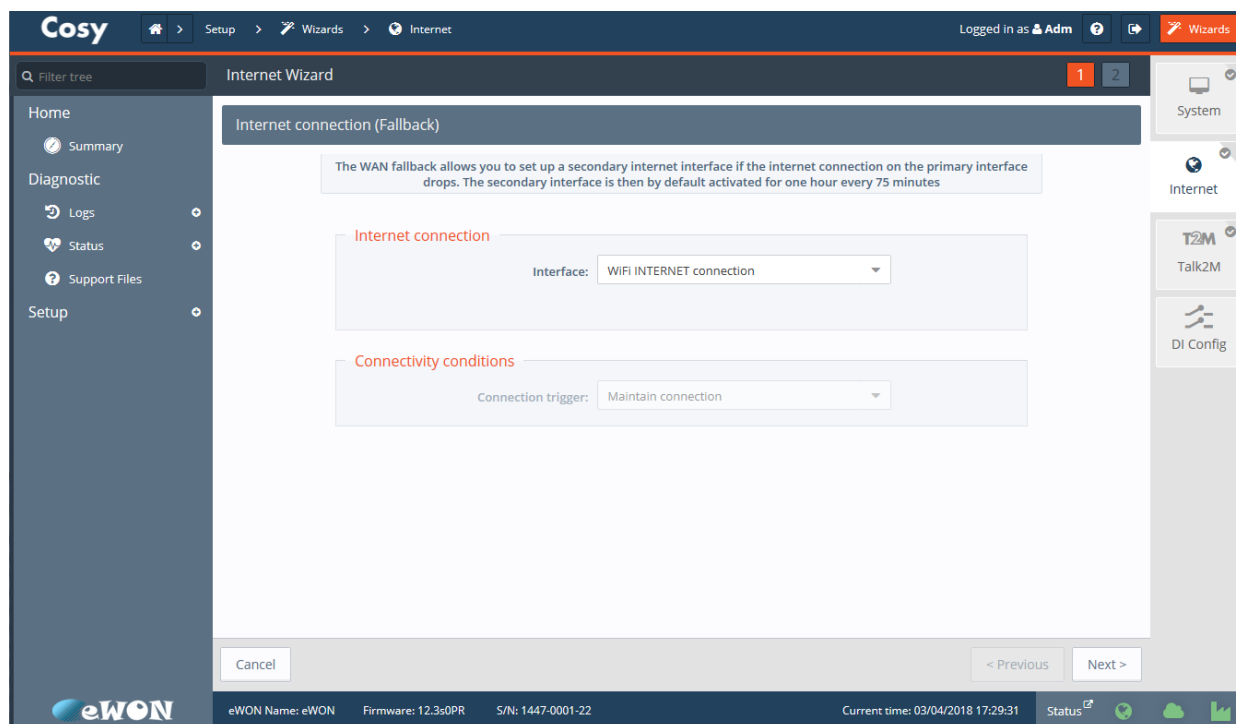


Click Yes to configure the second WAN interface and to enable the WAN-Fallback mechanism.

During the wizard you'll be asked to configure the second WAN interface.

At the end of the wizard, eWON will test if the the second WAN interface is working and if the hostname which is configured for the Internet connection test is reachable. If both tests are OK, then eWON will enable the WAN-Fallback mechanism and will restart the Internet connection using the primary WAN interface.

2.1. Cosy131 WAN-FALLBACK wizard



On a Cosy the Wan-Fallback wizard is very simple. You only need to configure the second WAN interface.

To simplify the setup process, the WAN-FALLBACK timings and the hostname used for the Internet validation test are preconfigured.

The Talk2M server will be used as validation server and the timings are set to shift to the secondary WAN interface during 1 hour every 75 minutes.

This means that, if the primary WAN interface gets down, then :

- the eWON will shift to the secondary WAN interface 3 minutes after the connection problem appeared
- the eWON will stay on the secondary WAN interface (the fallback interface) for 1 hour
- the eWON will shift back to the primary WAN interface after 1 hour.

If the primary WAN interface is working again, then eWON will stay on this interface. If the primary WAN interface is still not working then eWON will shift back to the secondary WAN interface after 15 minutes.

2.2. Flexy WAN-FALLBACK wizard

On a Flexy, the Wan-Fallback wizard will first ask you to configure the WAN-FALLBACK timings and the hostname used for the Internet validation test.

Fallback settings

Validation hostname(s):
Hostnames used for the internet connection test. Example:
 tcp://device.api.talk2m.com:443,http://test.com

Number of retries:
Number of connection tests before considering the internet connection on the primary interface down.

Fallback connection duration (minutes):
The connection time on the fallback interface before returning back to the primary interface.

Time between 2 fallbacks (minutes):
Primary interface activation time before falling back to the secondary interface if the internet connection is still not recovered on the primary.

Here the explication for the different parameters:

- **Validation hostname(s)** : encode here the hostname which will be used to check if the Internet connection is working. eWON will try every 45 seconds to reach this hostname in order to validate the Internet connection.

Accepted values: a list of hosts with the format: PROTOCOL://HOST:PORT

- PROTOCOL: tcp or udp
- HOST: a hostname or an IP address
- PORT: port number. If omitted then port 80 will be used

Examples: udp://10.11.12.13:42,tcp://as.pro.talk2m.com:443,test.com

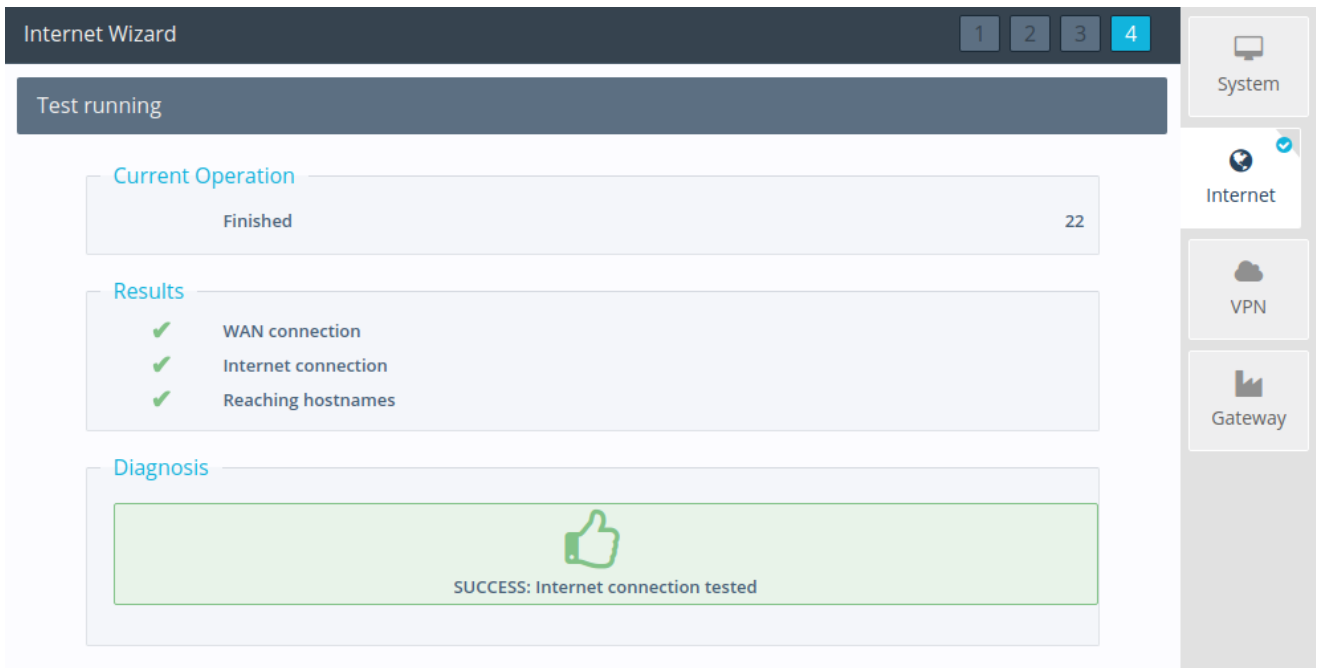
Note: if udp protocol is used, then the validation server must echo all udp queries. The Talk2M server provides this service.

- **Number of retries**: the number of successive failed Internet connection tests before the eWON will shift to the secondary interface (3 by default)
- **Fallback connection duration**: number of minutes the eWON will stay on the secondary WAN interface before switching back to the primary WAN interface
- **Time between 2 fallbacks**: the time in minutes between 2 consecutive fallback in case the primary interface is still not working.

After specifying the Fallback settings, the wizard will ask you to setup the second WAN interface.

At the end of the wizard, eWON will check the different settings. So it will test if

- the secondary interface is correctly configured
- the internet connection is working (if you choose to test the connectivity)
- the fallback test (on hosts) is working using the primary interface



Internet Wizard 1 2 3 4

Test running


Current Operation

Finished 22

Results

- ✓ WAN connection
- ✓ Internet connection
- ✓ Reaching hostnames

Diagnosis

 SUCCESS: Internet connection tested

System

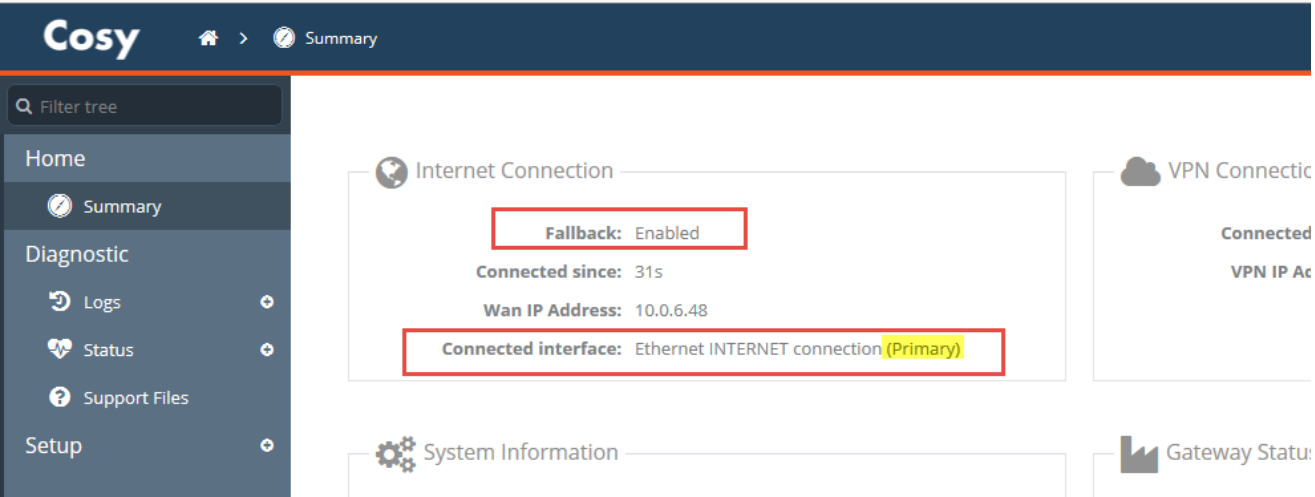
Internet

VPN

Gateway

3. Fallback status

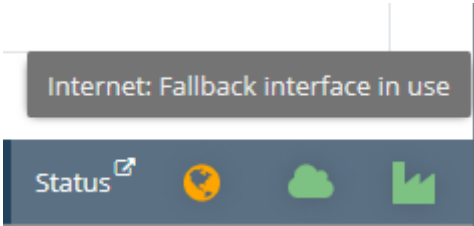
The summary page of the eWON reflects the fallback status and configuration.
For example on the Cosy:



If the Fallback mechanism has been triggered, then following info will be displayed:



Also, in this case, the internet icon of the status bar (on the bottom of the webpage) is displayed in orange. A mouse hover over the icon will display the text "Internet : Fallback interface in use"



4. Event logs.

The fallback process is logged inside the event log of the eWON.

03/04/2018 18:27:02	-31167	wanmgt-WAN Fallback -- Switching to fallback interface	wanmgt
03/04/2018 18:27:02	-31163	wanmgt-WAN Fallback -- Could not access test servers using primary connection ((03/03) -- tcp://device.api.talk2m.com:443)	wanmgt
03/04/2018 18:27:02	24916	dns-Unable to resolve host name (device.api.talk2m.com)	wanmgt
03/04/2018 18:27:02	24908	dns-No response from server	wanmgt
03/04/2018 18:27:02	-24907	dns-Read operation timeout	wanmgt
03/04/2018 18:26:58	-24907	dns-Read operation timeout	wanmgt
03/04/2018 18:26:56	24908	dns-No response from server	wanmgt
03/04/2018 18:26:56	-24907	dns-Read operation timeout	wanmgt
03/04/2018 18:26:52	-24907	dns-Read operation timeout	wanmgt
03/04/2018 18:26:02	-31163	wanmgt-WAN Fallback -- Could not access test servers using primary connection ((02/03) -- tcp://device.api.talk2m.com:443)	wanmgt
03/04/2018 18:26:02	24916	dns-Unable to resolve host name (device.api.talk2m.com)	wanmgt
03/04/2018 18:26:02	24908	dns-No response from server	wanmgt
03/04/2018 18:26:02	-24907	dns-Read operation timeout	wanmgt
03/04/2018 18:25:58	-24907	dns-Read operation timeout	wanmgt
03/04/2018 18:25:56	24908	dns-No response from server	wanmgt
03/04/2018 18:25:56	-24907	dns-Read operation timeout	wanmgt
03/04/2018 18:25:52	-24907	dns-Read operation timeout	wanmgt
03/04/2018 18:25:02	-31163	wanmgt-WAN Fallback -- Could not access test servers using primary connection ((01/03) -- tcp://device.api.talk2m.com:443)	wanmgt

- When a test on a hostname fails :
"WAN Fallback -- Could not access test servers using primary connection (01/03 -- tcp://server.com:443)"
- When the primary interface is not connected :
"WAN Fallback -- Primary interface disconnected"
- When the hostname tests succeeds after some fail(s):
"WAN Fallback -- Test servers are reachable again"
- When the fallback interface has been up longer than the maximum given time:
"WAN Fallback -- Maximum duration reached using fallback interface"
"WAN Fallback -- Switching back to primary interface"
- When the fallback is enabled because the primary interface failed enough times:
"WAN Fallback -- Switching to fallback interface"
- When the primary connection is failing, but the minimum interval between two fallback is not yet reached:
"WAN Fallback -- Should fallback, but the configured interval between two fallbacks is not yet reached"

5. Commissioning

If you want to commission your eWON (without using the wizards), or if you want to change the pre-configured fallback settings of a Cosy, then you can change following parameters using FTP or the tabular editor inside the eWON.

Any change made to one of the parameters is applied immediately and will restart the Internet connection using the primary interface.

COM config parameter	Description	Example
WANFbckCnx	Defines the secondary WAN interface (similar to WANCnx), default: 0 If you wan to deactivate the fallback, juste setup this parameter to 0 (None)	0 : None 1 : Modem 2 : Ethernet 4 : WiFi
WANFbckHostnamesToCheck	List of hosts for the connectivity test (separator : ','), maximum 96 characters, default: "tcp://device.api.talk2m.com:443"	tcp://as.pro.talk2m.com:443,tcp://ewon.biz:80
WANFbckMaxCnxRetries	Maximum number of retries on the connectivity check to consider the WAN down and start the fallback, default: 3	1 : no retries 3 : will consider the WAN down if the connectivity test fails 3 times in a row
WANFbckMaxDuration	Maximum duration (in minutes) of the connection on the secondary interface during the fallback, default: 60	60 : After 60 minutes spent on the secondary interface, close the secondary interface and shift back to the primary interface
WANFbckMinInterval	Minimum interval between two fallbacks (in minutes), default : 75 minutes	75 : If the connectivity check fails on the primary WAN, we will fallback during 60 minutes (by default) on the secondary WAN. Then, we will go back to the primary WAN. If the

COM config parameter	Description	Example
		connectivity check fails again, we will wait 15 minutes (75-60) before going back to the secondary WAN.

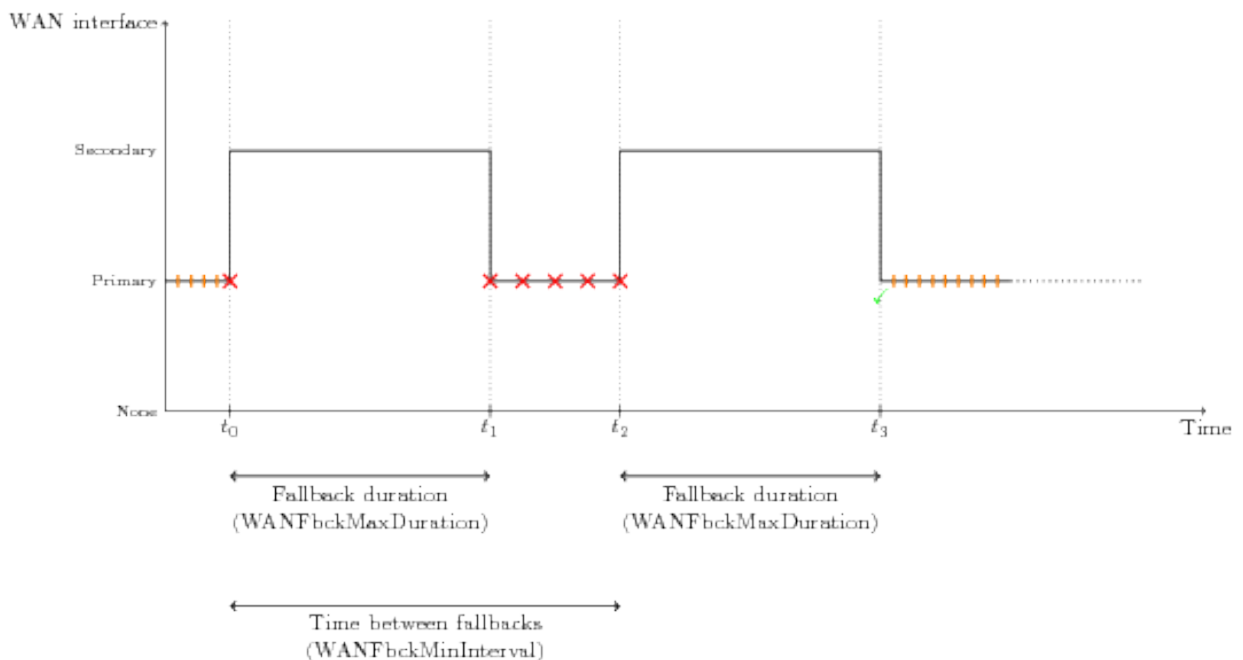
5.1. Example

Here is a situation to showcase the feature in action and the different parameters involved. You can see on this diagram, on the Y-axis which WAN interface is used and on the X-axis the time.

The orange dots are the positives connectivity checks.

The red crosses are the negatives connectivity checks.

The green checkmark is a back to normal situation.



- Between 0 and t_0 : we do several positive connectivity check (interval based on

internal WAN management, +/- 30s).

- At t_0 , the connectivity check fails multiple times (WANFbckMaxCnxRetries). We stop the primary WAN interface and switch to the secondary WAN interface.
- Between t_0 and t_1 : we stay on the secondary WAN interface during the maximum fallback duration (WANFbckMaxDuration)
- At t_1 : we reached the maximum fallback duration. We stop the secondary WAN interface and switch on the primary WAN interface.
- Between t_1 and t_2 : The connectivity check fails but we don't fallback to the secondary interface because the minimum time between two fallbacks (WANFbckMinInterval).
- At t_2 : The primary WAN interface is still not working (according to the connectivity check). The minimum time between two fallbacks is reached (WANFbckMinInterval) so the switch to the secondary WAN interface.
- At t_3 : We reached the maximum fallback duration (WANFbckMaxDuration). We switch back to the primary WAN interface. And this time, the connectivity check succeed so we stay on the primary WAN interface as long as this is the case. We continue to do the connectivity checks at regular intervals

Revision

Revision History

Revision Level	Date	Description
1.0	30/03/2018	Original document

Document build number: 12

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