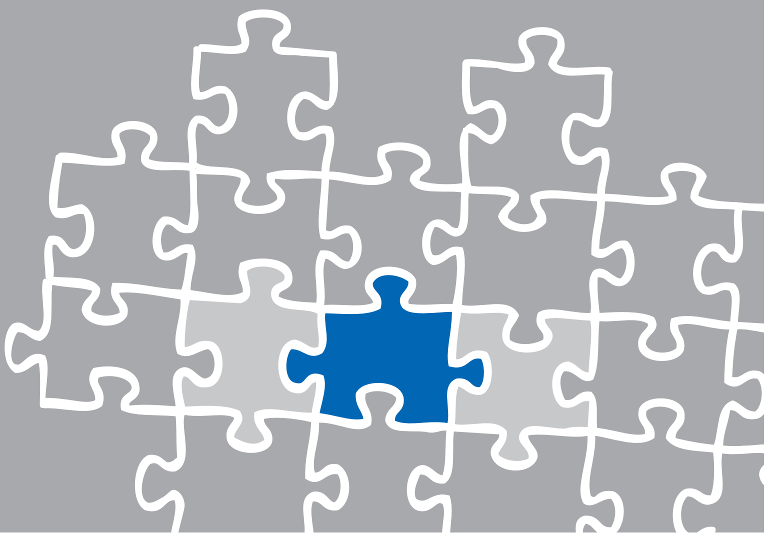
TechNote

Unify OpenScape Business V1

September 26, 2014

XCAPI
voiceoverIP



www.te-systems.de

TE-SYSTEMS
competence in e-communications.

Introduction

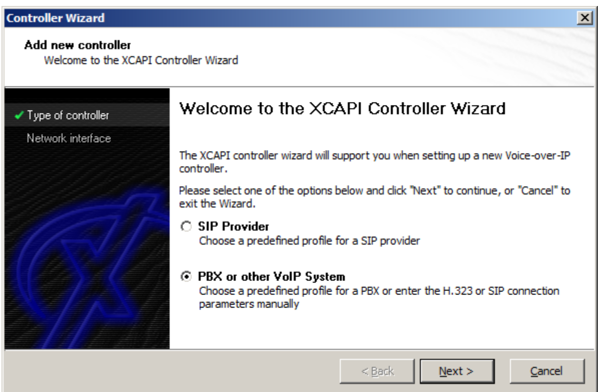
This document is intended to support you with the integration of the XCAPI, Version 3.5.0, into an existing environment of the Unify OpenScape Business series. The configurations and screenshots are here based on Unify OpenScape Business version osbiz_v1_R3.1.0_470. In the following sections we describe the essential steps of configuration to allow for optimal cooperation of both the XCAPI and the Unify OpenScape Business. At this point we suppose that the Unify OpenScape Business, the hardware the XCAPI is running on and both the XCAPI and your CAPI applications are already installed properly. For some extended information on installation procedures please refer to the respective manuals.

For XCAPI a quick starter guide (**XCAPI TechNote (en) - Quick Start Guide.pdf**) is available within our community download section at http://www.xcapi.de.

XCAPI Configuration

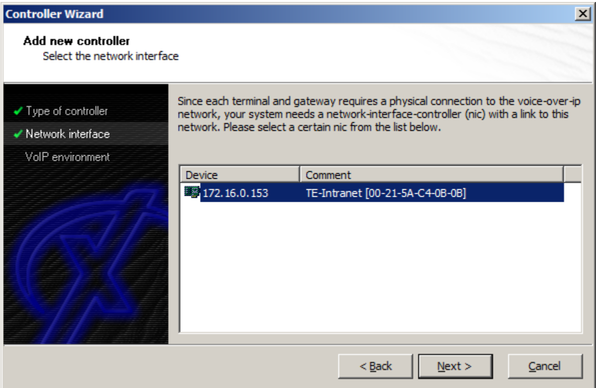
Please start up the XCAPI configuration to create a new controller assigned to the Unify OpenScape Business.

On the first dialog of the Controller Wizard please select the **Add Voice-over-IP controller (VoIP)** option.



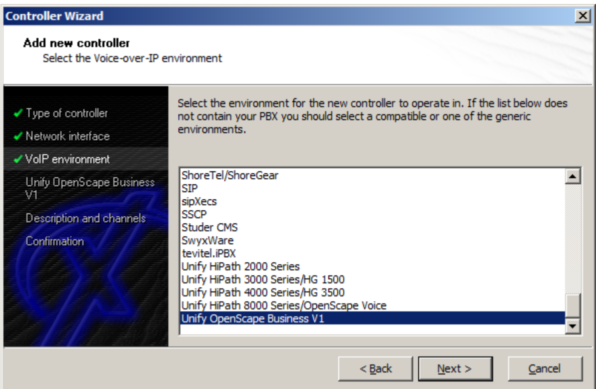
2.1 Network Interface

In the wizards **Network interface** dialog the Ethernet interface used by the XCAPI controller has to be determined.



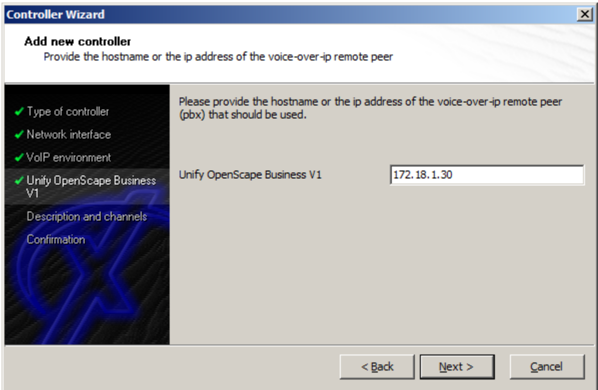
2.2 Voice-over-IP Environment

The next dialog of the configuration tool shows a list of some common Voice-over-IP environments. Selecting one of those will configure the XCAPI with a selection of near-optimal presets for the kind of environment you have, sparing you quite a lot of manual configuration. Please select **Unify OpenScape Business**, selectable from XCAPI version 3.5.0.



2.3 IP Address of the Gateway

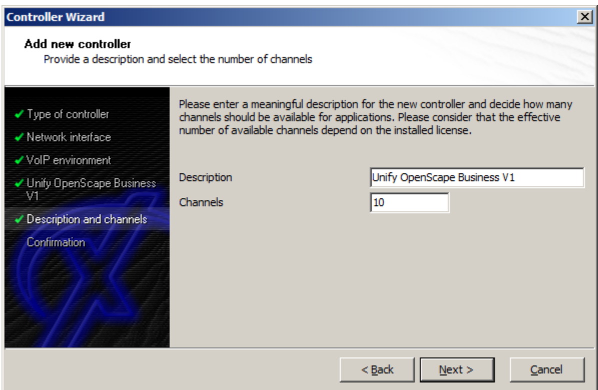
Next, please provide the Unify gateway related Ethernet IP address, in this example **172.18.1.30**



2.4 Description and Channels

That's about all information that has to be configured with the XCAPI. The next-to-final dialog of the Controller Wizard allows you to configure a meaningful description for the controller you're going to create.

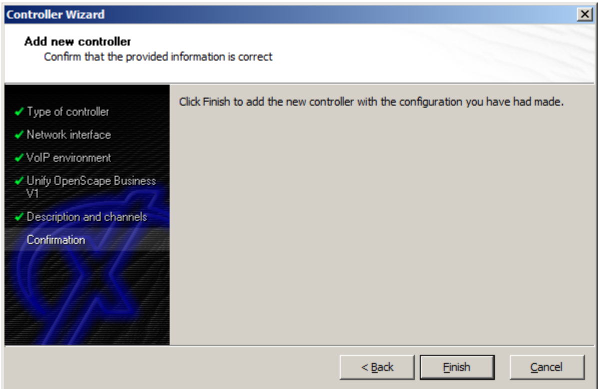
This dialog, however, also allows configuring the number of channels that the new controller will be able to provide. Please enter how many simultaneous connections the XCAPI should handle when communicating with the Unify OpenScape Business.



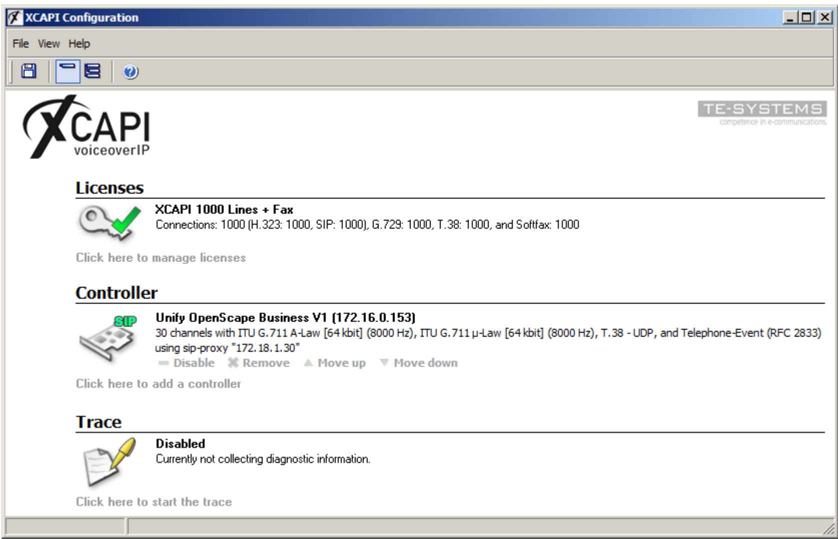
2.5 Confirmation

The final dialog of the Controller Wizard performs some checks on the configuration parameters you've made. If any errors are detected here, you can go back to the respective dialogs and correct the necessary input.

If everything is correct please use the **Finish** button in order to finally create the new controller.



The controller you've just created now will appear on the main page of the XCAPI configuration. As we're now finished with all XCAPI-related configuration tasks, please save the changes you've made and exit the configuration tool.



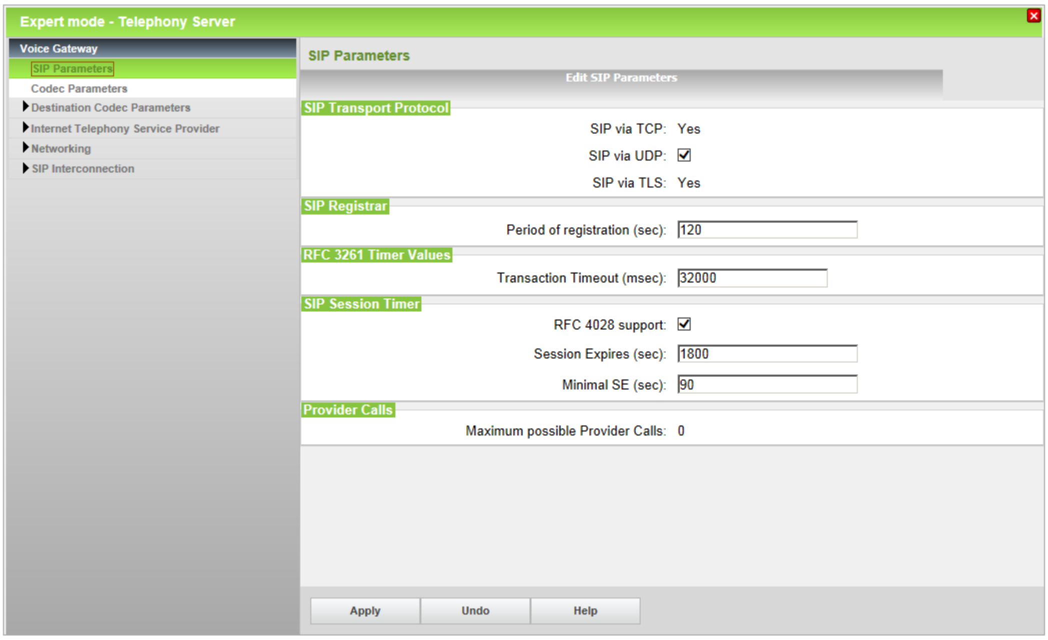
You need to restart the bound CAPI applications, in meaning of its service, to take effect on any controller changes.

Unify OpenScape Business Configuration

In order to establish a connection between the XCAPI and the Unify OpenScape Business gateway, you need to setup the XCAPI as **native SIP Server Trunk** with all its appropriate configurations.

3.1 SIP Parameters

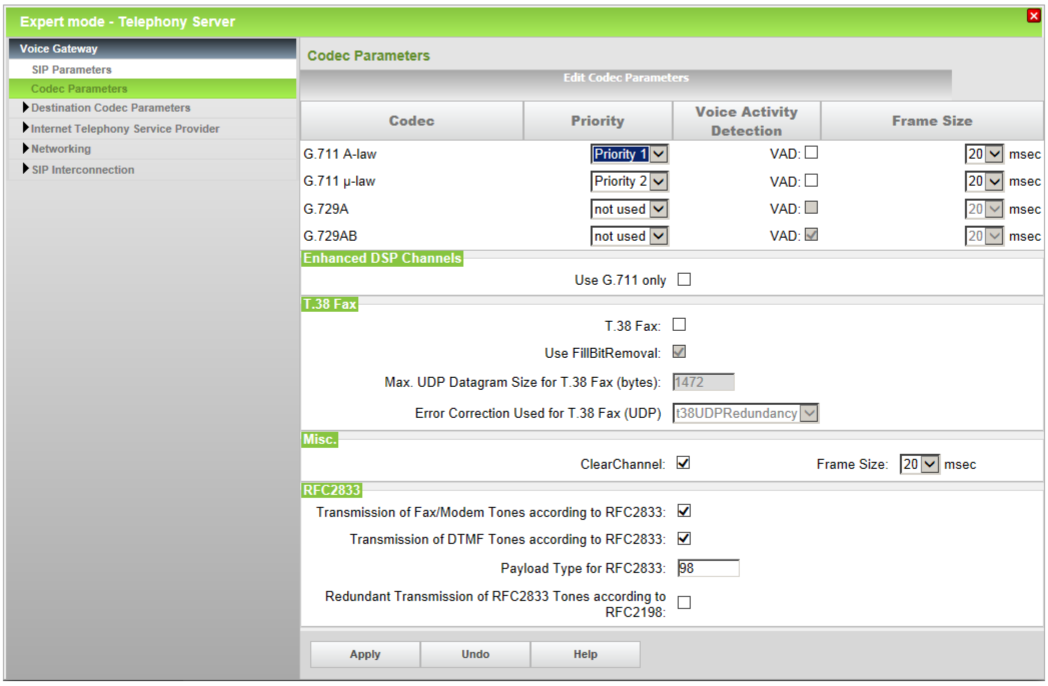
The SIP parameters are used with their default values.



3.2 Codec Parameters

Ensure that the codec settings are conforming to those of the XCAPI controller configuration. Please review the codec-related chapters **DTMF**, on page 19, and **Fax Services** starting on page 16.

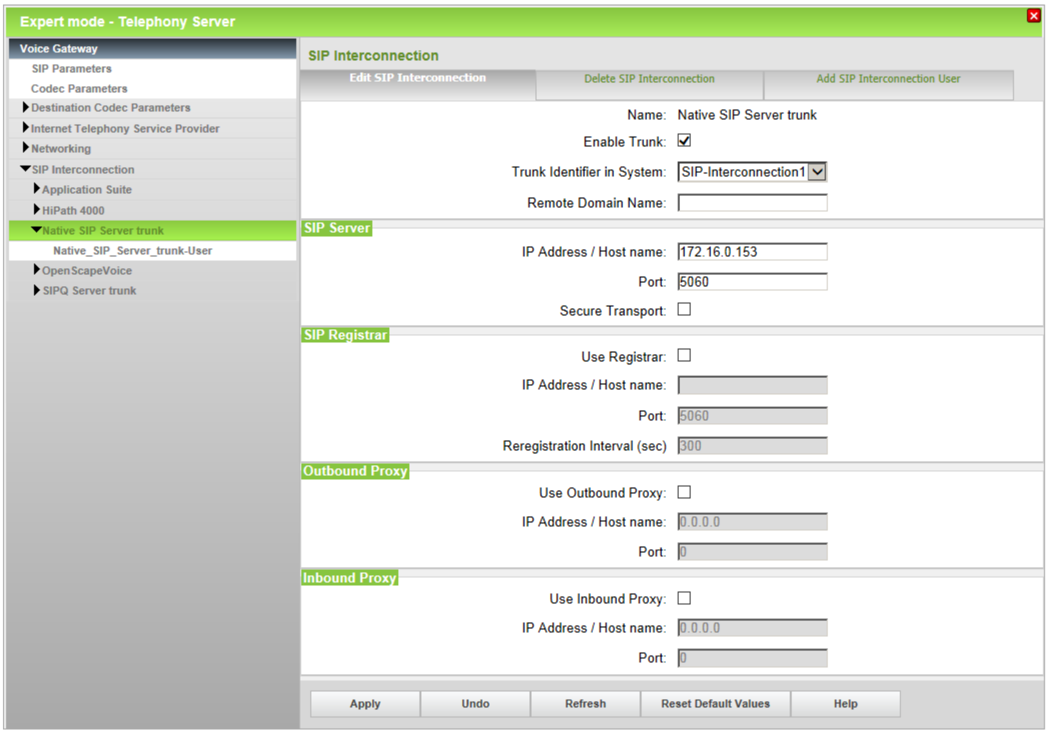
The parameter **Redundant Transmission of RFC2833 Tones according to RFC2198** must be disabled.



Please note that the **Transmission of Fax/Modem Tones according to RFC2833** parameter has to be enabled for facsimile interoperability.

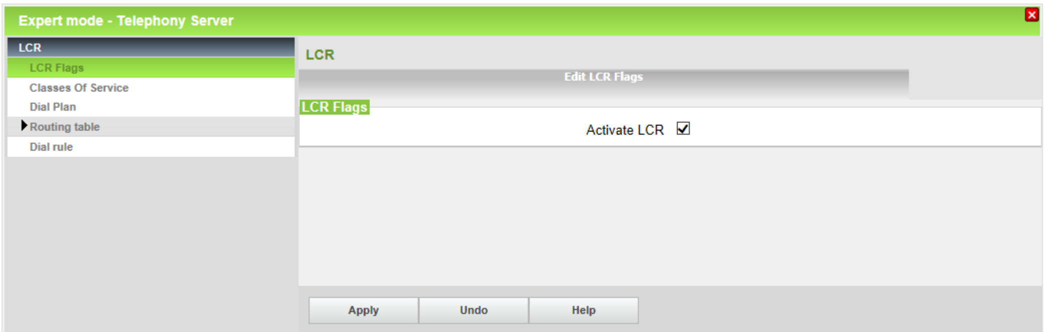
3.3 SIP Interconnection

The **IP Address / Host name** has also to be related the XCAPI controllers bound Ethernet interface and the controllers used local listening port for SIP (by default 5060). Ensure that this **Native SIP Server Trunk** is enabled and the according **Trunk Identifier in System** is selected up on requirements (IP Trunks and Route relations).



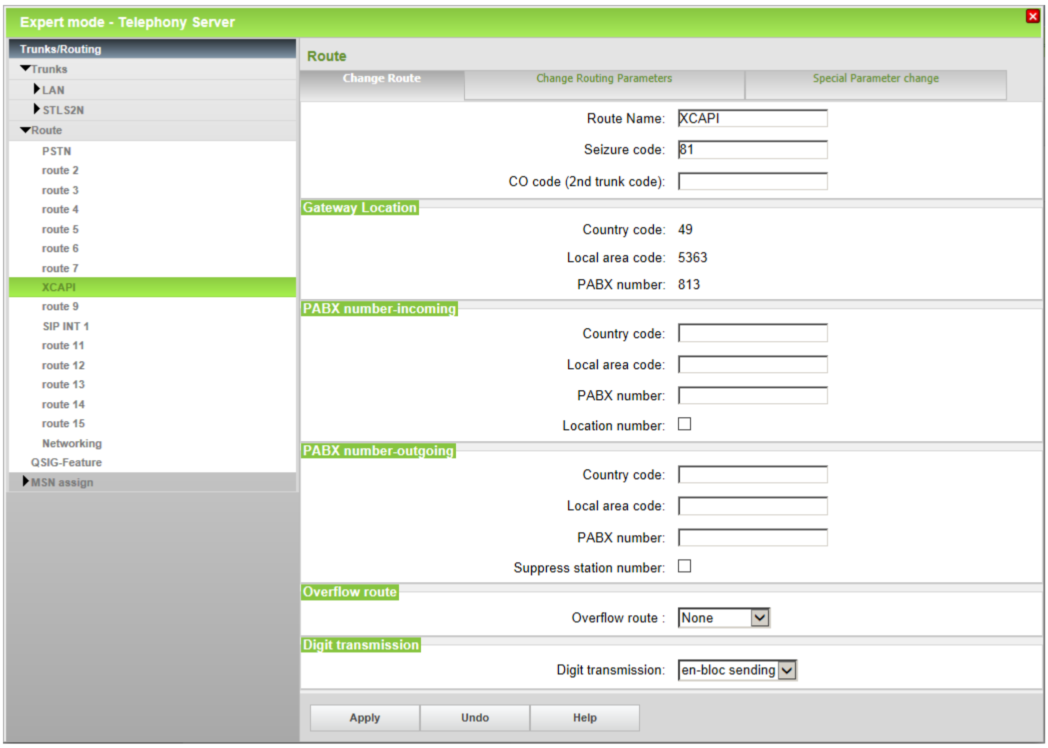
3.4 LCR

This environment make use of the **LCR** (Automatic Least Cost Routing).



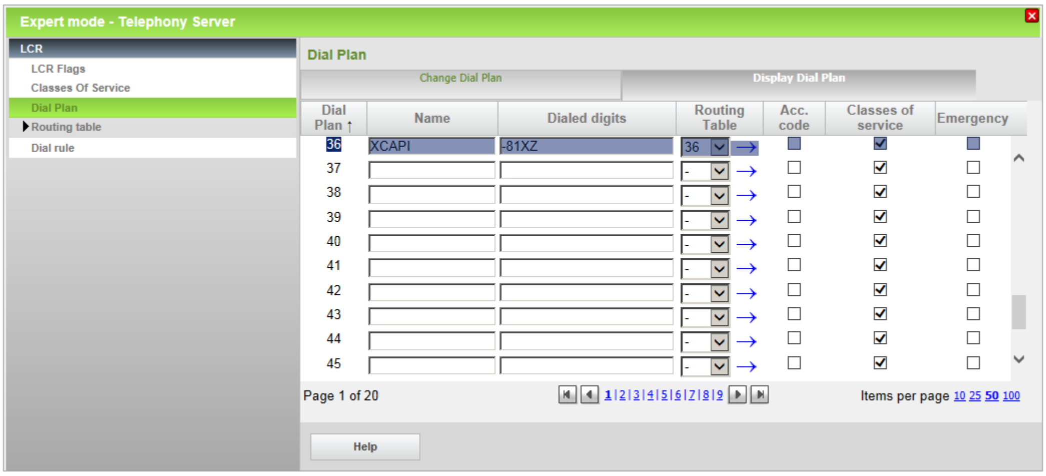
3.5 Routes

The XCAPI route is used as shown below. If required one of the non-reserved routes should be used. Of course the local VoIP environment needs additional custom configurations and adjustments for a closed or open numbering scheme. The same goes for the **Routing Parameters**, **Special Parameters** and **Dial Plan** configurations.



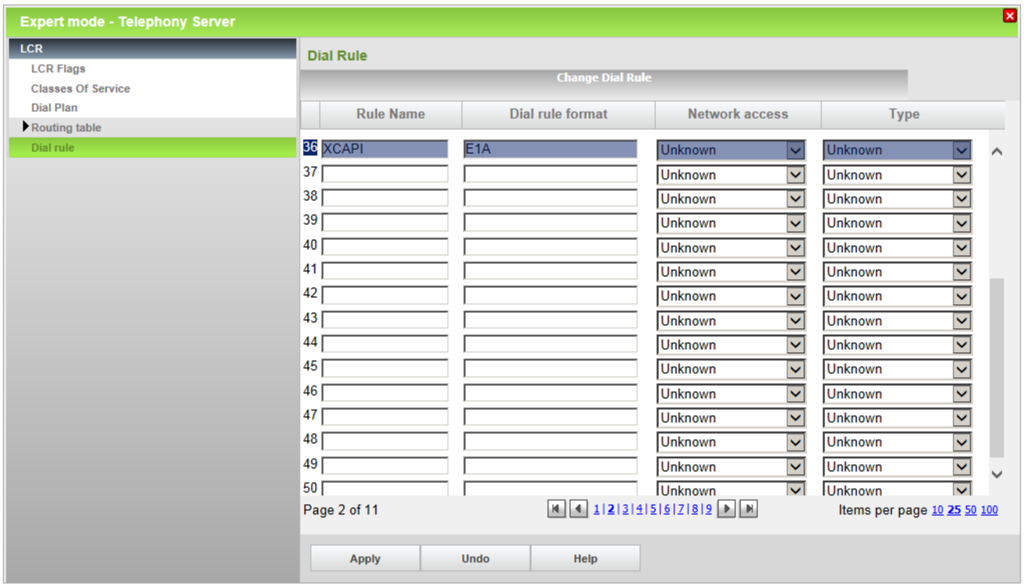
3.6 Dial Plan

The according dial plan configuration for the XCAPI is here used with dialed digits **-81XZ** and related to the **Routing Table** number **36**.



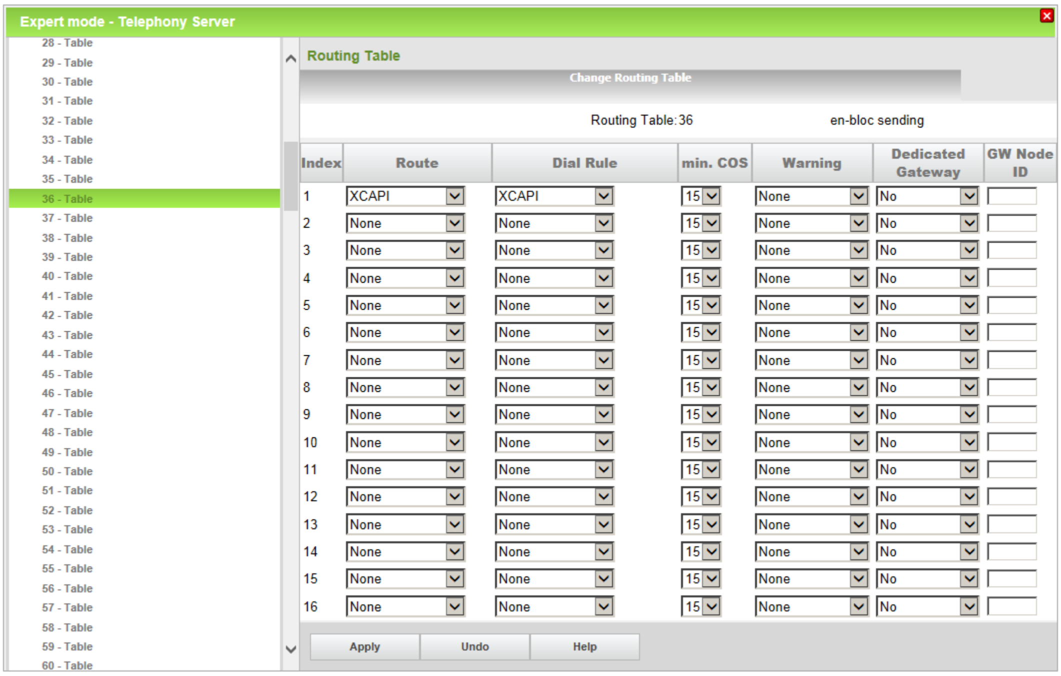
3.7 Dial Rule

The XCAPI related **Dial Rule** entry is here used as shown next.



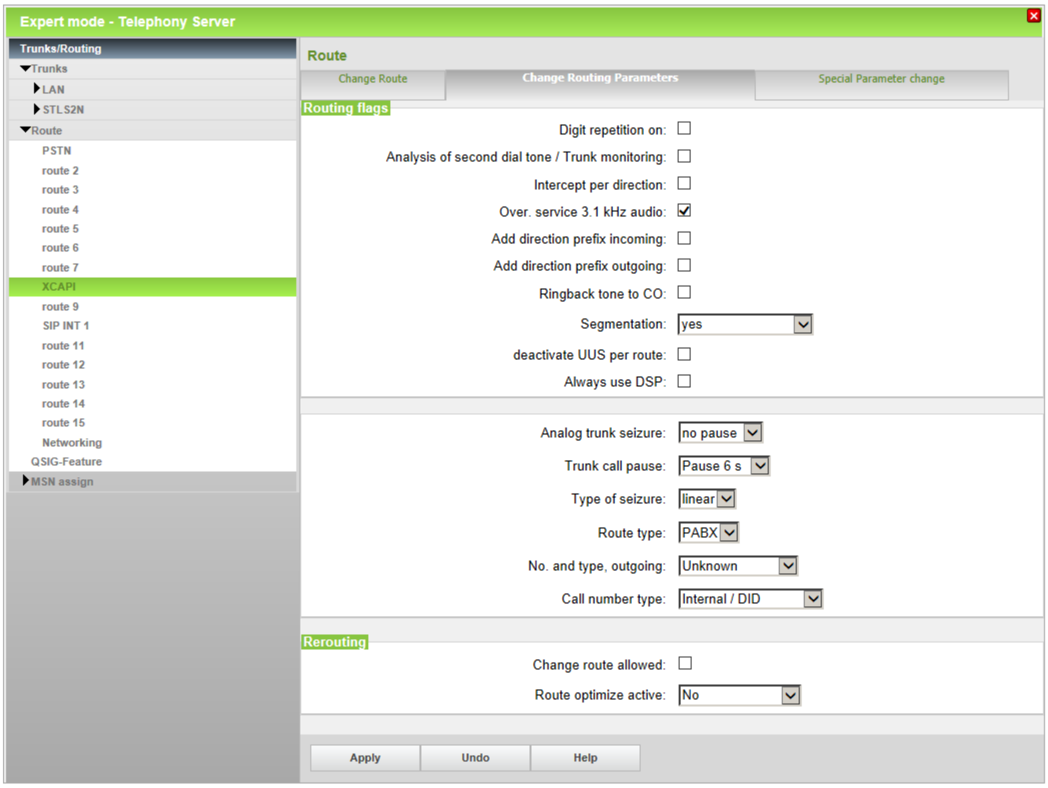
3.8 Routing Table

The XCAPI's **Routing Table** is here set to its own **Route** and **Dial Plan** definitions. Additional configurations for **COS, Warning, Dedicated Gateway** and the **GW Node ID** must be set on demand.

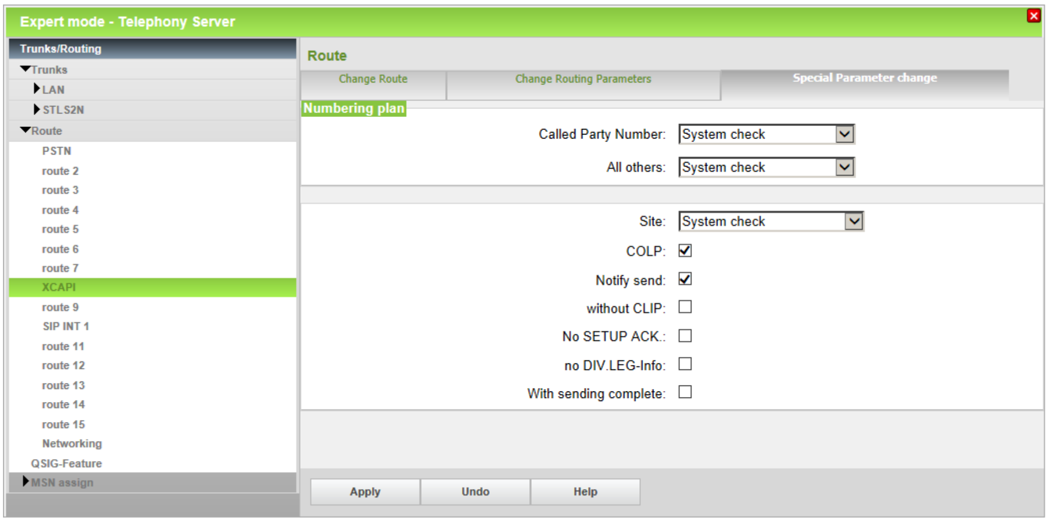


3.9 Routing Parameters

The **Routing** and **Special Parameters** are used as shown next.

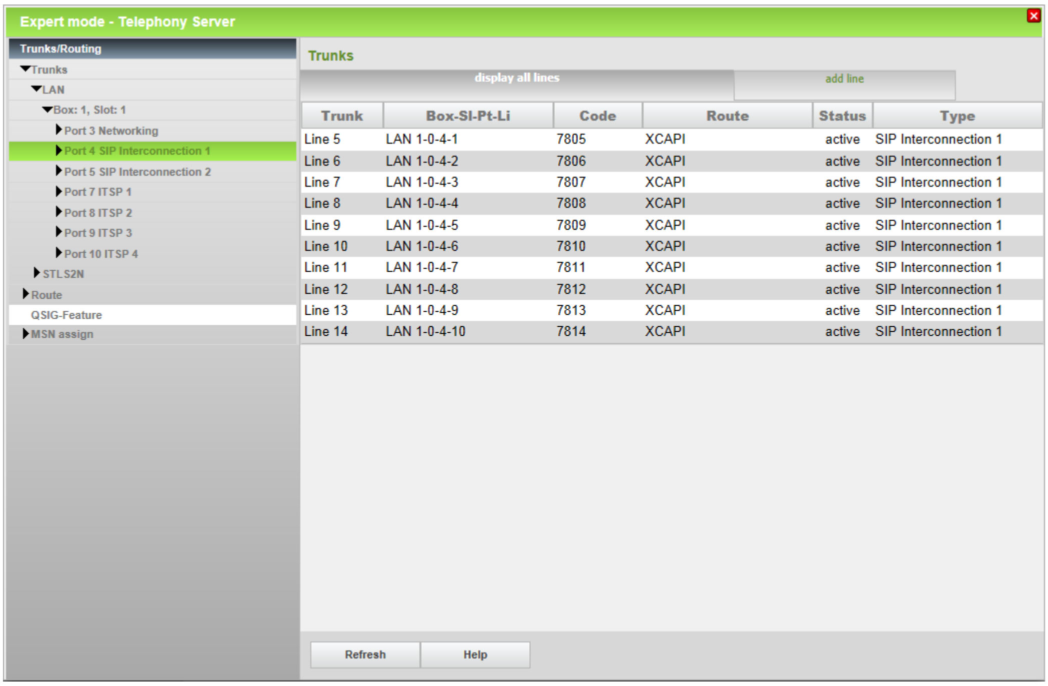


Those **Special Parameters** are used with their defaults.



3.10 IP Trunks

Don't forget to add the IP trunks which will be related to the XCAPI route, as shown in the next chapter **Trunks**. The declared XCAPI route needs to be assigned to each added trunk line.

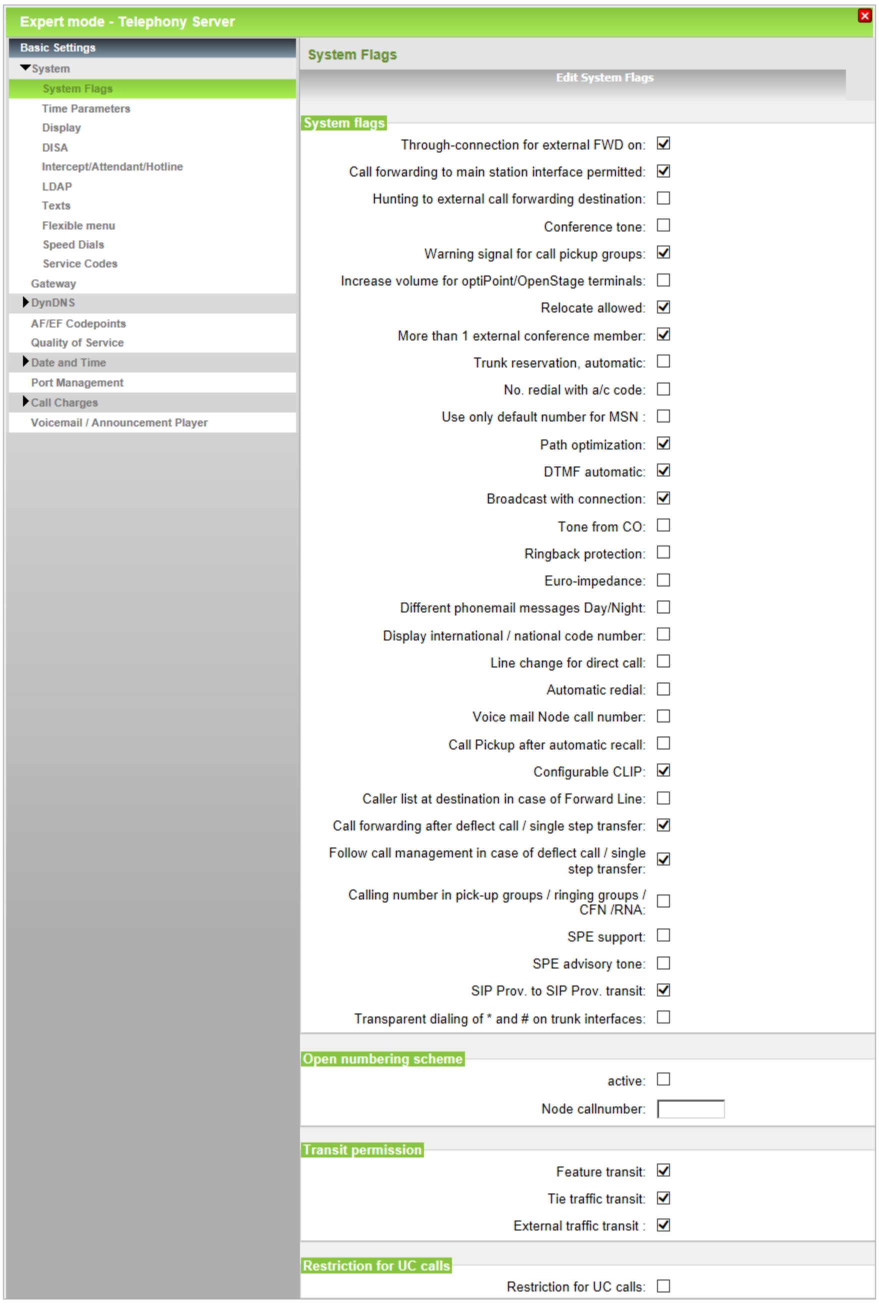


Trunk	Box-SI-Pt-Li	Code	Route	Status	Type
Line 5	LAN 1-0-4-1	7805	XCAPI	active	SIP Interconnection 1
Line 6	LAN 1-0-4-2	7806	XCAPI	active	SIP Interconnection 1
Line 7	LAN 1-0-4-3	7807	XCAPI	active	SIP Interconnection 1
Line 8	LAN 1-0-4-4	7808	XCAPI	active	SIP Interconnection 1
Line 9	LAN 1-0-4-5	7809	XCAPI	active	SIP Interconnection 1
Line 10	LAN 1-0-4-6	7810	XCAPI	active	SIP Interconnection 1
Line 11	LAN 1-0-4-7	7811	XCAPI	active	SIP Interconnection 1
Line 12	LAN 1-0-4-8	7812	XCAPI	active	SIP Interconnection 1
Line 13	LAN 1-0-4-9	7813	XCAPI	active	SIP Interconnection 1
Line 14	LAN 1-0-4-10	7814	XCAPI	active	SIP Interconnection 1

Please note that enabling a newly created SIP trunk requires a gateway reboot.

3.11 System Parameter Flags

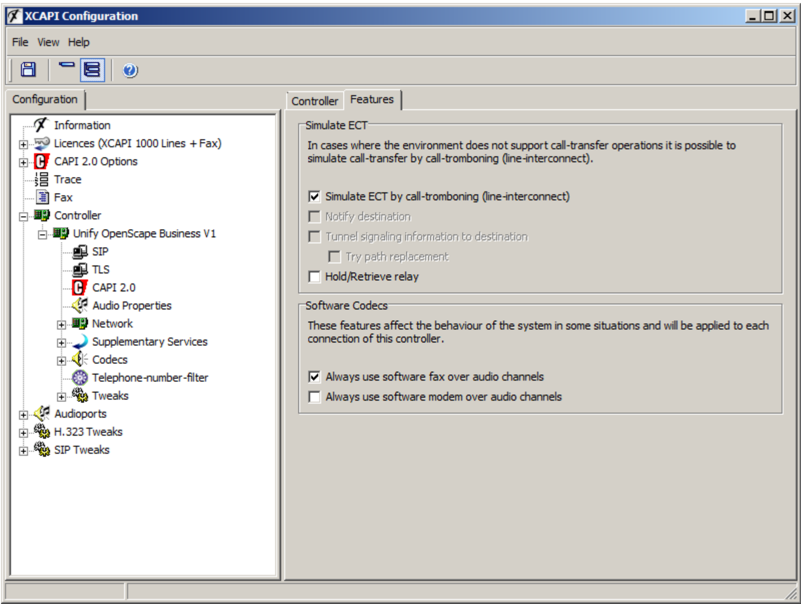
If required, some specific flags such as the **External traffic transit** or the **SIP Prov. to SIP Prov. transit** flag, must be enabled.



Call Transfer

The Unify OpenScape Business series does not support call transfer scenarios via SIP refer yet.

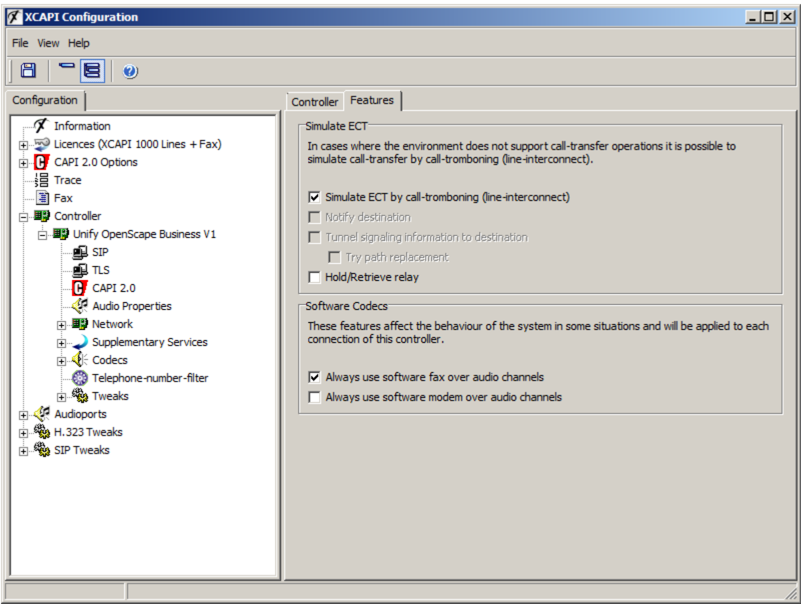
For enabling **Call Transfer** this service can be simulated by the XCAPI. Whenever the CAPI application initiates a call transfer between two active participants, the XCAPI starts triggering the call transfer simulation. During this simulation two b-channels are occupied, but from application side the calls are released such as in a real call transfer scenario. Please review the **Features** tab of the respective XCAPI controller and ensure that the **Simulate ECT by call-tromboning (line-interconnect)** parameter is enabled.



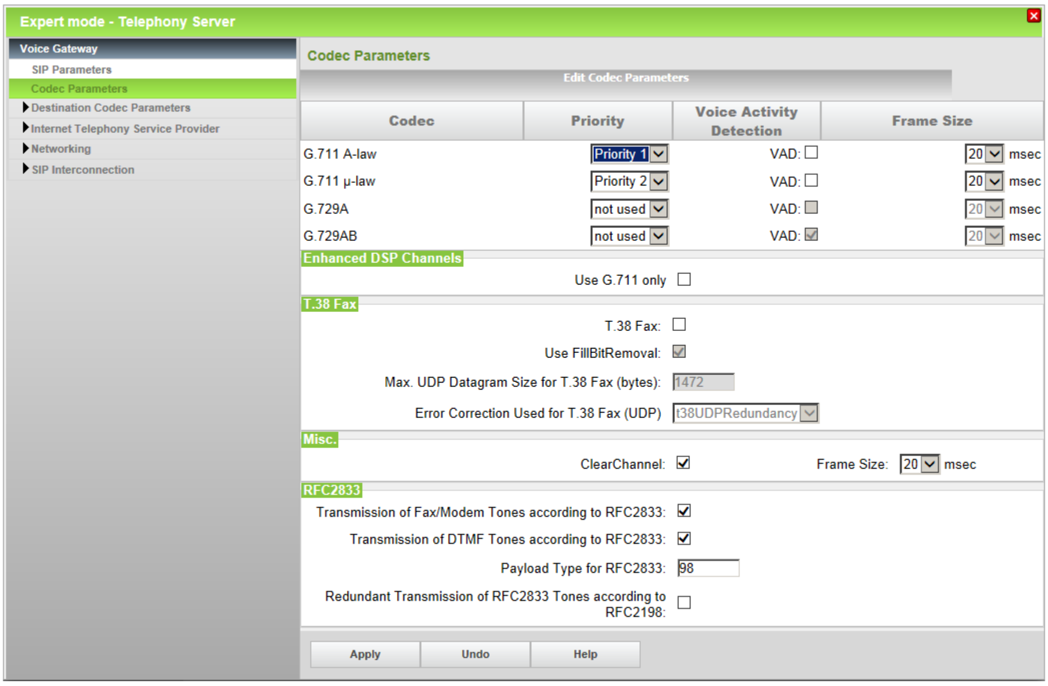
SoftFax

In the **SoftFax** mode, the XCAPI simulates an analog Fax device by transmitting modulated facsimile signals modem-like via audio channels. To configure the SoftFax mode, please open the XCAPI configuration utility and select in the advanced configuration mode the SIP controller assigned to the Unify OpenScape Business.

Open the configuration tab labeled **Features**. Enable the **SoftFax** mode by setting the **Always use software fax over audio channels option** and save the changes to the XCAPI controller configuration.



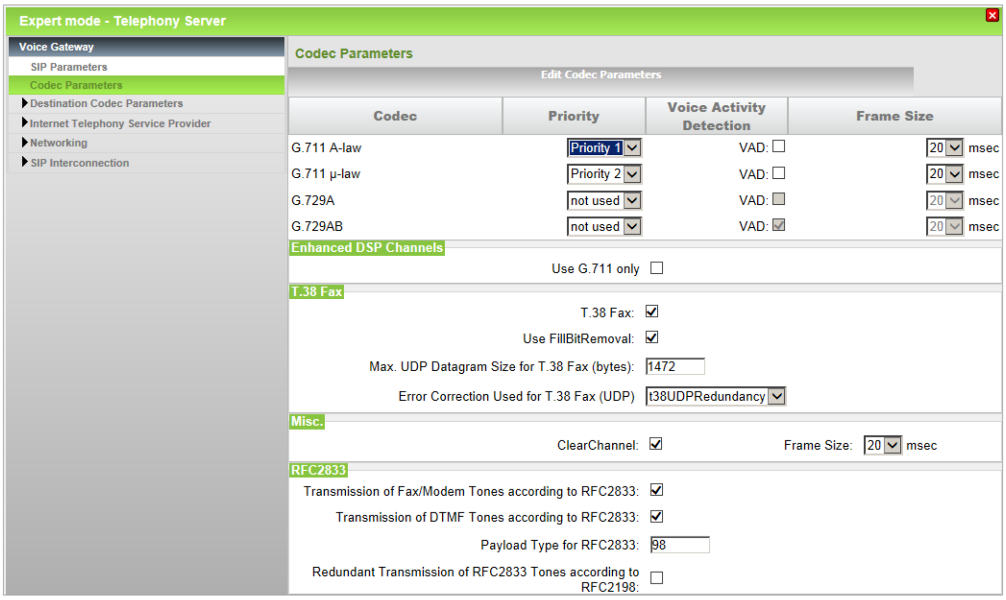
The Routing parameters, described already in chapter **PBX Routing** on page 7, are the same as for voice transmission. The configuration flags of the **Codec Parameter** dialog should be set as follows:



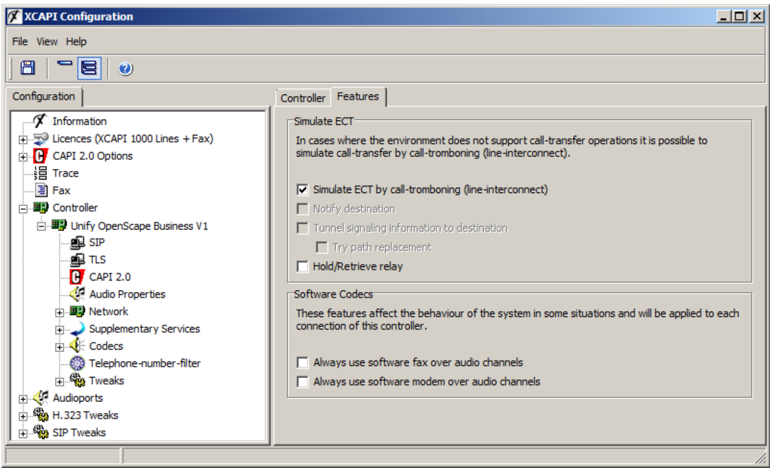
For SoftFax please ensure that **T.38 Fax is disabled** for appropriate interworking. Further the option **Transmission of Fax/Modem Tones according to RFC2833** is enabled and **Redundant Transmission of RFC2833 Tones according to RFC2198** is disabled.

T.38

When using the T.38 protocol you have to enable the **T.38 Fax** option within the **Codec Parameters** dialog of the **Voice Gateway**.



You also need to disable the option **Always use software fax over audio channels** within the XCAPI controllers **Features** dialog.

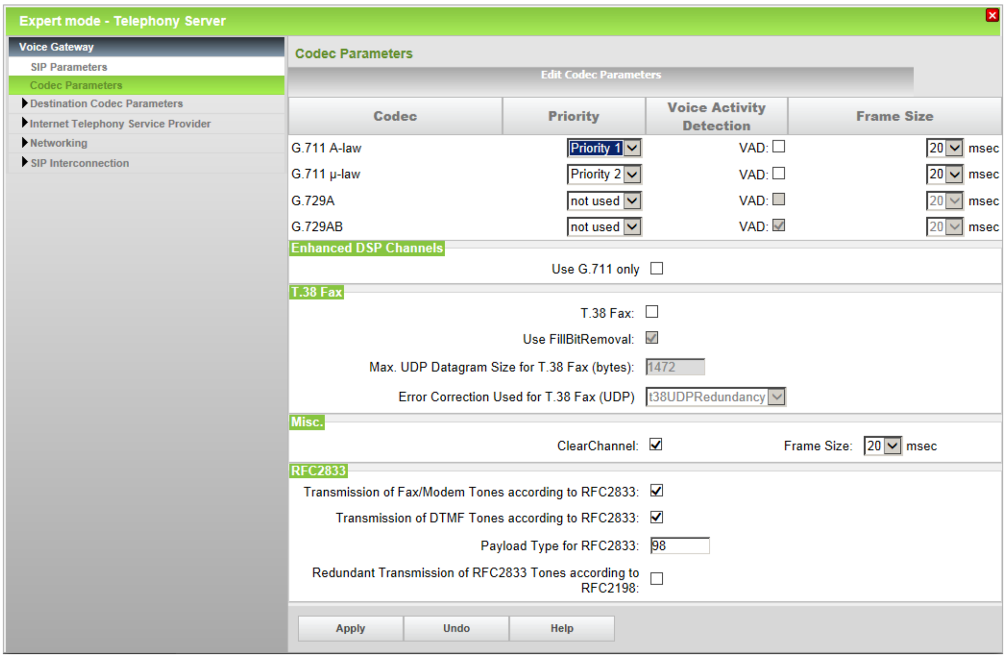


Please note that the amount of T.38 fax channels are limited by the gateway.

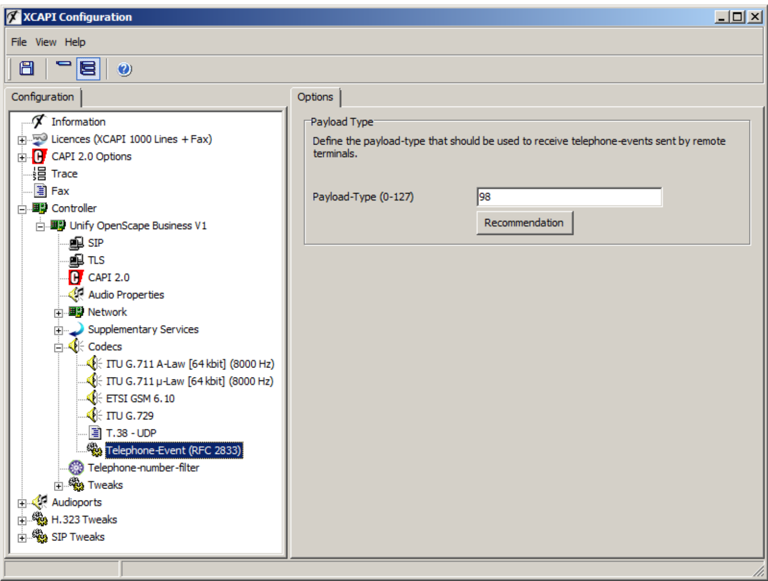
DTMF

The Parameter **Transmission of DTMF Tones according to RFC2833** must be enabled.

The value for the **Payload Type for RFC2833** must be equivalent to the XCAPI controller settings.



Please review the according codec within the XCAPI controller configuration.



Exclusion of Liability

Copyright © 2014 TE-SYSTEMS GmbH

The information contained in this document was correct at the time of writing. TE-SYSTEMS GmbH reserves the right to make any alterations without prior notice.

The utmost care was applied during the compilation of texts and images, as well as during the creation of the software. Nevertheless, no responsibility can be taken for the content being accurate, up to date or complete, nor for the efficient or error-free operation of the software for a particular purpose. Therefore, TE-SYSTEMS GmbH cannot be held liable for any damages resulting directly or indirectly from the use of this document.

Trademarks

All names of products or services used are trademarks or registered trademarks (also without specified indication) of the respective private or legal persons and are therefore subject to legal regulations.

Third Party Disclaimer and Limitations

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/)

This product includes cryptographic software written by Eric Young (eay@cryptsoft.com).

This product includes software written by Tim Hudson (tjh@cryptsoft.com).

This product includes source code derived from the RSA Data Security, Inc. MD2, MD4 and MD5 Message Digest Algorithms.

This product includes source code derived from the RFC 4634 Secure Hash Algorithm software.

Copyright-Notices

All files included in this sample are copyrighted by TE-SYSTEMS GmbH.

All samples and the SDK may only be used in combination with the XCAPI-product.

The SDK contains code from libtiff with the following copyright-notice:

TE-SYSTEMS GmbH

Managing Directors Andreas Geiger
Oliver Körber

Address Max-von-Laue-Weg 19
D-38448 Wolfsburg
Germany

Tel. +49 5363 8195-0
Fax +49 5363 8195-999

E-Mail info@te-systems.de
Internet www.te-systems.de
www.xcapi.de