

OpenScape Business

How to Configure SIP Trunk for BroadCloud - USA

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Table of History

Date	Version	Changes
06.04.2017	1.0	Released
09.09.2024	1.1	editorial changes

Note: The basis for this document is the current OpenScope Business at the time of certification. Since OpenScope Business is constantly developed, input masks and interfaces as well as requirements may change in the future. The settings and entries described here then apply accordingly.

Information

The BroadCloud provider is available and released for the countries USA, UK, Germany, France, Italy and Australia.

This configuration guide is valid for USA only.

Trunk Configuration Data provided by BroadCloud

The configuration data needed to setup the SIP trunk can be found on the BroadCloud Enterprise Portal under SIP Trunking Page > Trunk Group > Edit under the selected Trunk Group:

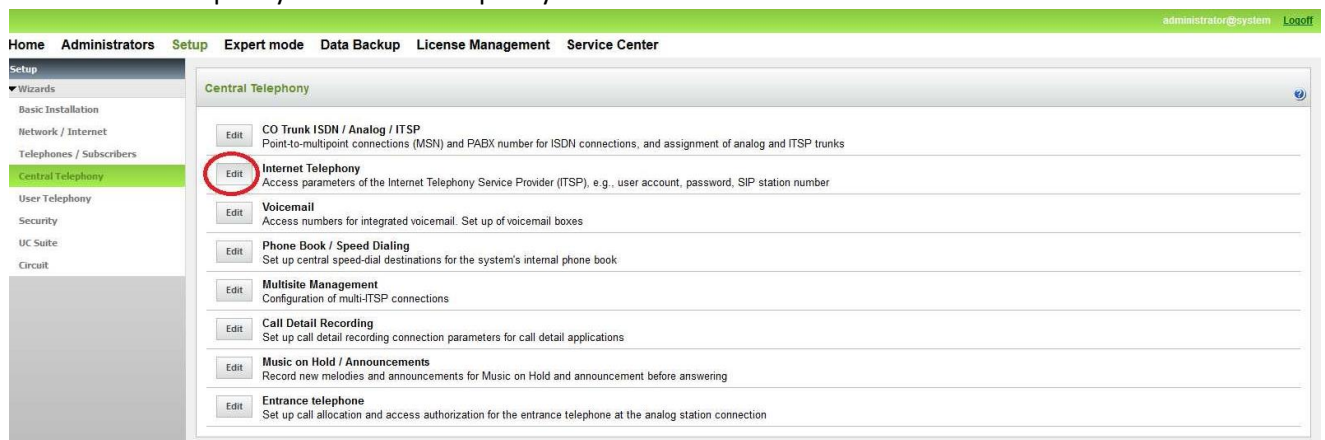
The screenshot displays the BroadCloud Enterprise Portal interface. The left sidebar contains navigation links: DASHBOARD, SIP TRUNKING (selected), ASSIGNMENTS, SERVICES, ANALYTICS, NOTES, and PROFILE. The main content area is titled 'Trunk Capacity' and shows 'Channels Assigned To Site' as 8 (with 1 Available) and a progress bar for 'Channels In Use By Site' at 7/8. Below this is a 'Trunk Groups' table with the following data:

Name	Lead Number	Device Name	Call Forwarding	
Edit +442038593092	+442038593092	123452315121	Disabled	Device Status
Edit Audiocodes M500	+442034093809	123452315121	Disabled	Device Status
Edit trunkgroupstest	+442034093810	123452315121	Disabled	Device Status

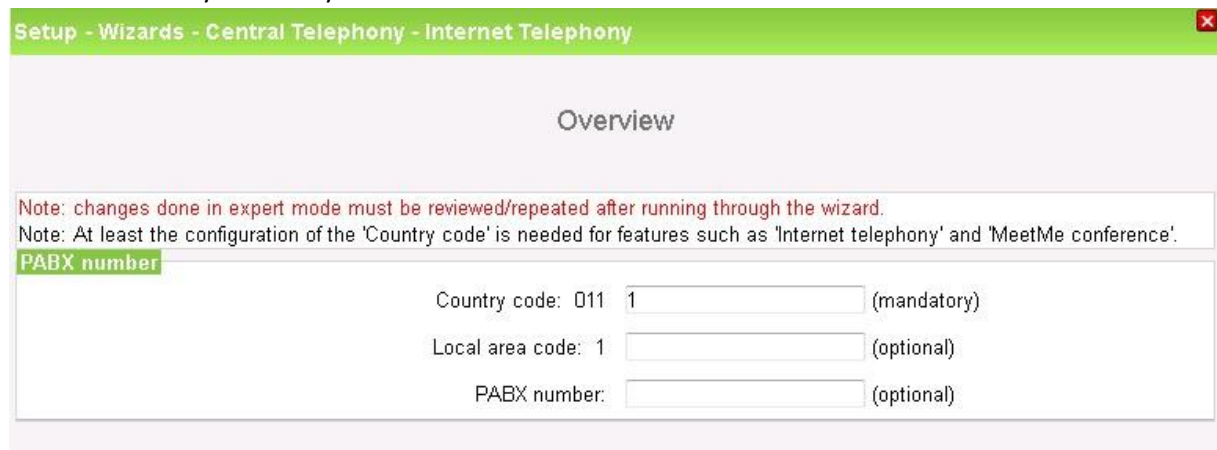
Configuration Wizard

Internet Telephony

Go to Central Telephony – “Internet Telephony“



The overview page appears for entering the location data. The most flexible type of configuration is to enter the Country code only.



Click [OK & Next].

Provider configuration and activation for Internet Telephony -> No call via Internet -> uncheck Use County specific view: United States of America and select “BroadCloud USA”.

Provider configuration and activation for Internet Telephony

No call via Internet:

Country specific view: United States of America ▾

Note: changes done in expert mode must be reviewed/repeated after running through the wizard.

	Activate Provider	Internet Telephony Service Provider
Add		Other Provider
Edit	<input type="checkbox"/>	AT&T
Edit	<input type="checkbox"/>	BabyTEL
Edit	<input type="checkbox"/>	BroadCloud
Edit	<input checked="" type="checkbox"/>	BroadCloud USA
Edit	<input type="checkbox"/>	Cbeyond

Activate Provider and click on [Edit].

On the next page you have to enter the following information:

- **Domain Name**

The SIP Domain Name can be found on the BroadCloud Enterprise Portal, under SIP Trunking Page > Trunk Group > Edit under the selected Trunk Group. The part required is found on the section called Registered Domain.

!!! The Domain in the screenshot is only an example. !!!

Settings

* Name
+442038593092

* Lead Number
+442038593092 ▾

Outbound Proxy
uk.sipconnect.broadcloud.eu

Register Domain
ukdemo.broadcloud.eu

- **Provider Registrar and the Provider Proxy.** Use the country individual names:

BroadCloud USA Zone 1: chcgoutpostsipconnect-udp.broadcloudpbx.com

BroadCloud USA Zone 2: dllsoutpostsipconnect-udp.broadcloudpbx.com

The **Provider Outbound Proxy** is not used and therefore left deactivated.

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Service Provider

Provider Name: BroadCloud USA
 Enable Provider:
 Secure Trunk:
 Domain Name:

Provider Registrar

Use Registrar:
 IP Address / Host name:
 Port:
 Reregistration Interval at Provider (sec):

Provider Proxy

IP Address / Host name:
 Port:

Provider Outbound Proxy

Use Outbound Proxy:
 IP Address / Host name:
 Port:

Help Abort Back OK & Next Delete Data

Click [OK & Next].

In this dialog the specific customer SIP Userdata will be configured.

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Stations for BroadCloud USA

	Name of Internet Telephony Station
<input type="button" value="Add"/>	New Internet Telephony Station

Help Abort Back OK & Next

Click on [Add].

Data provided on the BroadCloud Enterprise Portal, under SIP Trunking Page > Trunk Group > Edit under the selected Trunk Group:

The data provided on this page are used to fill the following fields:

- | | |
|------------------------------------|--|
| Internet telephony station: | Username is inserted here (e.g: 8324583770) |
| Authorization name: | Username is inserted here (e.g: 8324583770) |
| Password: | Password provided by BroadCloud |
| Default number: | Main number of connection. The default number is used as outgoing number when no DDI number is assigned to a station. (e.g: 8324583770). Usually the Lead Number is entered here. |

Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Station for BroadCloud USA

Internet telephony station: 8324583770
 Authorization name: 8324583770
 Password: ●●●●●●
 Confirm Password: ●●●●●●

Call number assignment

Use public number (DID)

If using 'configurable clip' you have to change the configuration to 'Use public number (DID)' here!
 Changing trunk parameters in case of internal subscriber no. is not allowed!

Default Number: 8324583770

Default Number
 ITSP as primary CO access
 Enter one of the call numbers supplied by your network provider here. This will be used in outgoing calls as the calling party number in case no other number is available for the respective call.
 All call numbers supplied by your network provider are to be entered within the trunk and telephones configuration (DID field) primary CO access.

Help Abort Back OK & Next Delete Data

Enter the relevant data and click [OK & Next].

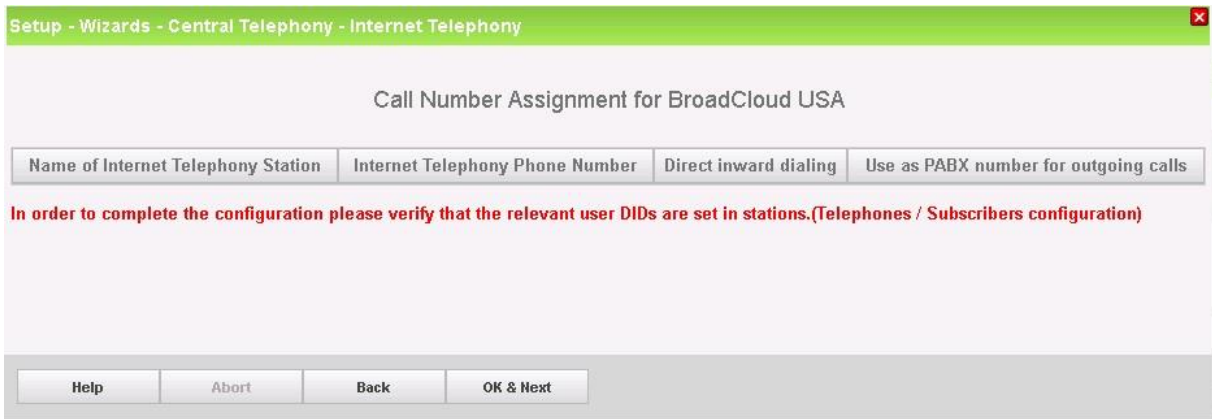
Setup - Wizards - Central Telephony - Internet Telephony

Internet Telephony Stations for BroadCloud USA

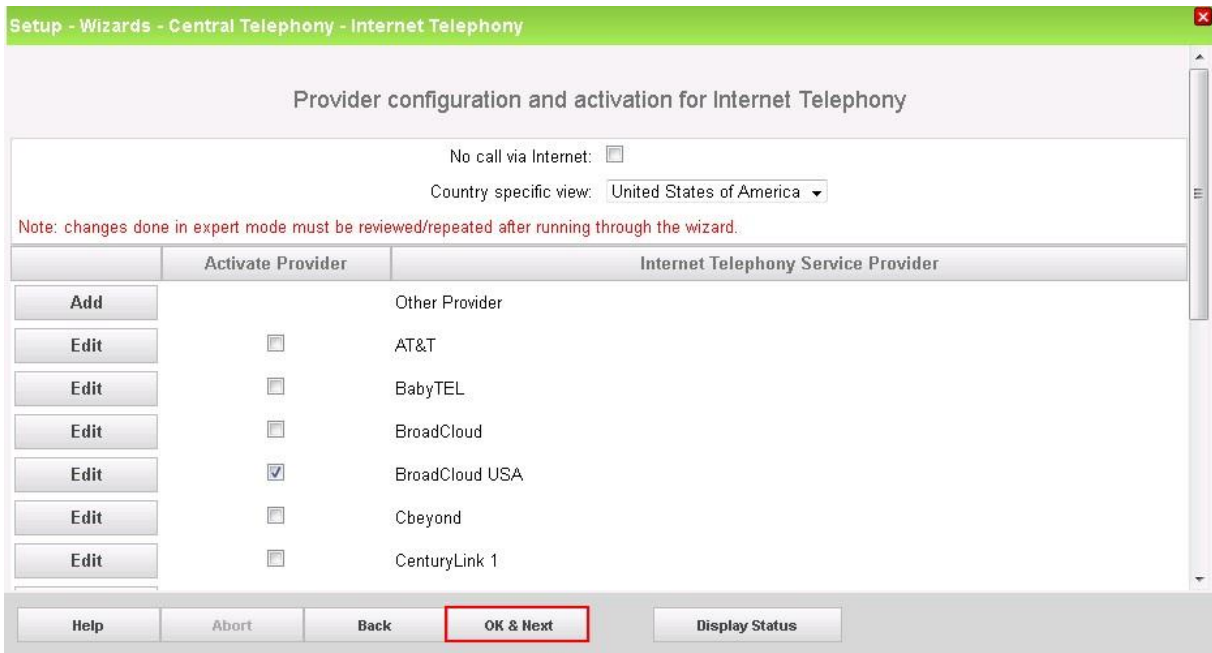
	Name of Internet Telephony Station
Edit	8324583770

Help Abort Back OK & Next

Click [OK & Next]



Click [OK & Next] (no input needed)



Click [OK & Next]

Define bandwidth (# Trunks)

The amount of simultaneous Internet (**Assigned Lines**) calls must be aligned with the **Maximum Active Calls** assigned to the Trunk Group on the BroadCloud Enterprise Portal.

Capacity

* **Maximum Active Calls**

10

Max Incoming

Max Incoming

Max Outgoing

Max Outgoing

More Options

Bursting

Setup - Wizards - Central Telephony - Internet Telephony

Settings for Internet Telephony

Simultaneous Internet Calls

Available Lines for ITSP: 220

Under 'Setup - Wizards - Network / Internet - Internet Access', you have entered the value **Upstream up to (Kbps) = 10000**

In the 'Change Feature --> Internet Telephony' Assistant. This upstream allows you to conduct up to **60** Internet phone calls simultaneously. If the call quality deteriorates due to the network load, you will need to reduce this number of simultaneous calls.

The number of simultaneous Internet Calls also depends on the licensing.

Number of Simultaneous Internet Calls: 10

Line assignment

Internet Telephony Service Provider	Configured Lines	Assigned Lines
BroadCloud USA	0	10

Click [OK & Next]

Special phone numbers

In this dialog it is possible to route special phone numbers.

The screenshot shows a dialog box titled "Special phone numbers" with a green header bar. Below the header is a "Note" section with the text: "Emergency calls should always be built up with ISDN or Analog Trunk for safety reasons. Please make sure that all special call numbers are supported by the selected provider without fail." Below the note is a table with three columns: "Special phone number", "Dialed digits", and "Dial over Provider". The table has seven rows, numbered 1 to 7. Row 1 has "9C911" in the "Dialed digits" column and "BroadCloud USA" in the "Dial over Provider" column. Rows 2 through 7 have empty "Dialed digits" columns and "ISDN" in the "Dial over Provider" column. At the bottom of the dialog are four buttons: "Help", "Abort", "Back", and "OK & Next".

Special phone number	Dialed digits	Dial over Provider
1	9C911	BroadCloud USA
2		ISDN
3		ISDN
4		ISDN
5		ISDN
6		ISDN
7		ISDN

Click [OK & Next]

On next page status of ITSP is displayed.

The screenshot shows a dialog box titled "Status for the Internet Telephony Service Provider (ITSP)" with a green header bar. Below the header is a table with columns for "Provider", "Status", "User", and "Action". The table has one row with the following data: "BroadCloud USA", "Enabled", "8324583770", and "registered". There is a "Restart" button next to the "Provider" column and a "Diagnose" button next to the "Action" column. At the bottom of the dialog are four buttons: "Help", "Abort", "Back", and "Next".

Provider	Status	User	Action
BroadCloud USA	Enabled	8324583770	registered

Click [Next]

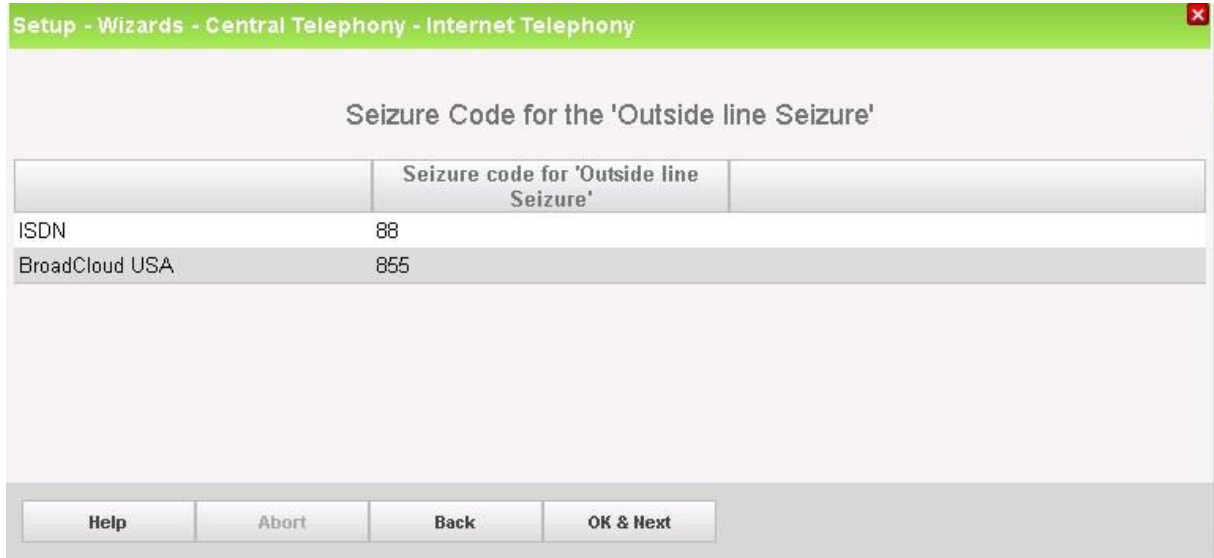
„Exchange Line Seizure“:

Select which trunk will access code 9. Enter the local area code without prefix digits (needed only when local area code was not entered in first step PBX number)

The screenshot shows a dialog box titled "Exchange Line Seizure" with a green header bar. Below the header is a section titled "Exchange Line Seizure" with a text input field for "Trunk Access Code" containing the value "9". Below this is a dropdown menu for "Dial over Provider" with "BroadCloud USA" selected. At the bottom of the dialog are four buttons: "Help", "Abort", "Back", and "OK & Next".

Click [OK & Next]

Overview with all configured „Outside line Seizure“ are displayed.



Click [OK & Next] and on the next page [Finish]

DID configuration

In the DID Section, the full DID will need to be entered without the country code.

All numbers shown in the BroadCloud **Trunk user DDI** can be used as DID and can be found on the BroadCloud Enterprise Portal under the SIP Trunking Page > Trunk Group > **Assigned** in the column **Phone Number**:

Search Available Users

Available

Filter

Name	Phone Number
<input type="checkbox"/> .4922116534606	+4922116534606
<input type="checkbox"/> .4922116534607	+4922116534607
<input type="checkbox"/> .4922116534608	+4922116534608
<input type="checkbox"/> .4922116534609	+4922116534609
<input type="checkbox"/> .4922116534610	+4922116534610

Assigned

Filter

Name	Phone Number	Station Type
		<input type="radio"/> Basic <input type="radio"/> Standard <input type="radio"/> Premium
<input type="checkbox"/> .4922116534615	+4922116534615	<input type="radio"/>
<input type="checkbox"/> .4922116534624	+4922116534624	<input type="radio"/>
<input type="checkbox"/> .4922116534616	+4922116534616	<input type="radio"/>

Expert mode - Telephony Server

Station

- Station
- IP Stations
- IP Clients**
- Analog Stations
- ISDN Stations
- DECT Stations
- IVMEVM Ports
- Virtual Stations
- UC Applications

IP Clients

Edit Subscriber

Device Info

Callno	DID	First Name	Last Name	Display	Type	Clp/Lin	Active	Fax Callno	Fax DID
114	8324583770	-	-	-	System Client	-	7799	8324583772	-
115	2612963799	-	-	-	System Client	-	-	-	-
116	8324583771	-	-	-	SIP Client	-	-	-	-
117	-	-	-	-	No Port	-	-	-	-

Additional manual Configuration

License

Add the “S2M/SIP Trunk” license to the SIP-Trunk

Home Administrators Setup Expert mode Data Backup License Management Service Center

The screenshot shows the 'License Management' section of the system. On the left, a navigation menu includes 'License Management', 'License information', 'Additional Products', 'OpenScape Personal Edition', 'Local User licenses', and 'CO Trunks'. The main area is titled 'CO Trunks' and contains the following information:

- CO Trunks:** The access to central office via PRI(S2m/T1) trunks or via Internet telephony is licensed by CO trunk licenses. Available licenses for SIP and PRI(S2m/T1) trunks: 32
- SIP trunks:** The configured number of simultaneous Internet calls for each Internet Telephony Service Provider is: 10. License number of simultaneous Internet calls in this node: 10. License demand for number of simultaneous Internet calls in this node: 10 (highlighted with a red box).
- PRI (S2M/T1):** A table with columns: Type, Slot, Port, Feature, Demands.

Route configuration (optional)

The route configuration will be created automatically. It should look like below.

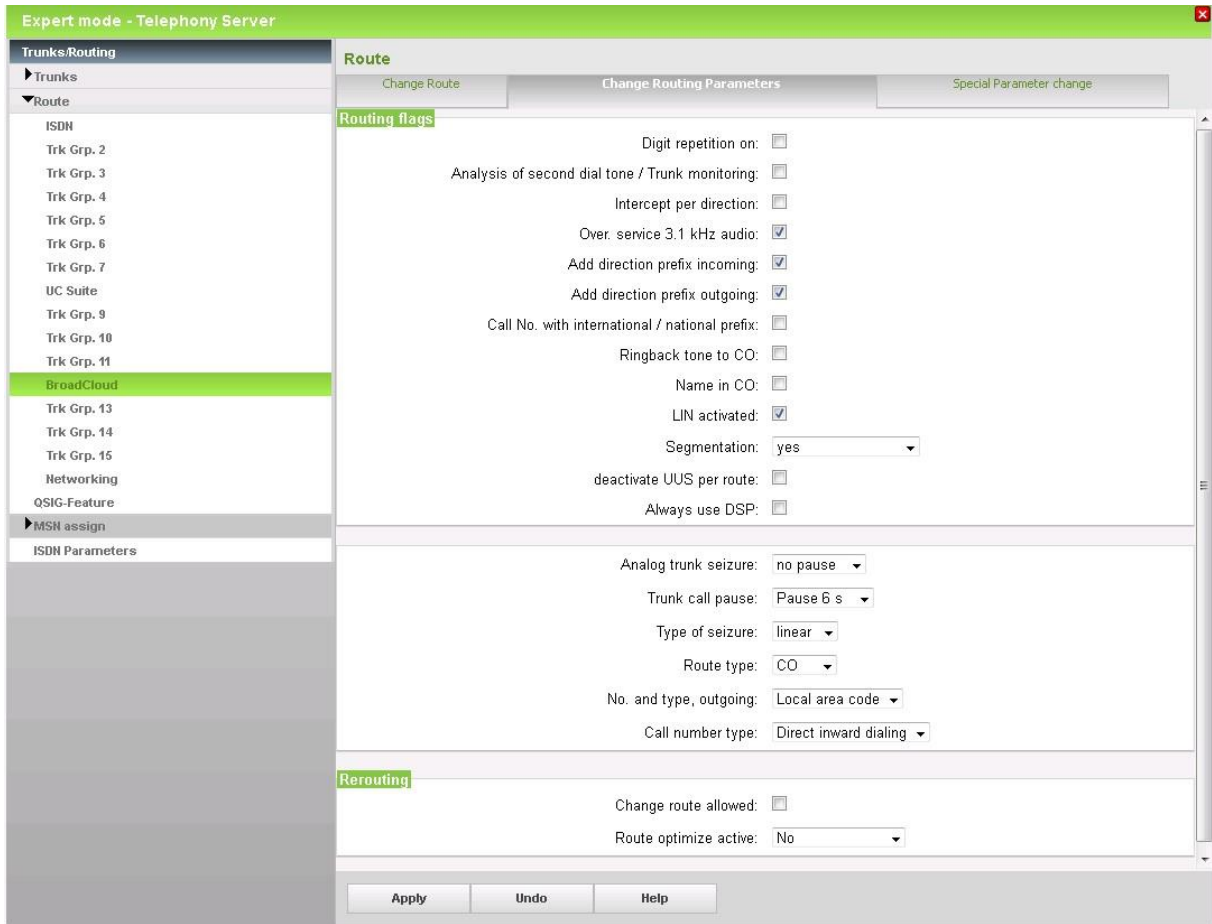
Best praxis is to enter the default Access Code in the field “Seizure code”, enter the Country code for the PABX number-incoming and select Location number.

The screenshot shows the 'Route' configuration window for 'BroadCloud'. The window title is 'Expert mode - Telephony Server'. The left sidebar shows a tree view with 'Route' selected. The main configuration area includes the following sections:

- Route:** Route Name: BroadCloud, Seizure code: 9 (highlighted with a red box), CO code (2nd trunk code):
- Gateway Location:** Country code: 1, Local area code:, PABX number:
- PABX number-incoming:** Country code: 1 (highlighted with a red box), Local area code:, PABX number:, Location number: (highlighted with a red box)
- PABX number-outgoing:** Country code:, Local area code:, PABX number:, Suppress station number:
- Overflow route:** Overflow route: None
- Digit transmission:** Digit transmission: en-bloc sending
- Mobile Extension Number (MEX):** MEX Number:

Buttons at the bottom: Apply, Undo, Help.

The route parameters:



LCR changes (optional)

In V2R2 all necessary LCR rule will be created automatically. It should look like below.

In expert mode , Telephony Server, LCR , - change the “Routing Table” in the way that **all Dial plans related to SIP (BroadCloud) route should follow the Routing Table 4.**

If not changed manually, the Routing table 4 uses the Dial Rule ‘SIP’ which by default has the Dial Rule format= ‘A’, Network Access=‘Main Network Supplier’ and Type=‘Unknown’ .

The dial rule manipulates the number so that the called party number is national for national/local calls and international for international calls.

Dial Plan	Name	Dialed digits	Routing Table	Acc. code	Classes of service	Emergency
1	Emergency call	9C911	4		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
3			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
4			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
5			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
6			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
7			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
8			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
9			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
10			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
11			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
12			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
13			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
14			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
15			1		<input checked="" type="checkbox"/>	<input type="checkbox"/>
16	Standard	9CNDXX-NXX-XXXX	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>
17	Standard	9C1-XX-NXX-XXXX	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>
18	Standard	9CD11-Z	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>
19	BroadCloud USA	855CNDXX-NXX-XXXX	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>
20	BroadCloud USA	855C1-XX-NXX-XXXX	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>
21	BroadCloud USA	855C011-Z	4		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Routing table 4:

Expert mode - Telephony Server

LCR

- LCR Flags
- Classes Of Service
- Dial Plan
- Routing table
 - 1 - Table
 - 2 - Table
 - 3 - Table
 - 4 - Table
 - 5 - Table

Routing Table

Change Routing Table

Routing Table: 4 en-bloc sending

Index	Dedicated Route	Route	Dial Rule	min. COS	Warning	Dedicated Gateway	GW Node ID
1	<input type="checkbox"/>	BroadCloud	SIP	15	None	No	
2	<input type="checkbox"/>	None	None	15	None	No	
3	<input type="checkbox"/>	None	None	15	None	No	

Dial rules:

Expert mode - Telephony Server

LCR

- LCR Flags
- Classes Of Service
- Dial Plan
- Routing table
- Dial rule**
- Multisite

Dial Rule

Change Dial Rule

	Rule Name	Dial rule format	Network access	Type
1	CO	A	Main network supplier	Unknown
2	SIP	A	Main network supplier	Unknown
3	SIP local	HE2A	Main network supplier	Unknown
4	MEB	E1A	Corporate Network	PABX number
5	IP-Network	A	Corporate Network	Unknown
6	Multi-Location	BA	Corporate Network	Unknown
7	Gateway call	E1A	Corporate Network	Unknown
8	COInternat	D1E3A	Main network supplier	Unknown

How to check the status of SIP connection with BroadCloud

“Status” provides information about the registration status of the ITSP. The ITSP registration can also be restarted here.



Known restrictions:

1. CLIP No Screening is not supported for outgoing calls. A phone cannot present a number which is not owned by the provider trunk.
2. COLP: Provider doesn't support Connected Line Identification Presentation
3. Special scenario in case of non-DID phone and forwarded attendant phone.
Description in detail: A non-DID Phone usually present the attendant DID for external calls. In case the attendant activates call-forwarding to an external destination and the non-DID phone is calling the attendant, the call will be rejected by the provider. Reason: The provider does not accept calls with the same FROM and DIVERSION number.

Appendix

Supported Features

1. The Provider use dynamic Registration
2. The Provider support codec G.711, G.729 and G.722. But it is not allowed to use G.722 only
3. Fax: T.38 is supported by the provider.
4. Diverted calls present the number of the caller:
In a transit call forwarding scenario the provider provides the number of the caller.
e.g. external A calls internal B. B is forwarded to external C. C get the number information of A
5. MultiSite Scenarios is supported: The Provider is able to provided numbers in different Areas in the same country at the same sip-trunk.
6. DTMF: RFC2833 out-of-band is supported

Supported Numbering Formats

US Provider

Outgoing call

Called Party (REQUEST, TO):

National: 9193789301@<SP FQDN>

National with prefix: 19193789301@<SP FQDN>

International with prefix: 011498944234199905@<SP FQDN> Calling

Party (FROM, PAI, Diversion):

National: 8324583770@<SP FQDN>

Incoming call

Called Party (REQUEST, TO):

National: 9193789301@<SP FQDN>

International with prefix: +49894423410@<SP FQDN> Calling

Party (FROM):

National: 8324583770@<SP FQDN>