2N®

PRI gateways
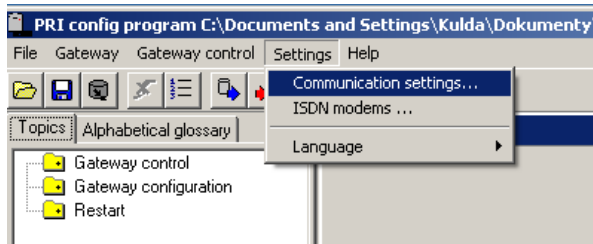
How to install PRI gateway
Quick guide
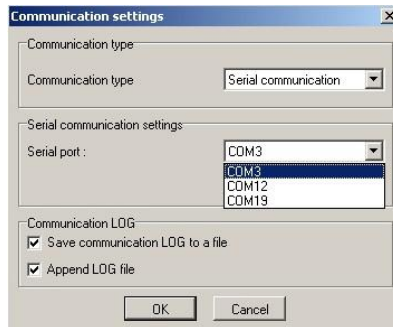
www.2n.cz

1. Preparation

1.1 IP address settings

Open the newest version of config program (you can download it from www.2n.cz)

Choose Settings – Communication settings
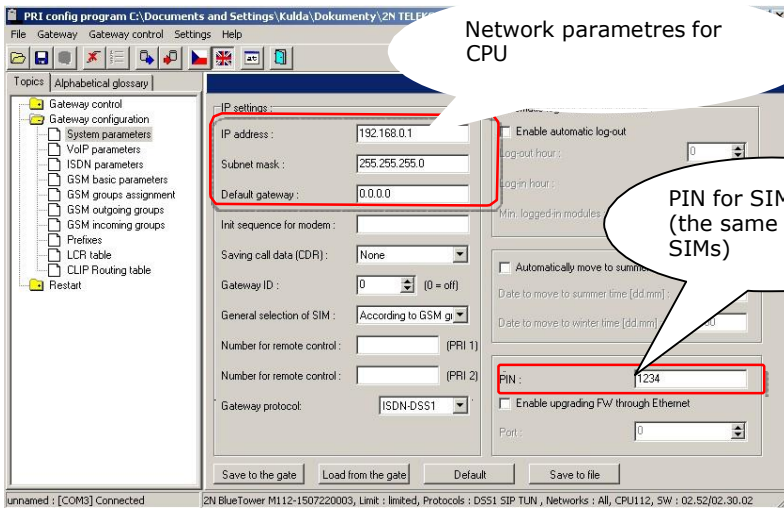

Choose the type of communication

Connect to the gateway

Download parametres from the gateway

In Gateway configuration you can find System parameters and set IP address for CPU.

1.2 VoIP trunk configuration

Let say that we want to connect SG with our company VoIP PBX (SIP proxy) and we want to allow receiving calls from SIP proxy, so we can pass them to GSM and pass all incoming calls to it.

To allow call requests only from our SIP proxy we have to fill its IP address to field **SIP proxy (IP -> GSM)**.

It is very important to set this IP address. In case that there is 0.0.0.0 in this field, call can come from any IP address on our network (in case that you have assigned public IP address, requests can be from any computer on Internet.

If you want to allow call from GSM to your SIP proxy, it is necessary fill its IP address to field **SIP proxy (GSM -> IP)**. If you want more about incoming call setting go to section 3 (Incoming calls) of this document.

Also we have to define IP of our VoIP card – it will be 192.168.0.2 – This is the IP for RTP stream.

You have to setup the opposite PBX to send the SIP packets to IP address of CPU card.

The example of these settings is showed at this picture
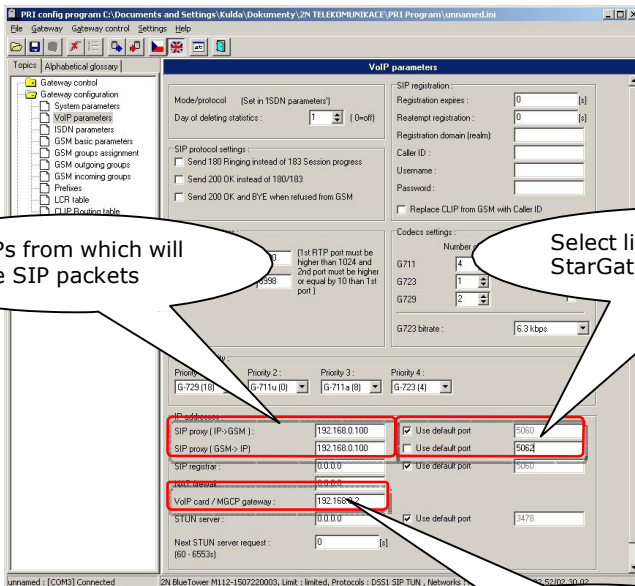
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1.3 Example of Cisco Call Manager configuration

Following example of configuration correspond with configuration interface of Cisco Call Manager 6,7 and 8.

IP address of SG

SIP Information

Destination Address*	192.168.50.39
☐ Destination Address is an SRV	
Destination Port*	5060
MTP Preferred Originating Codec*	711alaw
Presence Group*	Standard Presence group
SIP Trunk Security Profile*	Non Secure SIP Trunk Profile
Rerouting Calling Search Space	< None >
Out-Of-Dialog Refer Calling Search Space	< None >
SUBSCRIBE Calling Search Space	< None >
SIP Profile*	Standard SIP Profile
DTMF Signaling Method*	RFC 2833

[Save] [Delete] [Reset] [Add New]

ⓘ *- indicates required item.

ⓘ **- Device reset is not required for changes to Packet Capture Mode and Packet Capture Duration.

1.4 Configuration of PRI connection

If you have PRI card, you can connect the gateway to your PBX via NT or TE port. Here are examples of possible interconnection scenarios.

— ISDN PRI connection between two PRI interfaces
--- Back-up-connection of the 2PRI board
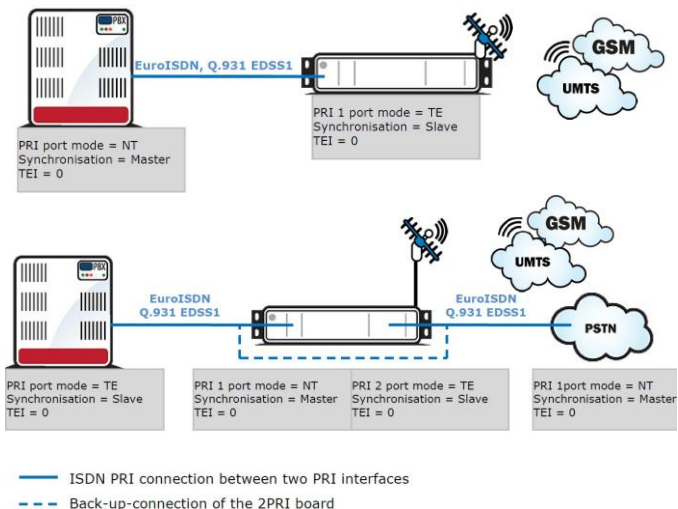
In accordance to your situation you have to setup the gateway ISDN parameters.

PRI 1 port has to be always used for connecting to your PBX!

Settings for the PRI ports
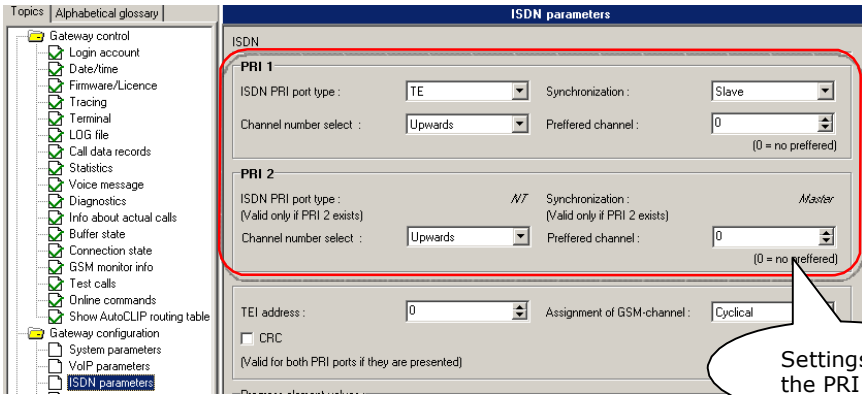
Outgoing calls

2.2 How to configure the LCR table

Situation…
Let's say we have SIM cards of two GSM operators (4 pcs. for each one):
The first one, we will call it N_5, it has following prefixes (602, 606, 607, 723, 724) and it requires you to dial the number from your mobile phone with the international prefix (+420). All numbers have a nine digit length with the prefix but without the international prefix.
The second one, we may call it NobiCell, has the following prefixes (901, 902, 907, 909) and requires you to dial the number with the prefix (0). All numbers have a nine digit length
with the prefix and without "0".

We have to assign modules to two GSM outgoing groups (for each operator one).
The first step we have to do is place the SIM cards into the SIM holders. We will start with modules 0-3 using the N5 operator SIMs. Modules 4-7 will follow the same procedure but using the NobiCell SIMs.

2.2.1 Configuration of outgoing groups

We have to select the option SIM1 for the Mode of switching SIM card (the SIM inserted in the SIM holder 1 will be used all the time). In the parameter CLIR select option Factory. The settings written above will configure both GSM outgoing groups. For switching between groups you can use the tabs.

Tabs for GSM outgoing groups

Mode of switching SIMs

Parameter CLIR

2.2.2 Prefix list configuration

We have to create two network lists, the first one for N5 and the second one for NobiCell.

N5 network list:

We configure the normalization of Called party number in the Table of replaced prefixes (the number in front of the slash mark is replaced by number behind the slash mark, if there is not any number in front of the slash mark it is equaled to "everything").

We also have to fill in the Table of prefixes with all prefixes of the N5 operator. Because all numbers are 9 digits length, it is not necessary to specify for each prefix, we can use the parameter Default number of digits and fill there the value 9.

Tabs for network lists

Table of prefixes for N5 operator

Table for normalization

Default number of digits
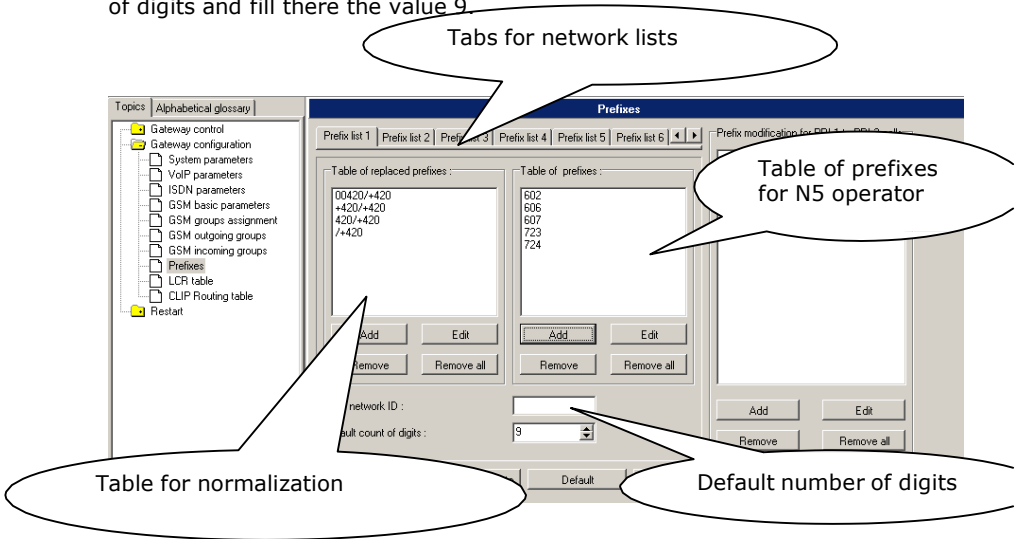
NobiCell network list:

We configure the normalization of Called party number in the Table of replaced prefixes (the number in front of the slash mark is replaced by number behind the slash mark, if there is not any number in front of the slash mark it is equaled to "everything"). We also have to fill in the Table of prefixes with all prefixes of the N5 operator. Because all numbers are 9 digits length, it is not necessary to specify for each prefix, we can use the parameter Default number of digits and fill there the value 9.
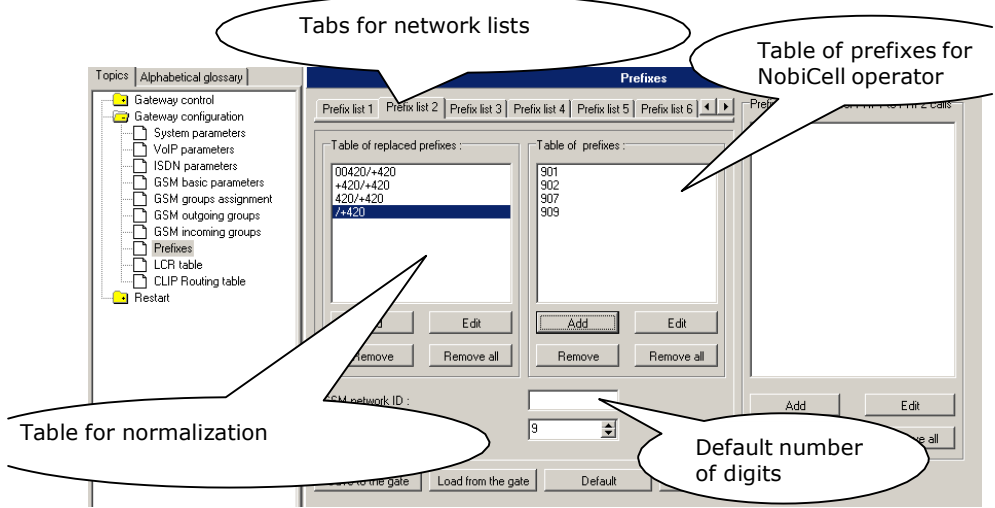
2.2.3 LCR table configuration

We have to configure lines in the LCR table where we bind together Outgoing GSM groups with Network lists. Click on ADD button (or edit the first line of LCR table) to add the first line and configure it the following way for the N5:

Click on ADD button to add the second line and configure it the following way for the NobiCell:

Now you can see two LCR lines in the LCR table:

2.2.4 Test call

We can connect the phone handset to the AUX card and make a test call.
The menu for test calls we can find under Gateway control:
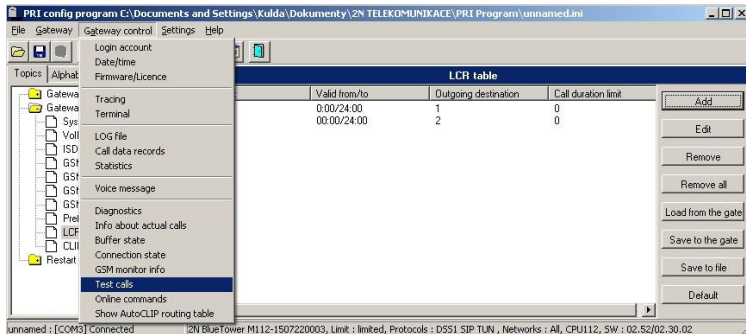

In the window select the option **To GSM (according to the called prefix).**
To the space called number the write number you want to dial (use the
form of the called party number in which StarGate receives it from the PBX).
Click on the Dial button. The call will be established to mobile phone
number written in the line
called number.
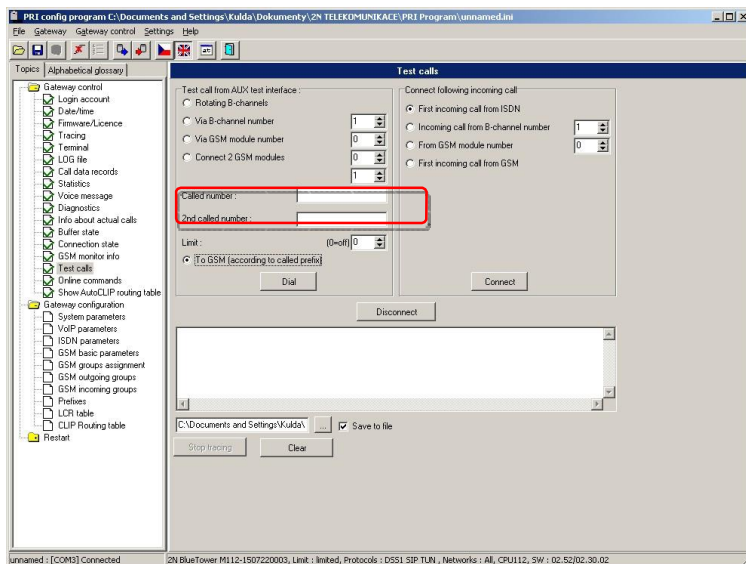
3. Incoming calls

For incoming calls you can define 4 groups with the different behavior and assign GSM modules for them. The settings are similar with GSM group assignment for outgoing calls.

Incoming group assignment
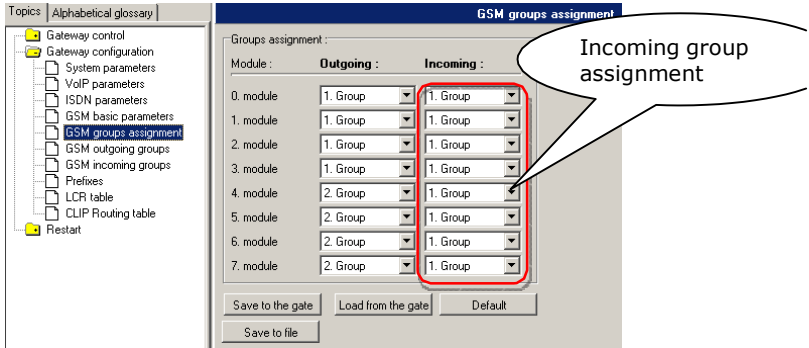
In GSM incoming groups you can define the behavior for each GSM incoming group. Choose the mode to Reject, Ignore, or accept incoming calls.

Also, you can specify if call should be connected directly to some extension of connected PBX or if you will allow user to dial over DTMF.

Tabs for GSM incoming groups

Mode

Timeout for DTMF

List of called numbers