

WAN Connection Fallback

For Ewon Cosy 131 & Ewon Flexy

1 Preface

1.1 About This Document

The present document explains how to configure the Ewon Cosy 131 & Ewon Flexy to automatically switch between its WAN interfaces if one fails.

For additional related documentation and file downloads, please visit www.ewon.biz/support.

1.2 Document History

Version	Date	Description
1.0	2018-03-30	Original document
1.1	2019-01-28	Changed: General template

1.3 Related Documents

Document	Author	Document ID
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1.4 Trademark Information

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2 Introduction

As of firmware version 12.3s0, the Ewon Cosy 131 & Ewon Flexy integrate a WAN fallback feature.

This feature allows the fallback from a primary WAN interface to a secondary WAN interface. So for example, if the WAN Ethernet connection does not work, the Ewon shifts automatically to the cellular or Wi-Fi connection (if configured previously).

3 Configuration via the Wizard

To configure the WAN fallback feature on your Ewon, you need to relaunch the Internet wizard.

On an Ewon Cosy 131 for example, after finishing the complete Talk2M configuration, start the Internet wizard once again.

After specifying and configuring the first WAN interface and if the Ewon detects a second WAN interface, the Ewon asks for the configuration of a WAN fallback interface.

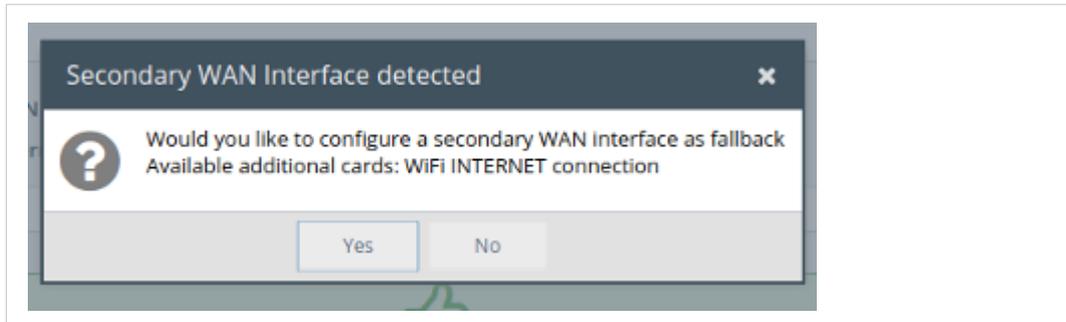


Fig. 1 Proposition to configure the WAN fallback.

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

The Internet wizard starts over but this time, you are configuring the second WAN interface.

At the end of this wizard, the Ewon tests if the second WAN interface is working and if the hostname which is configured for the Internet test connection is reachable. If both tests are OK, then the Ewon enables the WAN fallback mechanism and restarts the Internet connection using the primary WAN interface.

3.1 Wizard on Cosy 131

On a Cosy 131, 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 test validation are preset. The presets are the following ones:

- hostname: the Talk2M server are used as validation server.
- fallback timings: the Ewon shifts to the secondary WAN interface during 1 hour every 75 minutes.

This means that, if the primary WAN interface fails, then:

- the Ewon shifts to the secondary WAN interface 3 minutes after the connection problem appeared.
- the Ewon stays on the secondary WAN interface (the fallback interface) for an hour.
- the Ewon shifts back to the primary WAN interface after 1 hour (from previous step). If the primary WAN interface is working again, then the Ewon stays on this interface. If the primary WAN interface is still not working then the Ewon shifts back to the secondary WAN interface after 15 minutes.



Fig. 2 Cosy web interface for WAN fallback wizard.

3.2 Wizard on Flexy

On a Flexy, the WAN fallback wizard first asks for the configuration of the WAN fallback timings and the hostname used for the Internet test validation.

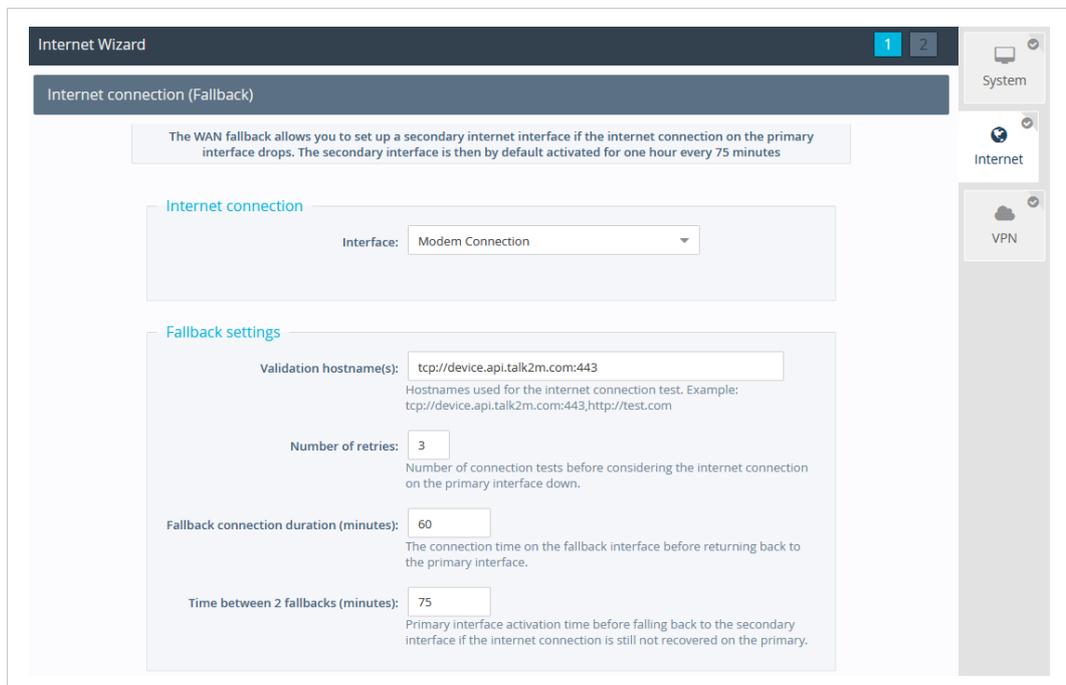


Fig. 3 Flexy web interface for WAN fallback wizard.

Multiple parameters can be configured such as:

Validation hostame(s)	<p>The hostname which is used to verify if the Internet connection is working. The Ewon tries each minute to reach this hostname to validate the Internet connection.</p> <p>Accepted values: a list of hosts with the format: PROTOCOL://HOST:[PORT]</p> <ul style="list-style-type: none"> • PROTOCOL: TCP or UDP. • HOST: a hostname or an IP address. • PORT: port number. If omitted then port 80 will be used. <p>Default value: tcp://device.api.talk2m.com:443</p> <p>Examples: udp://10.11.12.13:42, tcp://as.pro.talk2m.com:443, test.com</p> <p>If UDP protocol is used, then the validation server must echo all UDP queries. The Talk2M server (default hostname) provides this service.</p>
Number of retries	<p>The number of successive failed Internet connection tests before the Ewon shifts to the secondary interface.</p> <p>Default value: 3.</p>
Fallback connection duration	<p>The time (in minutes) considered by the Ewon to stay on the secondary WAN interface before switching back to the primary WAN interface.</p>
Time between 2 fallbacks	<p>The time (in minutes) between 2 consecutive fallback in case the primary interface still doesn't work.</p>

After specifying the above fallback settings, the wizard asks for the setup of the second WAN interface.

At the end of the wizard, the Ewon checks the different settings. Therefore, it tests 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.

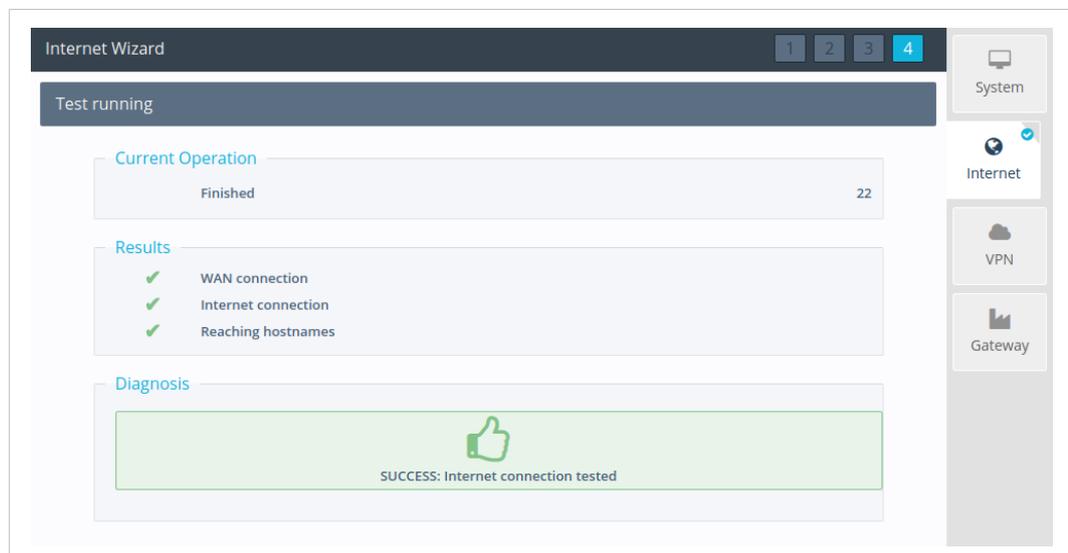


Fig. 4 Success in configuring the WAN fallback.

4 WAN Fallback Status

The summary page (homepage) of the Ewon reflects the fallback status and configuration.

The following info is shown if the WAN fallback has been configured:



Fig. 5 Fallback status on Cosy 131 homepage.

If the fallback mechanism has been triggered, then the following information is displayed:

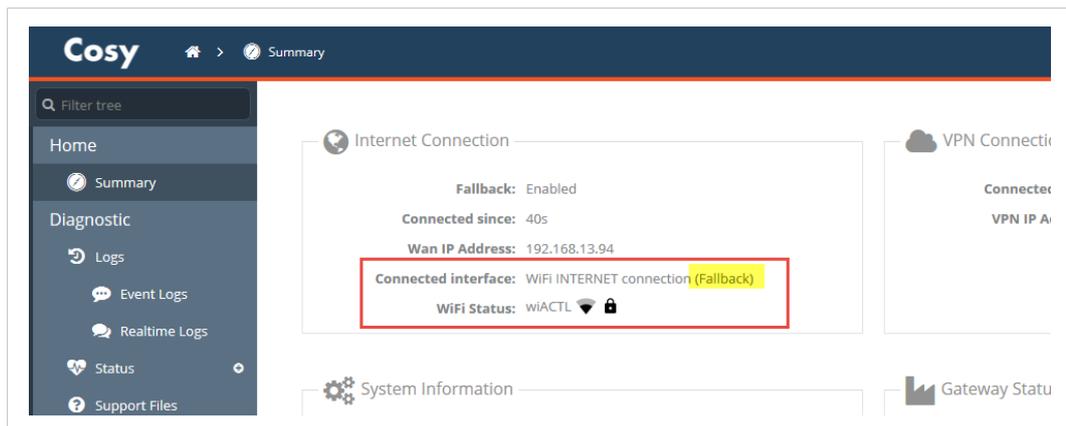


Fig. 6 Activated fallback status on Cosy 131 homepage.

In the case of an activated fallback, the Internet icon of the status bar (on the right side of the footer) is displayed in orange with a mouse hover label "Internet: Fallback interface in use".

5 Events Log

The fallback process is logged inside the event log of the Ewon:

- 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 fails
“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 fallbacks is not yet reached
“WAN Fallback -- Should fallback, but the configured interval between two fallbacks is not yet reached”

6 Commissioning

You can change the following parameters using FTP or the tabular editor inside the Ewon. This can be of use if you want to:

- change the preconfigured fallback settings of a Cosy.
- use an SD card or USB drive for easy commissioning.

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

Name	Description	Default Value	Acceptable Values
WANFbckHostNamesToCheck	List of hosts used to check if the WAN connection is still active (for WAN fallback purpose). Separated by comma (,) with a maximum of 96 characters.	tcp://device.api.talk2m.com:443	PROTOCOL://HOST:PORT
WANFbckMaxCnxRetries	Number of retries used to check the WAN connection before falling back to secondary WAN interface.	3	Integer 1 No retry
WANFbckMaxDuration	Maximum time duration the secondary WAN interface will stay active before switching back the primary WAN interface.	60	Integer [minutes]
WANFbckMinInterval	Minimum time interval before another WAN fallback can occur after a previous one has already been triggered.	75	Integer [minutes]
WANFbckCnx	Defines the secondary WAN interface (in case of WAN fallback).	0	0 None 1 Cellular 2 Ethernet 4 Wi-Fi
WANFbckCheckPeriod	The time interval between two WAN connectivity checks on the primary WAN interface (for WAN fallback purpose).	60	Integer [seconds]

7 Showcase

You can see the application of the WAN fallback with the following illustration:

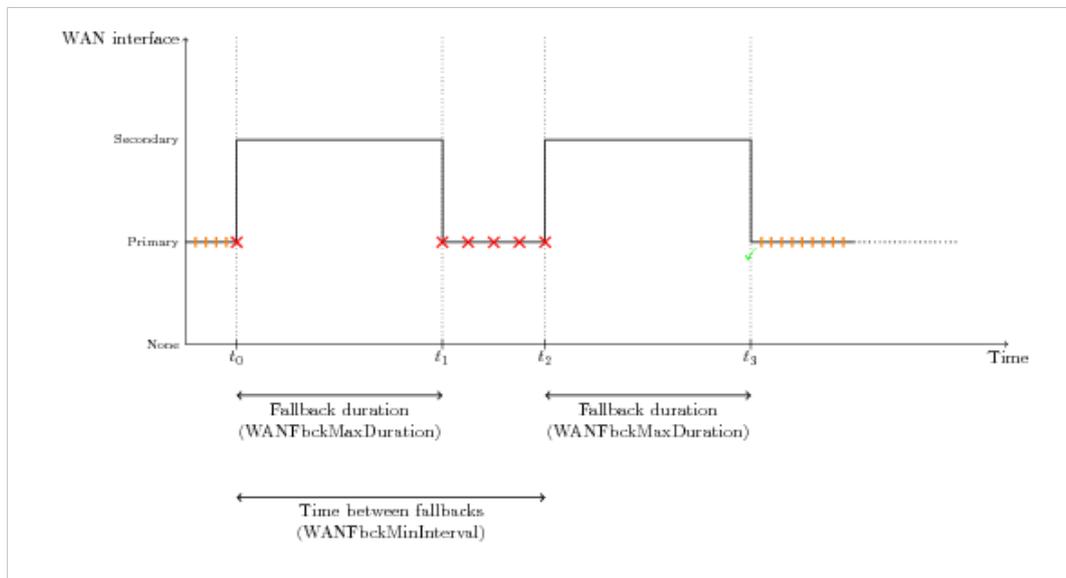


Fig. 7 Example explained of a WAN fallback

The illustration can be explained as follows:

- Between 0 and t_0 : the Ewon does several positive connectivity check (interval based on internal WAN management, +/- 30s).
- At t_0 , the connectivity check fails multiple times ($WANFbckMaxCnxRetries$). The Ewon stops the primary WAN interface and switches to the secondary WAN interface.
- Between t_0 and t_1 : the Ewon stays on the secondary WAN interface during the maximum fallback duration ($WANFbckMaxDuration$).
- At t_1 : the Ewon reached the maximum fallback duration. The Ewon stops the secondary WAN interface and switches back to the primary WAN interface.
- Between t_1 and t_2 : The connectivity check fails but the Ewon doesn't fall back to the secondary interface because of the minimum time between two fallbacks ($WANFbckMinInterval$). This $WANFbckMinInterval$ started when the fallback to the secondary interface occurred.
- 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 occurs.
- At t_3 : The Ewon reached the maximum fallback duration ($WANFbckMaxDuration$). The Ewon switches back to the primary WAN interface. This time, the connectivity check succeeds so the Ewon stays on the primary WAN interface. It remains on the primary interface as long as the connection is up. The Ewon continues the connectivity checks at regular intervals.