2N® EasyRoute

UMTS Data and Voice Gateway
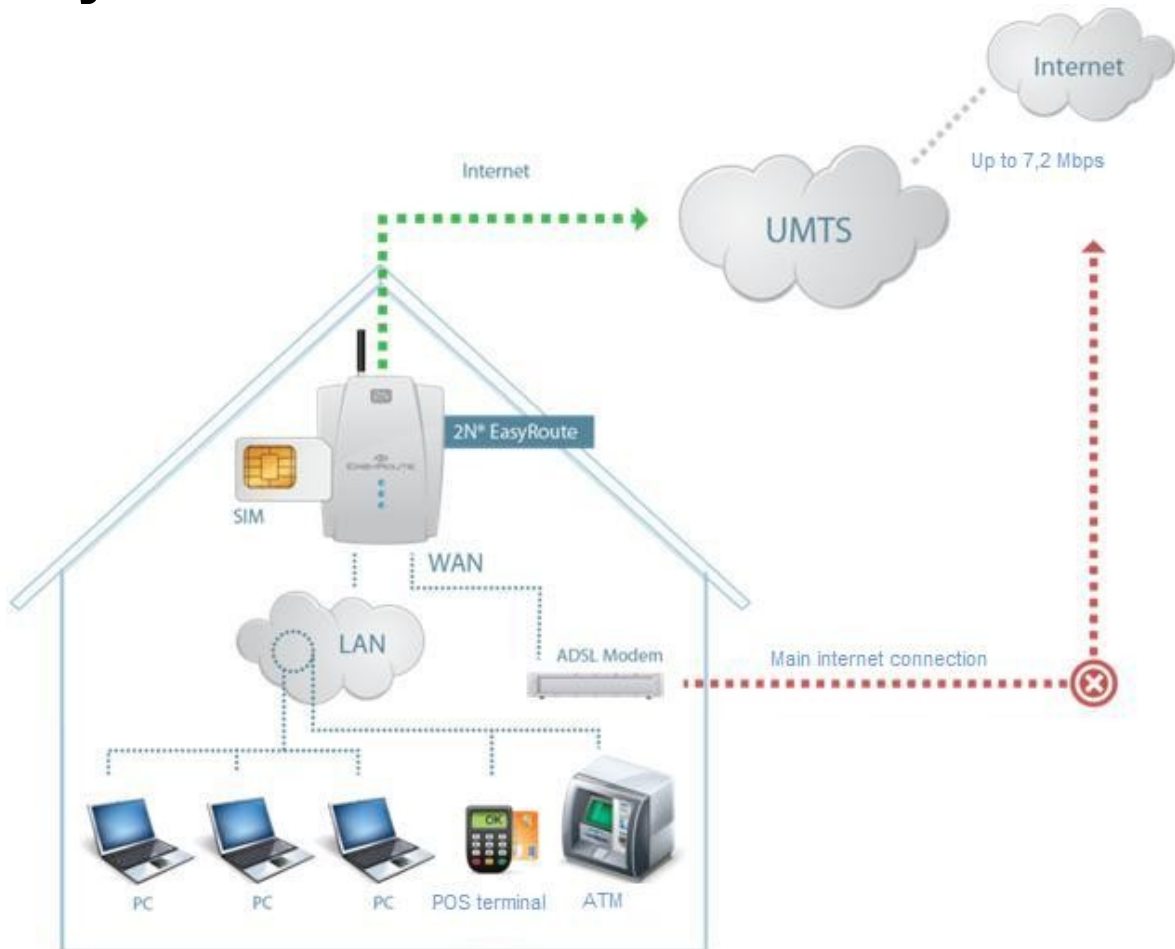

How to?

1 Introduction

Back-Up Connection

In this document, we introduce the **back-up connection** capability of the **2N® EasyRoute** product, outline its application options and highlight the advantages following from its use.

Here is what you will find in this section:

- Layout
- Advantages of 2N® EasyRoute Use
- **Chyba! Nenalezen zdroj odkazů.**

1.1 Layout

Back-Up Connection

Use 2N® EasyRoute to establish a back-up connection to the Internet in case of primary connection failure. 2N® EasyRoute creates an active back-up route via UMTS to the existing ADSL, cable, Wi-Fi, etc. systems. When the main route fails, the gateway forwards all data to the 3G network automatically. When the main connection is restored, data will be transmitted via the main route again. On the top of that, 2N® EasyRoute provides SMS failure notification to keep you informed of the connection status. You can also make use of all voice and data services of the gateway. Refer to the User Manual for details on all functions.

Advantages of 2N® EasyRoute Use

- **Fast data connection**
  2N® EasyRoute transmits data using the HSDPA protocol (up to 7.2 Mbps).

- **Automatic connection status monitoring**
  2N® EasyRoute monitors both connectivity and quality of the main connection

and switches to the back-up connection automatically whenever the quality level falls below the defined limit.

■ **Easy installation**
2N® EasyRoute can be used without extensive programming.

■ **SMS notification**
2N® EasyRoute sends informative messages on the connection status to the defined telephone number.

■ **Wi-Fi**
2N® EasyRoute provides connection to a PC and other devices via 2.4 and 5 GHz Wi-Fi. It supports the 802.11a/b/g standards and the maximum rate of 54 Mbps.

■ **Standard router function**

2N® EasyRoute is equipped with all standard functions (DHCP, Firewall, etc.).

■ **Voice services**

2N® EasyRoute enables a telephone set to be connected via the FXS port for calling to GSM/VoIP and FAX sending/receiving (the VoIP calling and FAX options are only available in the ERF version).

■ **VRRP**

2N® EasyRoute provides the VRRP back-up routing option too.

■ **Data encryption**

2N® EasyRoute uses the GRE or IPsec encryption standard.

■ **PPPoE**

2N® EasyRoute is equipped with the PPPoE function for ADSL modems.

■ **IPsec**

In 2N® EasyRoute, you can configure secured tunnels between two devices using the fully implemented IPsec protocol.

1.2 Description of Parameters

Below you can find details on two menus that are relevant for the back-up connection: **SETUP** - **Network** - **WAN** and **SETUP** - **Network** - **Routing**.

SETUP > Network > WAN

Mode
Used for enabling the WAN function in your gateway. If you enable the WAN port, LAN4 is converted into WAN. There are three setting options:

- *Off* – disable the WAN function.
- *Static* – enable the WAN function. Set the fixed WAN IP address. Useful especially when you use the cable or Wi-Fi connection and know the IP address assigned to you.
- *PPPoE* – enable the WAN function. Enter the login data to your provider. Used mainly for the ADSL connection where you are assigned the IP address by the provider after login authentication.

Caution

- **Important!** The static IP and PPPoE cannot be used at the same time. Even if both the options are selected and saved in the database, the option that is programmed is applied.

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Static

Mode	Static ▼			
IP	90	12	112	52
Subnet	255	255	255	0
Gateway	90	12	112	1
DNS1	194	8	41	65
DNS2	194	2	41	13

IP

IP address assigned to your 2N® EasyRoute WAN port as communicated by your Internet provider or network administrator.

Subnet

Mask of the network where your 2N® EasyRoute gateway will be operating as communicated by your Internet provider or network administrator.

Gateway

Gateway IP address. The IP packets from 2N®EasyRoute are routed primarily to this IP address.

DNS1/DNS2

IP addresses of the user-preferred DNSs on the Internet.

Save

Push this button to save the new setting.

Default

Push this button to restore the factory settings.

PPPoE

User

Username used for authentication as communicated by the Internet provider.

Password

Password used for authentication as communicated by the Internet provider.

LCP echo interval [1 – 3600s]

Set the LCP echo sending intervals.

LCP echo failure [1 - 10]

Set the count of failed responses to LCP queries after which the PPP daemon is restarted.

DNS1, DNS2, IP

These parameters cannot be programmed. They are for information only and provide the data that 2N$^®$ EasyRoute received from the ADSL provider after authentication.

Save

Push this button to save the new setting.

Default

Push this button to restore the factory settings.

Note

■　　LCP echo is a function of the PPP daemon, which is responsible for connection to the provider (UMTS/PPPoE). It sends packets in predefined intervals and expects responses to them. When the defined failure rate has been achieved, the PPP daemon is restarted and tries to reconnect to the Internet.

SETUP > Network > Routing

Set the back-up connection switch parameters in this menu. You will need back-up routing when your main provider is unable to provide such connectivity that you need. When the gateway finds that the main routing does not work, it switches to the back-up system. Set the **Errors/Totals** parameter to define the count of error responses and the switching time. The main route is restored when the first correct response comes from the ICMP server.

Main routing	WAN (Static) ▼
Backup routing	UMTS ▼
Fast backup	☑
Backup status	Off
ICMP Echo server	77 . 75 . 76 . 3
Interval [1 - 86400 s]	1
Timeout [1 - 10000 ms]	500
Failure limit	3
Errors / Totals	0 / 3402
Manual connecting (UMTS / PPPoE)	☐

Main routing

Set the parameter for routing outgoing traffic to the Internet if your primary connectivity is OK.

Back-up routing

Set the parameter for routing outgoing traffic to the Internet if the main route is unavailable.

Setting options:	*None*
	UMTS
	WAN
Default setting:	*UMTS*

Back-up status

This parameter informs of the current status of the Internet connection. **Off** means the main route and **On** the back-up route.

Setting options:	*On / Off*

ICMP Echo server

Set the IP address of a reliable, almost continuously accessible server to be used as a reference point. PING requests will be sent to this server and responses will

be evaluated. Having received the defined count of error responses in a sequence, 2N® EasyRoute switches to back-up routing.

Setting options: *Valid public IP address*

Default setting: *Empty*

Interval

Set the PING sending interval.

Setting options: *1 – 86400 s*

Default setting: *1 s*

Timeout

Set the ICMP server response timeout. If no response is received within this timeout, an error is detected.

Setting options: *1 – 10000 ms*

Default setting: *500 ms*

Failure limit

Set the limit for error responses to PING queries. When this limit is reached, the back-up connection is enabled.

Setting options: *1 - 100*

Default setting: *3*

Errors / Totals

This parameter is for information only. It counts wrong and correct PINGs. The counter is reset whenever the first correct PING is received after a sequence of errors.

Save

Push this button to save the new setting.

Default

Push this button to restore the factory settings.

Caution

To make the system work properly, make sure that

- The WAN port is set and connected properly.
- The UMTS-registered SIM card is inserted.
- The back-up route is set.
- An available ICMP echo server is selected.

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How to Set

In this section, you will learn how to set various configuration scenarios.

Here is what you can find in this section:

- WAN Static Address
- WAN **Chyba! Nenalezen zdroj odkazů.**

2.1 WAN Static Address

> ### What You Need
>
> - **Network settings (IP address, Subnet mask, Gateway, etc.) as communicated by your Internet provider or network administrator.**
>
> - **Available UMTS Internet connection (**use the Wizard**).**
>
> - **Reliable ICMP echo server (**server to which PING requests will be sent concerning the main route connectivity**).**

Log in to the 2N® EasyRoute web interface as Administrator. Go to the **Network – WAN** menu and activate the **WAN** function by selecting one of the available options. Select **Static** for the static address. Now set the connection parameters (IP address, Subnet, Gateway, etc.). At present, 2N® EasyRoute is incapable of obtaining these data itself and if your current router gets this information from the provider's DHCP server, check the DHCP configuration for the current addresses.

Mode	Static
IP	90 . 12 . 112 . 52
Subnet	255 . 255 . 255 . 0
Gateway	90 . 12 . 112 . 1
DNS1	194 . 8 . 41 . 65
DNS2	194 . 2 . 41 . 13

Now go to the **Network – LAN** menu to see that port LAN 4 has converted into WAN. Connect the Ethernet cable to this port to check the routing activity and establish connection with the opponent.

Now go to the **Network – Routing** menu to set the back-up routing parameters.

Main routing	WAN (Static)
Backup routing	UMTS
Fast backup	☑
Backup status	Off
ICMP Echo server	77 . 75 . 76 . 3
Interval [1 - 86400 s]	1
Timeout [1 - 10000 ms]	500
Failure limit	3
Errors / Totals	0 / 3402
Manual connecting (UMTS / PPPoE)	☐

Select the primary route in the **Main routing** item, i.e. WAN (Static). Select the **Back-up route**, UMTS. This means that, if the primary WAN route fails, the gateway switches to the back-up UMTS route automatically. Tick off the **Fast backup** to accelerate back-up switching. In this configuration, it means that SIM will keep logged in, thus eliminating the login waiting time. **WARNING!!! Doing this you may**

increase the SIM data flow. If the Fair User Policy (FUP) is used, it may get partially exhausted even if the primary data route did not go through the SIM card.

The **Back-up status** informs you whether or not the back-up connection is active.

The **ICMP echo server** is vital for the **back-up routing!!** Therefore, set a reliable server to avoid unnecessary failures, e.g. google.com.

Set the PING sending and response receiving **Intervals**. The **Errors/Totals** parameter defines how many errors must occur before the back-up route is switched on. The first correct PING from the ICMP server restores the main route.

Manual connecting means that although the back-up route is switched on automatically, confirmation of such connection will be required. Confirm the status in the **Status** menu below the **Connect** option. You can also disconnect the connection manually by clicking on **Disconnect** if necessary.

2.2   WAN PPPoE

What You Need

- **Login data (Username and Password) as communicated by your Internet provider.**

- **Enabled UMTS Internet connection (**use the Wizard**).**

- **Reliable ICMP echo server (**server to which PING requests shall be sent concerning the main route connectivity**).**

Log in to the 2N® EasyRoute web interface as Administrator. Go to the **Network** – **WAN** menu and activate the WAN function by selecting one of the available options. Select **PPPoE** for the PPPoE address. Now set the connection parameters (Username and Password). You can also set the LCP echo parameters, refer to the Description of Parameters. 2N® EasyRoute actively monitors this connection and, if a problem occurs, restarts the PPP daemon automatically. The other parameters on the page are for information only.

Mode	PPPoE ▼
User	o2
Password	●●
LCP echo interval [1 - 3600 s]	1
LCP echo failure [1 - 10]	10

Now go to the **Network** – **LAN** menu to see that port LAN 4 has converted into WAN. Connect the Ethernet cable to this port to check the routing activity and establish connection with the opponent.

Now go to the **Network** – **Routing** menu to set the back-up routing parameters.

Main routing	WAN (PPPoE) ▼
Backup routing	UMTS ▼
Fast backup	☑
Backup status	Off
ICMP Echo server	77 . 75 . 76 . 3
Interval [1 - 86400 s]	1
Timeout [1 - 10000 ms]	500
Failure limit	3
Errors / Totals	0 / 3402
Manual connecting (UMTS / PPPoE)	☐

Select the primary route in the **Main routing** item, i.e. WAN (PPPoE). Select the **Back-up route**, i.e. UMTS. This means that, if the primary WAN route fails, the gateway switches to the back-up UMTS route automatically. Tick off the **Fast backup** to accelerate back-up switching. In this configuration, it means that SIM will keep logged in, thus eliminating the login waiting time. **WARNING!!! Doing this you may increase the SIM data flow.** If the Fair User Policy (FUP) is used, it may get

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partially exhausted even if the primary data route did not go through the SIM card (as the case is with PPPoE as the back-up route).

The **Back-up status** informs you whether or not the back-up connection is active.

The **ICMP echo server** is vital for the **back-up routing!!** Therefore, set a reliable server to avoid unnecessary failures, e.g. google.com.

Set the PING sending and response receiving **Intervals**. The **Errors/Totals** parameter defines how many errors must occur before the back-up route is switched on. The first correct PING from the ICMP server restores the main route.

Manual connecting means that although the back-up route is switched on automatically, confirmation of such connection will be required. Confirm the status in the **Status** menu below the **Connect** option. You can also disconnect the connection manually by clicking on **Disconnect** if necessary.

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