

# Call routing - Changes in call routing in firmware 1.20+ compared to earlier versions on 2N® StarGate and 2N® BlueTower

In firmware 1.20 the way call routing was configured has been changed. In this FAQ you are going to find out what is different from previous firmware versions.

On 2N® StarGate and 2N® BlueTower following changes have been done:

- In Gateway configuration there is no longer option to select port modes, where you were able to select how calls incoming from one port should be routed (basically allowing you to route calls from PRI to GSM or VoIP). This setting has been merged into LCR table offering an easier configuration.
- LCR table has been redone.

New LCR table allows you to have a complete control over where an incoming call (from VoIP, GSM or PRI interface) should be routed to. On pictures below you can see examples of differences between the new LCR table and the old one.

## 1) Explanation of new LCR table

Records in LCR table are read from top to bottom. When a record that matches all conditions is found then the call is going to be sent to outgoing destination specified in that record. Therefore it is important to pay attention to the order in which you have your LCR table records organized!

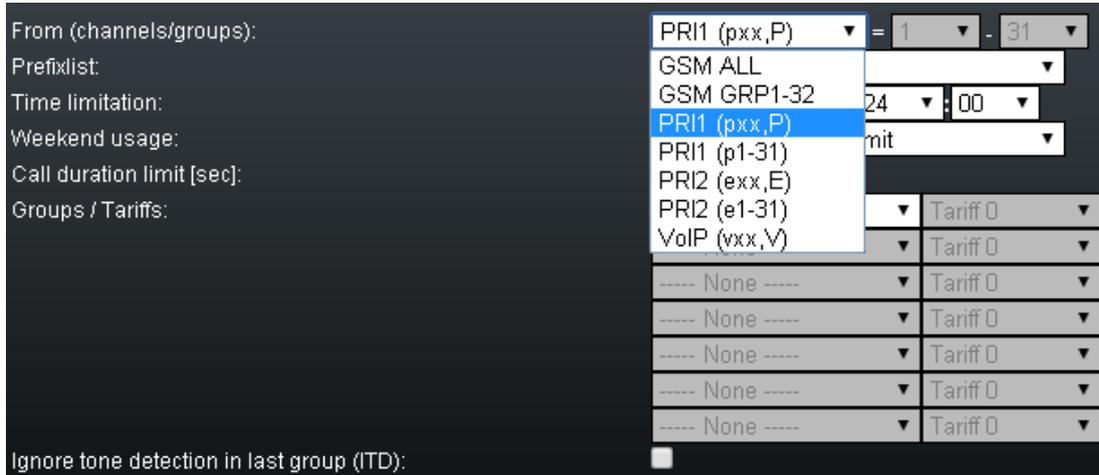
**LCR table**

From	Prefixes	Time limit	Weekend usage	Limit [sec]	Groups	Tariffs	ITD	+	✗
GSM	-	0:00/24:00	Acc. to time limit	Off	P	x	No	+	✗
PRI1	1	0:00/24:00	Acc. to time limit	Off	1	0	No	+	✗
PRI1	-	0:00/24:00	Acc. to time limit	Off	E	x	No	+	✗
PRI2	-	0:00/24:00	Acc. to time limit	Off	P	x	No	+	✗
VoIP	1	0:00/24:00	Acc. to time limit	Off	1	0	No	+	✗
VoIP	-	0:00/24:00	Acc. to time limit	Off	E	x	No	+	✗

From (channels/groups) - this parameter specifies where outgoing call originates. In case of Stargate or

BlueTower it can be:

- all GSM channels
- specific GSM incoming group (1-32)
- PRI NT interface all channels
- PRI NT interface, specific channel (1-31)
- PRI TE interface, all channels
- PRI TE interface, specific channel (1-31)
- VoIP



From (channels/groups): PRI1 (p<sub>xx</sub>,P) = 1 - 31

Prefixlist: GSM ALL

Time limitation: 24 : 00

Weekend usage: mit

Call duration limit [sec]:

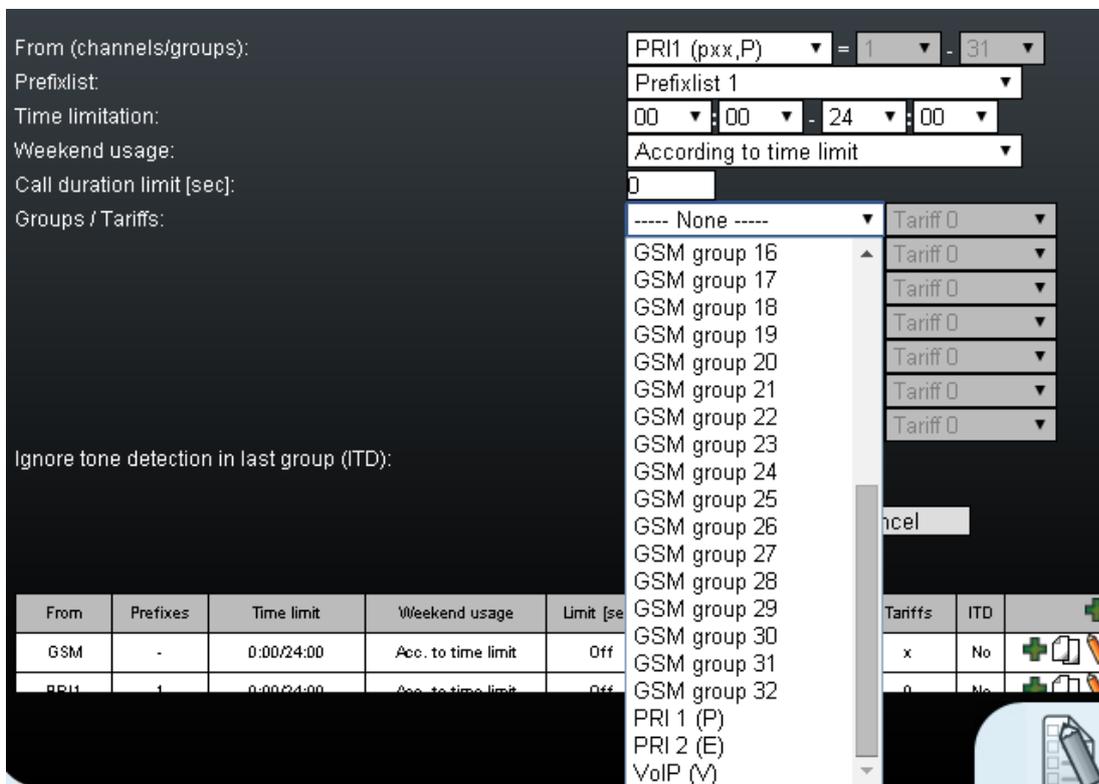
Groups / Tariffs:

----- None -----	Tariff 0

Ignore tone detection in last group (ITD):

Prefix list - you must specify either one prefixlist, that the outgoing call number must match, or you can select option All prefixlists, where any outgoing call number that matches at least one prefixlist, will be routed by channel specified under Groups/Tarrifs

Groups/Tarrifs - this parameter specifies if outgoing call should go through a specific GSM outgoing group (1-32), VoIP or PRI interface (NT/TE)



From (channels/groups): PRI1 (p<sub>xx</sub>,P) = 1 - 31

Prefixlist: Prefixlist 1

Time limitation: 00 : 00 - 24 : 00

Weekend usage: According to time limit

Call duration limit [sec]: 0

Groups / Tariffs:

----- None -----	Tariff 0
GSM group 16	Tariff 0
GSM group 17	Tariff 0
GSM group 18	Tariff 0
GSM group 19	Tariff 0
GSM group 20	Tariff 0
GSM group 21	Tariff 0
GSM group 22	Tariff 0
GSM group 23	Tariff 0
GSM group 24	Tariff 0
GSM group 25	Tariff 0
GSM group 26	Tariff 0
GSM group 27	Tariff 0
GSM group 28	Tariff 0
GSM group 29	Tariff 0
GSM group 30	Tariff 0
GSM group 31	Tariff 0
GSM group 32	Tariff 0
PRI 1 (P)	Tariff 0
PRI 2 (E)	Tariff 0
VoIP (V)	Tariff 0

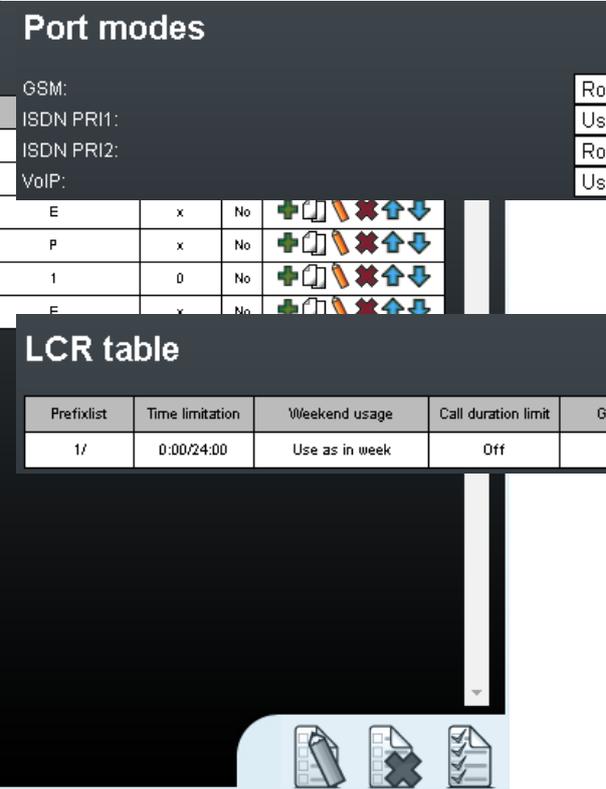
Ignore tone detection in last group (ITD):

From	Prefixes	Time limit	Weekend usage	Limit [sec]
GSM	-	0:00/24:00	Acc. to time limit	Off
PRI1	1	0:00/24:00	Acc. to time limit	Off

This way you have a better control over how outgoing and incoming calls are handled and routed. Plus it is

possible to route incoming calls from GSM back to GSM which was not possible in older firmware version.

## 2) Default LCR table settings

Firmware 1.20	Firmware 1.19 and older																																													
 <p>The screenshot shows the 'LCR table' configuration interface. It features a table with the following columns: From, Prefixes, Time limit, Weekend usage, and Limit [sec]. The table contains six rows of default settings:</p> <table border="1"> <thead> <tr> <th>From</th> <th>Prefixes</th> <th>Time limit</th> <th>Weekend usage</th> <th>Limit [sec]</th> </tr> </thead> <tbody> <tr> <td>GSM</td> <td>-</td> <td>0:00/24:00</td> <td>Acc. to time limit</td> <td>Off</td> </tr> <tr> <td>PRI1</td> <td>1</td> <td>0:00/24:00</td> <td>Acc. to time limit</td> <td>Off</td> </tr> <tr> <td>PRI1</td> <td>-</td> <td>0:00/24:00</td> <td>Acc. to time limit</td> <td>Off</td> </tr> <tr> <td>PRI2</td> <td>-</td> <td>0:00/24:00</td> <td>Acc. to time limit</td> <td>Off</td> </tr> <tr> <td>VoIP</td> <td>1</td> <td>0:00/24:00</td> <td>Acc. to time limit</td> <td>Off</td> </tr> <tr> <td>VoIP</td> <td>-</td> <td>0:00/24:00</td> <td>Acc. to time limit</td> <td>Off</td> </tr> </tbody> </table>	From	Prefixes	Time limit	Weekend usage	Limit [sec]	GSM	-	0:00/24:00	Acc. to time limit	Off	PRI1	1	0:00/24:00	Acc. to time limit	Off	PRI1	-	0:00/24:00	Acc. to time limit	Off	PRI2	-	0:00/24:00	Acc. to time limit	Off	VoIP	1	0:00/24:00	Acc. to time limit	Off	VoIP	-	0:00/24:00	Acc. to time limit	Off	 <p>The screenshot shows the 'Port modes' configuration interface. It includes sections for GSM, ISDN PRI1, ISDN PRI2, and VoIP. Each section has a table with columns for mode, a checkbox, and a status. Below this, there is an 'LCR table' section with a table:</p> <table border="1"> <thead> <tr> <th>Prefixlist</th> <th>Time limitation</th> <th>Weekend usage</th> <th>Call duration limit</th> <th>Gr</th> </tr> </thead> <tbody> <tr> <td>1/</td> <td>0:00/24:00</td> <td>Use as in week</td> <td>Off</td> <td></td> </tr> </tbody> </table>	Prefixlist	Time limitation	Weekend usage	Call duration limit	Gr	1/	0:00/24:00	Use as in week	Off	
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<p>In default there are 6 records which match the default setting of Port modes and LCR table from firmware 1.19 and older</p>	<p>You need to setup both Port modes and LCR table.</p>																																													

## 3) Routing outgoing calls from PRI NT interface and VoIP based on prefix lists (2 outgoing GSM groups with 2 prefix lists), incoming calls are left in default

Firmware 1.20	Firmware 1.19 and older
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LCR table					Port modes																								
From	Prefixes	Time limit	Weekend usage	Limit [sec]																									
GSM	-	0:00/24:00	Acc. to time limit	Off	GSM: <input type="text"/> <input type="button" value="Rou"/>																								
					ISDN PRI1: <input type="text"/> <input type="button" value="Use"/>																								
PRI1	1	0:00/24:00	Acc. to time limit	Off	ISDN PRI2: <input type="text"/> <input type="button" value="Rou"/>																								
PRI1	2	0:00/24:00	Acc. to time limit	Off	VoIP: <input type="text"/> <input type="button" value="Use"/>																								
PRI1	-	0:00/24:00	Acc. to time limit	Off	E	x	No																						
PRI2	-	0:00/24:00	Acc. to time limit	Off	P	x	No																						
VoIP	1	0:00/24:00	Acc. to time limit	Off	<table border="1"> <thead> <tr> <th colspan="5">LCR table</th> </tr> <tr> <th>Prefixlist</th> <th>Time limitation</th> <th>Weekend usage</th> <th>Call duration limit</th> <th>Gr</th> </tr> </thead> <tbody> <tr> <td>1/</td> <td>0:00/24:00</td> <td>Use as in week</td> <td>Off</td> <td></td> </tr> <tr> <td>2/</td> <td>0:00/24:00</td> <td>Use as in week</td> <td>Off</td> <td></td> </tr> </tbody> </table>					LCR table					Prefixlist	Time limitation	Weekend usage	Call duration limit	Gr	1/	0:00/24:00	Use as in week	Off		2/	0:00/24:00	Use as in week	Off	
LCR table																													
Prefixlist	Time limitation	Weekend usage	Call duration limit	Gr																									
1/	0:00/24:00	Use as in week	Off																										
2/	0:00/24:00	Use as in week	Off																										
VoIP	2	0:00/24:00	Acc. to time limit	Off																									
VoIP	-	0:00/24:00	Acc. to time limit	Off																									

Calls coming from PRI NT interface (lines 2-4) are routed based on prefix lists.

- if there is a match in prefix list 1, the call is sent over GSM outgoing group 1
- if there is a match in prefix list 2, the call is sent over GSM outgoing group 2
- if dialed number does not match prefix list 1 or 2, or there are no free channels in GSM outgoing group 1 or 2, the call is sent to PRI TE interface

Calls coming from VoIP (lines 6-8) are routed based on prefix lists:

- if there is a match in prefix list 1, the call is sent over GSM outgoing group 1
- if there is a match in prefix list 2, the call is sent over GSM outgoing group 2
- if dialed number does not match prefix list 1 or 2, or there are no free channels in GSM outgoing group 1 or 2, the call is sent to PRI TE interface

First you need to change Port modes to match your desired scenario (top picture above) and then you need to create 2 rules in your LCR table to match your scenario.

4) Incoming call from GSM group 2 (matching prefix list 2) will be routed back to GSM through GSM outgoing group 1. Every other incoming call from GSM will be sent to PRI TE interface. Everything else is left in default.

Firmware 1.20	Firmware 1.19 and older
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From (channels/groups): GSM group 1-32 = 2

Prefixlist: Prefixlist 2

Time limitation: 00 : 00 - 24 : 00

Weekend usage: According to time limit

Call duration limit [sec]: 0

Groups / Tariffs:

GSM group 1	Tariff 0
----- None -----	Tariff 0

Ignore tone detection in last group (ITD):

Sending incoming calls from GSM back to GSM was not possible

On picture above you can see how to set a scenario where all incoming calls from GSM incoming group 2 should be sent back to GSM through GSM outgoing group 1 (if dialed number will match Prefix list 2)

Sending incoming calls from GSM back to GSM was not possible

**LCR table**

Sending incoming calls from GSM back to GSM was not possible

From	Prefixes	Time limit	Weekend usage	Limit [sec]	Groups	Tariffs	ITD	
g2	2	0:00/24:00	Acc. to time limit	Off	1	0	No	
GSM	-	0:00/24:00	Acc. to time limit	Off	E	x	No	
PRI1	1	0:00/24:00	Acc. to time limit	Off	1	0	No	
PRI1	-	0:00/24:00	Acc. to time limit	Off	E	x	No	
PRI2	-	0:00/24:00	Acc. to time limit	Off	P	x	No	
\vIP	1	0:00/24:00	Acc. to time limit	Off	1	0	No	
\vIP	-	0:00/24:00	Acc. to time limit	Off	E	x	No	

On the picture above you can see how to set described scenario.

All calls from GSM incoming group 2 (matching prefix list 2) are sent back to GSM.

All other calls from GSM are sent to PRI TE interface.

Sending incoming calls from GSM back to GSM was not possible