TechNote

Unify OpenScape Business V2

April 24, 2017

XCAPI voiceoverIP

Introduction

This document is intended to support engineers with the integration of the latest XCAPI version into an existing Unify OpenScape Business environment.
Though being based on the Unify OpenScape Business using firmware R2.1 and XCAPI version 3.6, this document is also almost applicable to other versions with a few adjustments.

The following pages give essential information to allow optimal interworking of both, the Unify OpenScape Business and XCAPI. At this point we suppose that the Unify OpenScape Business environment, the hardware and the operating system where XCAPI and the CAPI 2.0 application is running on, are properly installed and accessible through the IP network.

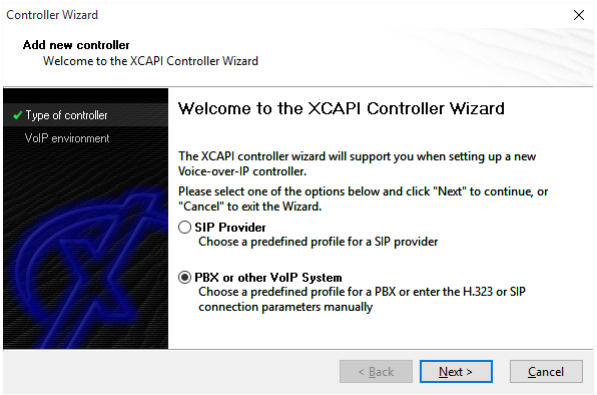
Additional XCAPI information and documents, for e.g. installation procedures, License on demand, Fax Transmission, Virtual Hardware ID, VMware Virtual Machines, can be found in the TechNote area within our community download section on XCAPI Website.

For detailed Unify OpenScape Business configuration procedures, please refer to the respective manufacturer documentations and manuals within the Unify customer support portal.

XCAPI Configuration

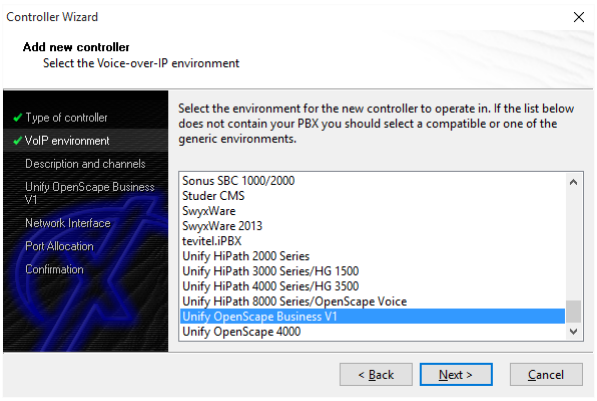
Please start up the XCAPI configuration to create a new controller assigned to the Unify OpenScape Business.

On the first dialog of the XCAPI **Controller Wizard**, select **PBX or other VoIP System** and proceed with the **Next** button.



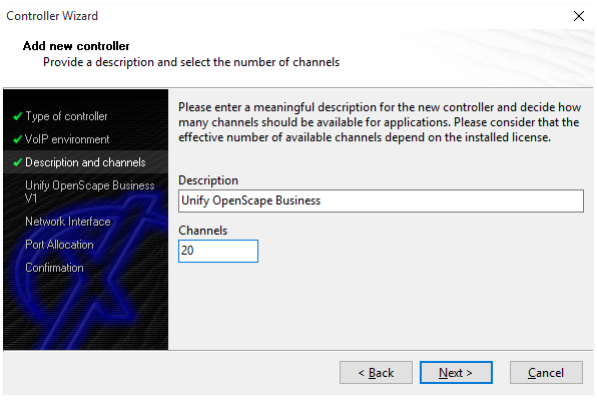
2.1 Voice over IP Environment

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 defaults for the kind of environment you have, saving you a lot of manual configurations. Please select the according **Unify OpenScape Business** entry, which is available from XCAPI version 3.5.0.



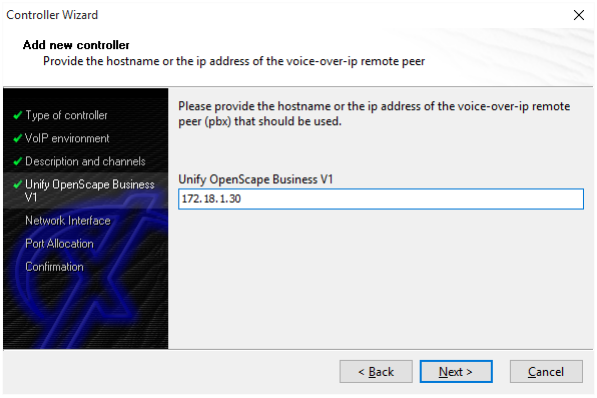
2.2 Description and Channels

This dialog allows to enter an appropriate controller name and set up the number of available and licensed channels. So please enter the amount of simultaneous channels XCAPI should provide when communicating with the Unify OpenScape Business and the CAPI 2.0 application.



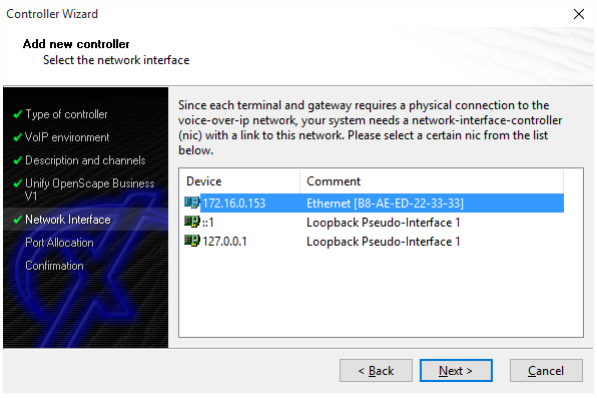
2.3 Gateway Address

Next, the host name or the IP address of the SIP listening Unify OpenScape Business Ethernet interface must be provided. In this example IP address **172.18.1.30** is used. Please note that both, the XCAPI controller and the Unify OpenScape Business, use by default the UDP port 5060 for SIP signaling.



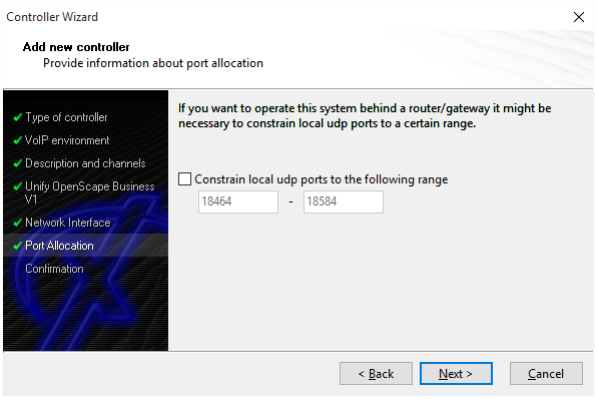
2.4 Network Interface

Select the required network interface that'll be used by the newly created XCAPI controller.



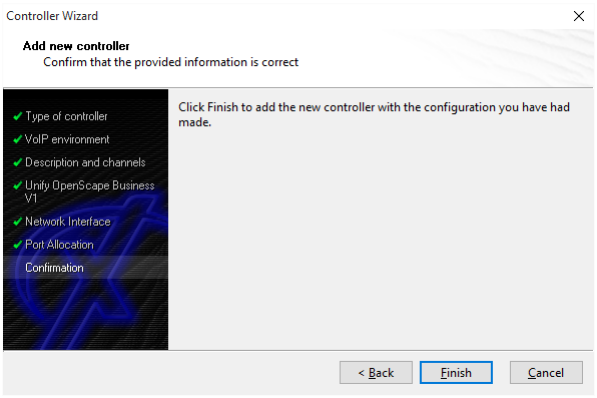
2.5 Port Allocation

On demand a UDP (RTP/T.38) port range can be specified. This port range will be used by the XCAPI controller towards the gateway.

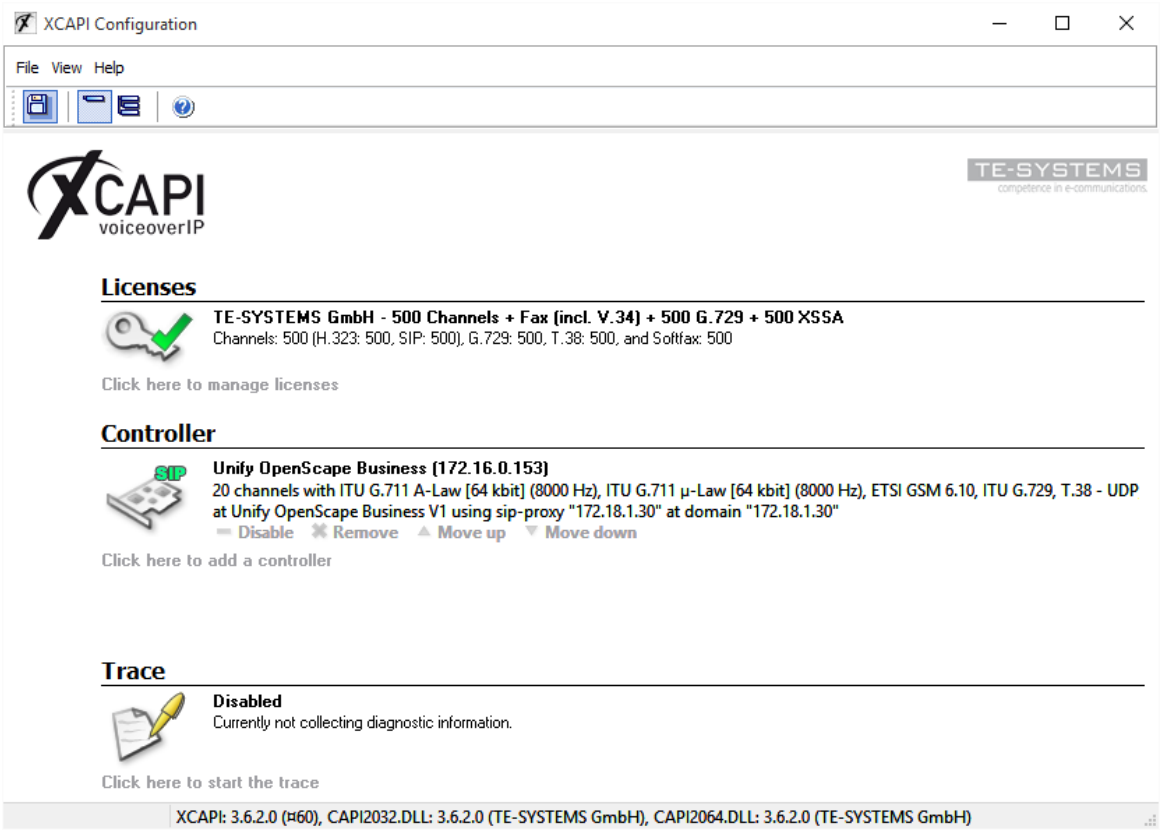


2.6 Confirmation

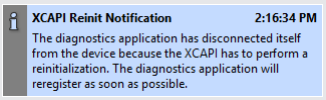
The final dialog of the controller wizard performs some checks on the configuration parameters you've made. When everything is correct, please use the **Finish** button in order to create the new controller.



The new controller is now listed on the main view and can be finally saved to the XCAPI configuration.



The bound CAPI 2.0 application with its services must always be restarted to take effect on the XCAPI controller changes. Restarting any of the XCAPI services won't help at all. If enabled, the XCAPI diagnostic monitor pop-up with the following message on success:



Unify OpenScape Business Configuration

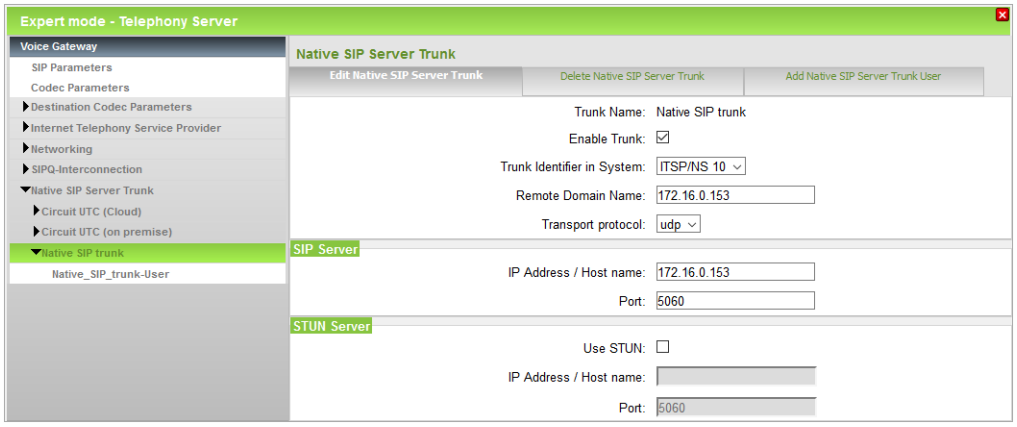
In order to establish a connection between XCAPI and the Unify OpenScape Business gateway, you need to setup the XCAPI as **native SIP Server Trunk** with all its appropriate configurations.

3.1 Native SIP Server Trunk

From Unify OpenScape Business V2 the XCAPI SIP trunk must be enabled as **Native SIP Trunk**.

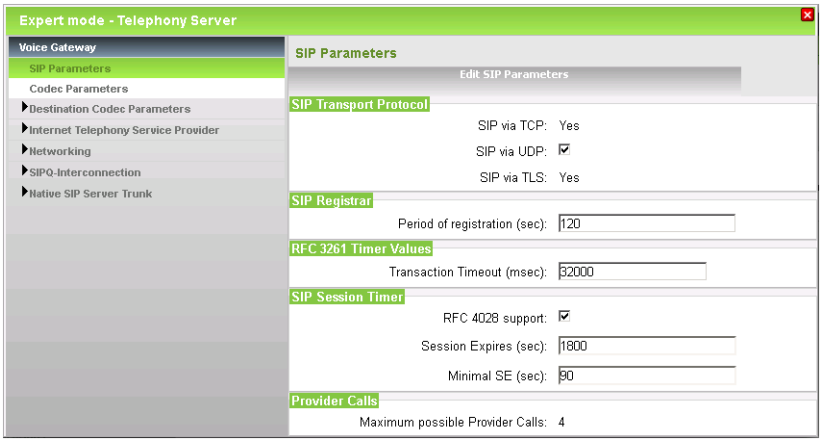
The **Remote Domain Name** and **IP Address / Host name** must be related to the bound Ethernet interface of the XCAPI controller, here **172.16.0.153**. The **Transport protocol** and **Port** is here used with the default **UDP** and **5060**.
Ensure that **Native SIP trunk** is enabled and related to the according **Trunk Identifier in System**, in this example as **ITSP/NS 10**.

Please note that Native SIP Trunking requires a Unify OpenScape Business **Networking** license.



3.2 SIP Parameters

The global SIP parameters are used with their default values.



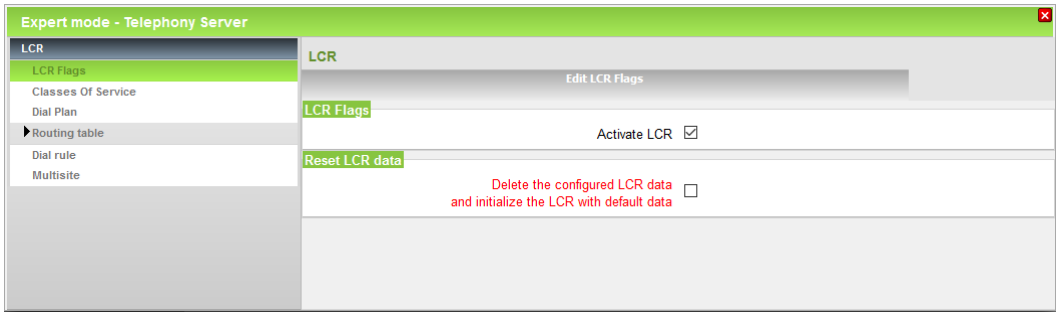
3.3 Codec Parameters

Ensure that the codec settings are set conform between the gateway and the XCAPI controller. For this, we recommend to review the codec related chapters for **Fax** (starting on page 15) and **DTMF** (from page 18).

Please note that **Transmission of Fax/Modem Tones according to RFC2833** has to be enabled for fax interoperability. **Redundant Transmission of RFC2833 Tones according to RFC2198** must be disabled.

3.4 LCR

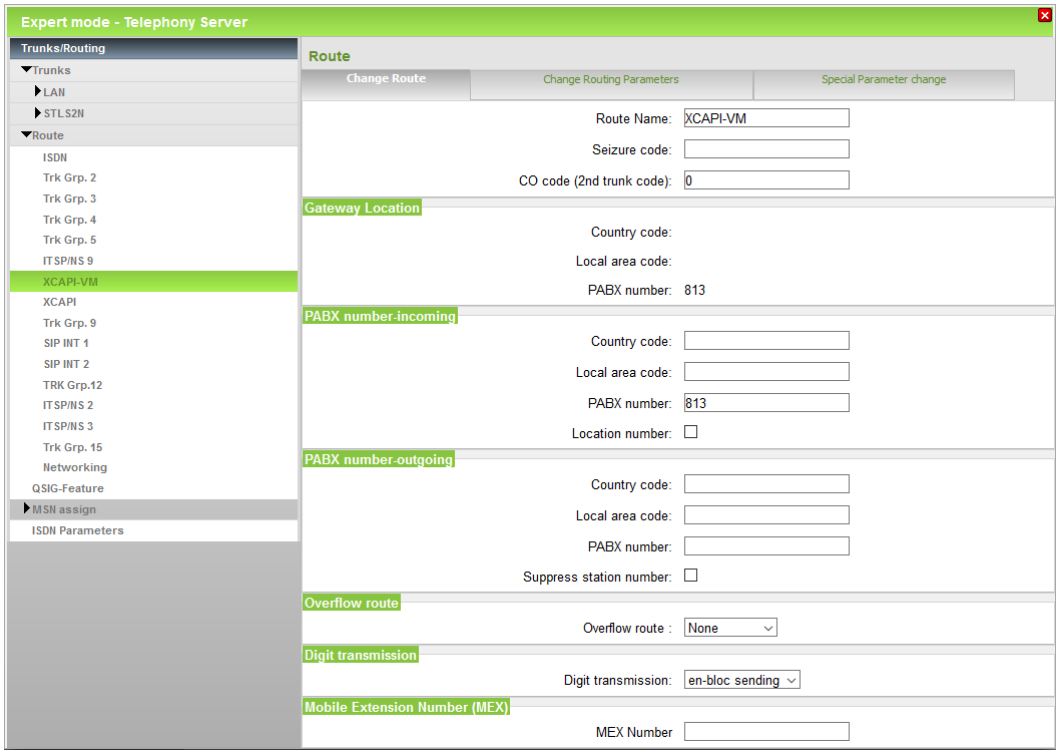
This test environment makes use of the **LCR** (Automatic Least Cost Routing).



3.5 Routes

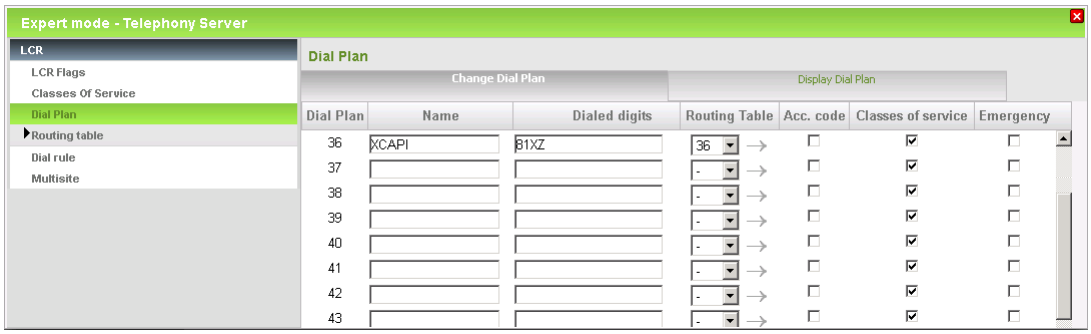
For this test environment the XCAPI route is used as shown below.

Of course the local VoIP environment needs additional configurations and adjustments for a closed or open numbering scheme. The same goes for the **Routing Parameters**, **Special Parameters** and **Dial Plan** configurations.



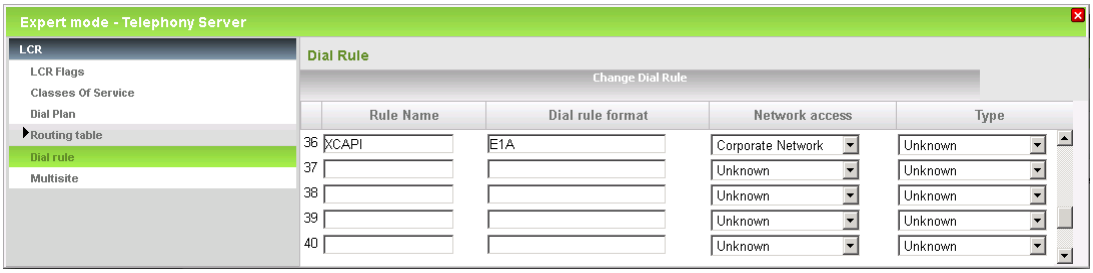
3.6 Dial Plan

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



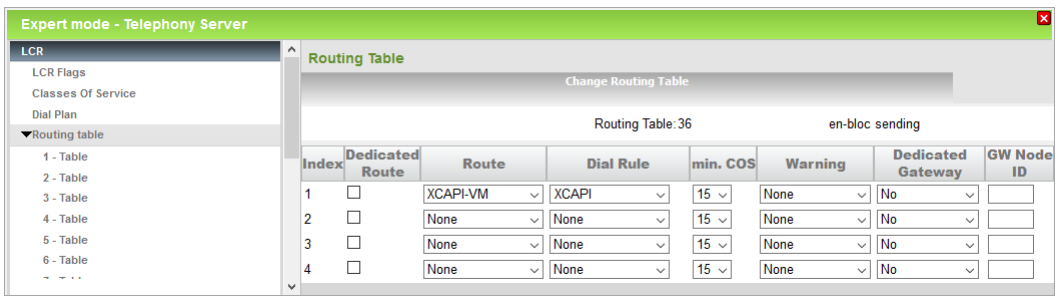
3.7 Dial Rule

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



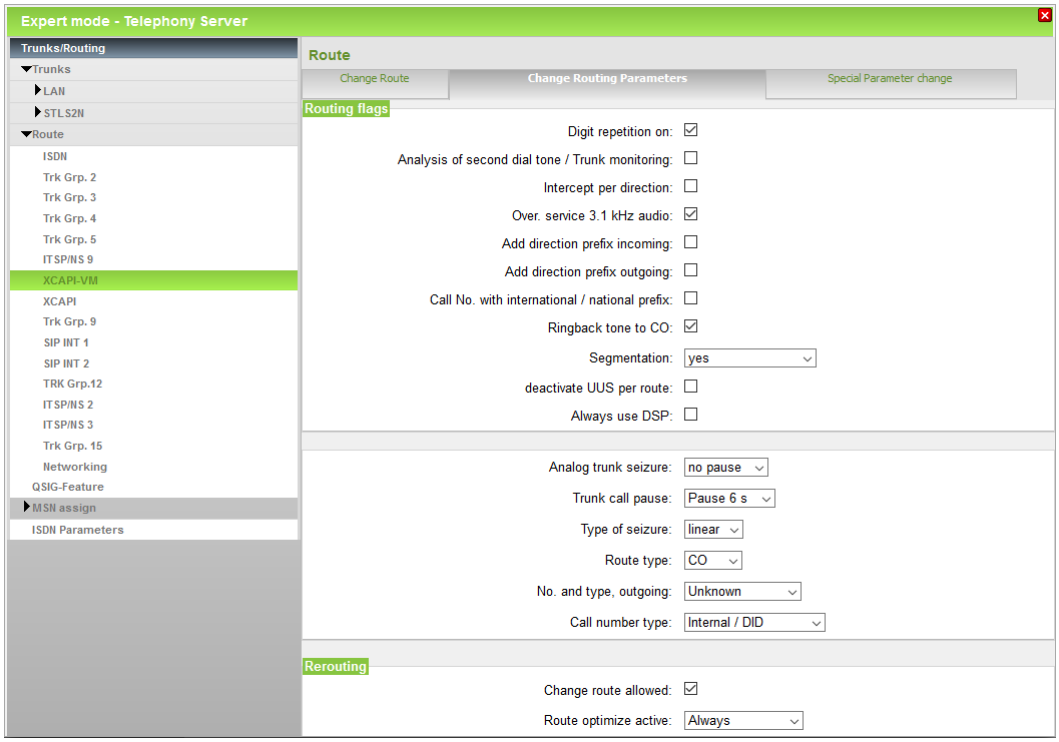
3.8 Routing Table

The XCAPI's **Routing Table** is set to the according **Route** and **Dial Plan** definitions. On demand **min. COS**, **Warning**, **Dedicated Gateway** and **GW Node ID** must be specified.

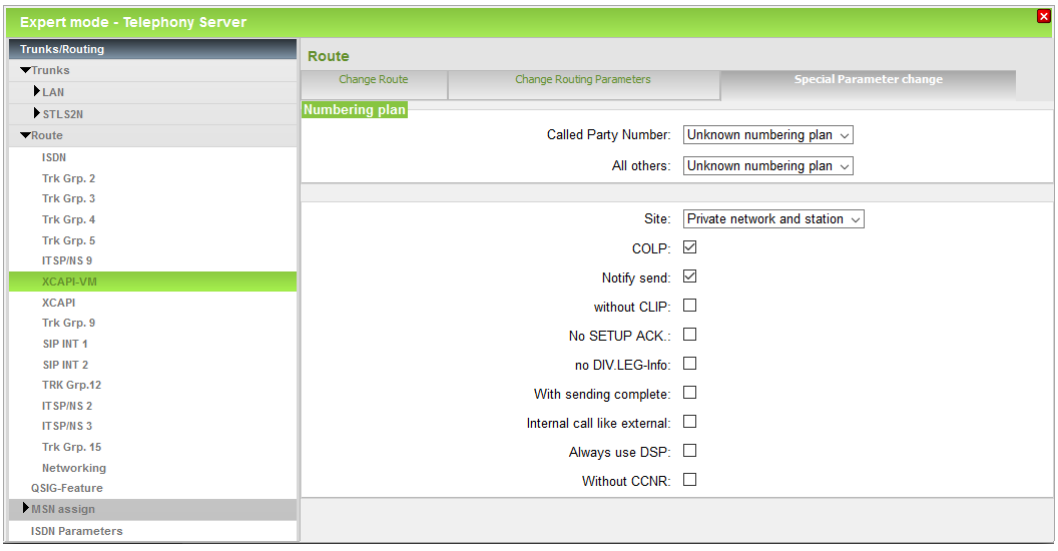


3.9 Routing Parameters

For this test environment the **Routing** and **Special Parameters** are used as shown next. Again, we have to mention that all the numbering configurations must be set upon local requirements.

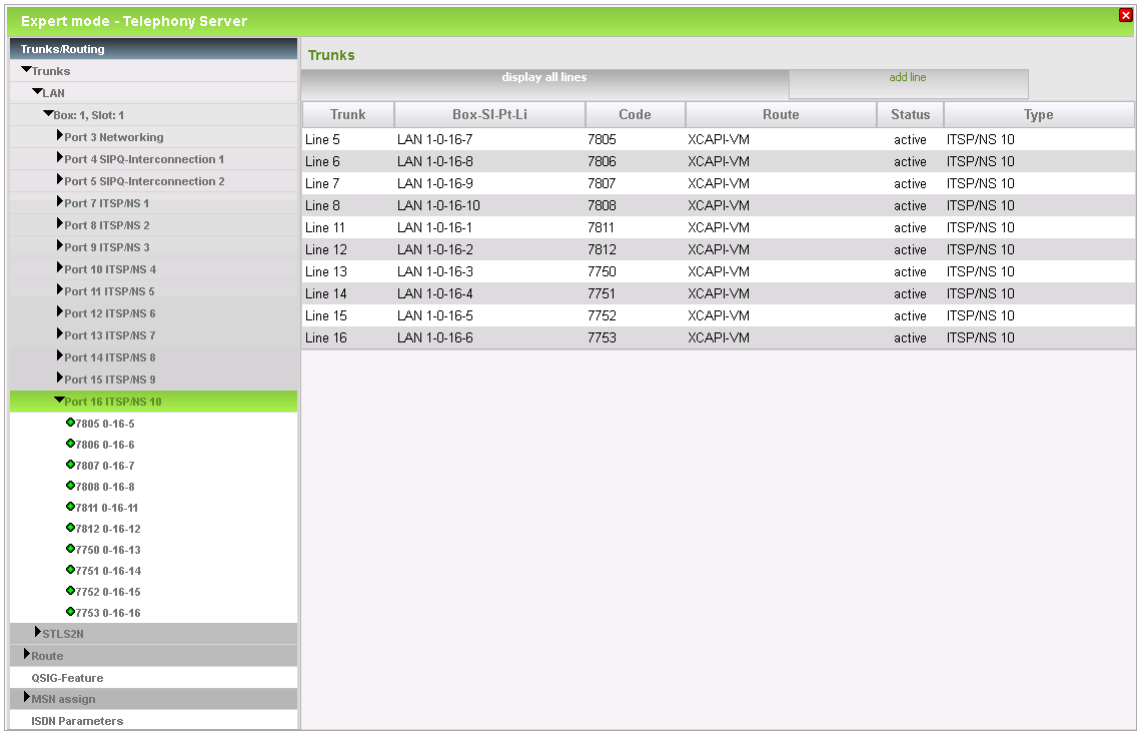


The **Special Parameters** are used as shown below.



3.10 IP Trunks

The **IP trunks** must be added and related to the according XCAPI route.

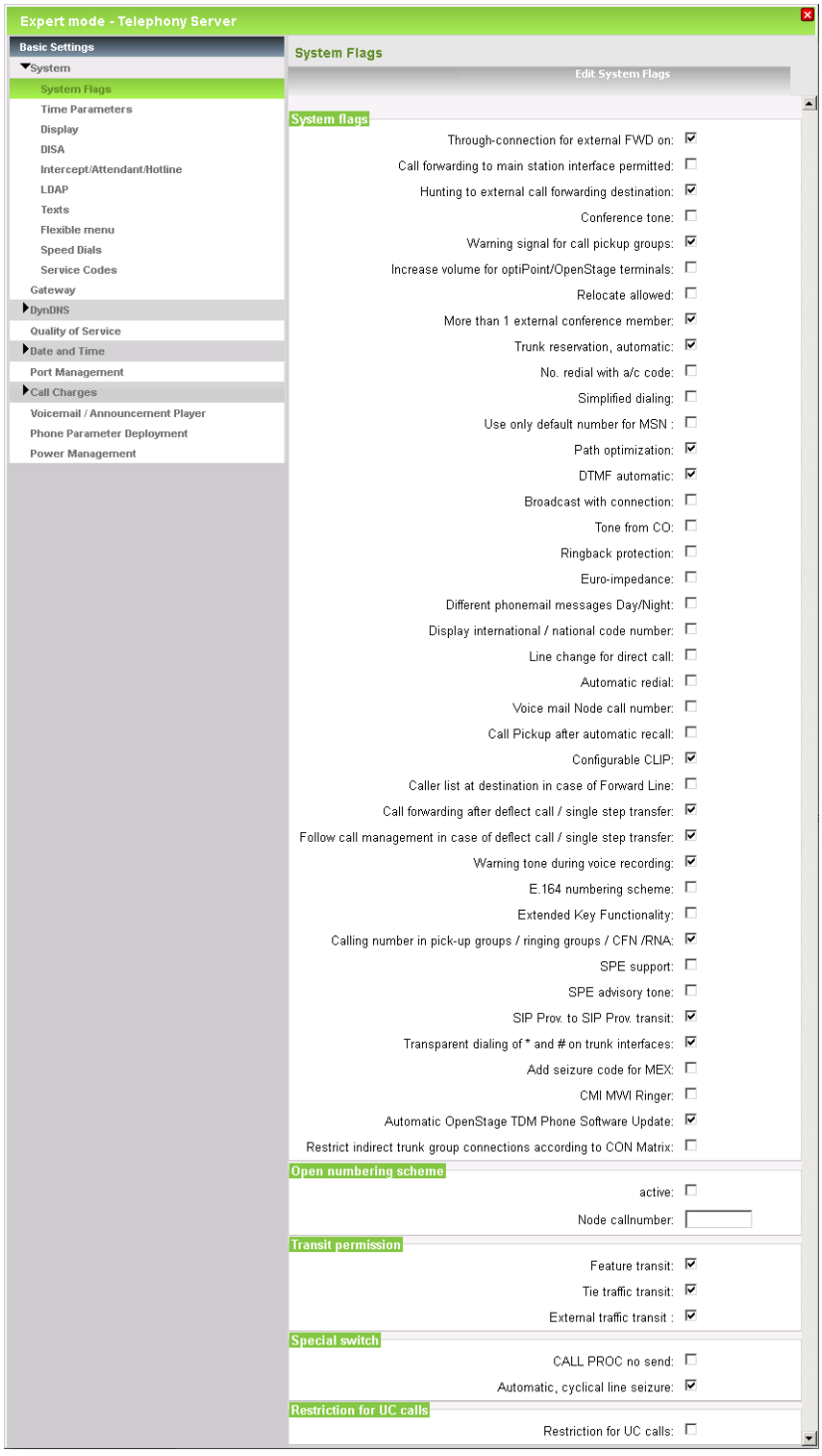


Trunk	Box-SI-Pt-Li	Code	Route	Status	Type
Line 5	LAN 1-0-16-7	7805	XCAPI-VM	active	ITSP/NS 10
Line 6	LAN 1-0-16-8	7806	XCAPI-VM	active	ITSP/NS 10
Line 7	LAN 1-0-16-9	7807	XCAPI-VM	active	ITSP/NS 10
Line 8	LAN 1-0-16-10	7808	XCAPI-VM	active	ITSP/NS 10
Line 11	LAN 1-0-16-1	7811	XCAPI-VM	active	ITSP/NS 10
Line 12	LAN 1-0-16-2	7812	XCAPI-VM	active	ITSP/NS 10
Line 13	LAN 1-0-16-3	7750	XCAPI-VM	active	ITSP/NS 10
Line 14	LAN 1-0-16-4	7751	XCAPI-VM	active	ITSP/NS 10
Line 15	LAN 1-0-16-5	7752	XCAPI-VM	active	ITSP/NS 10
Line 16	LAN 1-0-16-6	7753	XCAPI-VM	active	ITSP/NS 10

Please note that a newly created Native SIP trunk may require a gateway reboot to become active.

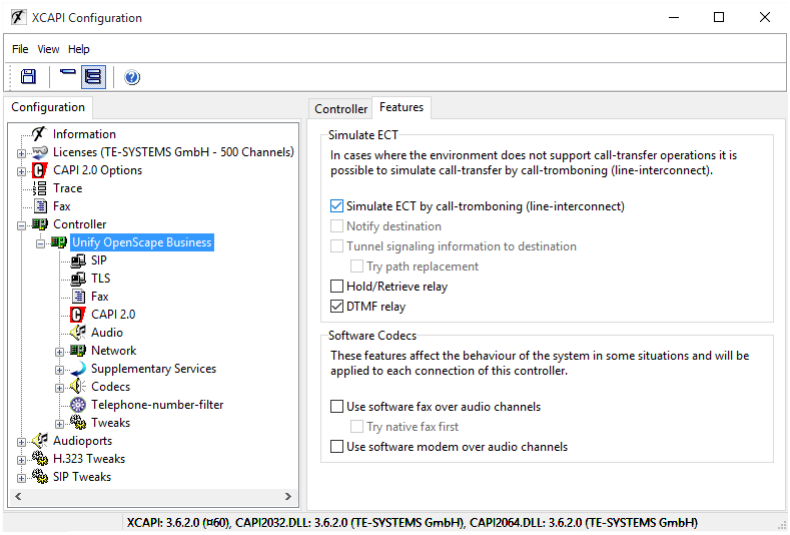
3.11 System Parameter Flags

The **Transit permission** flags must be enabled, others upon local requirements.



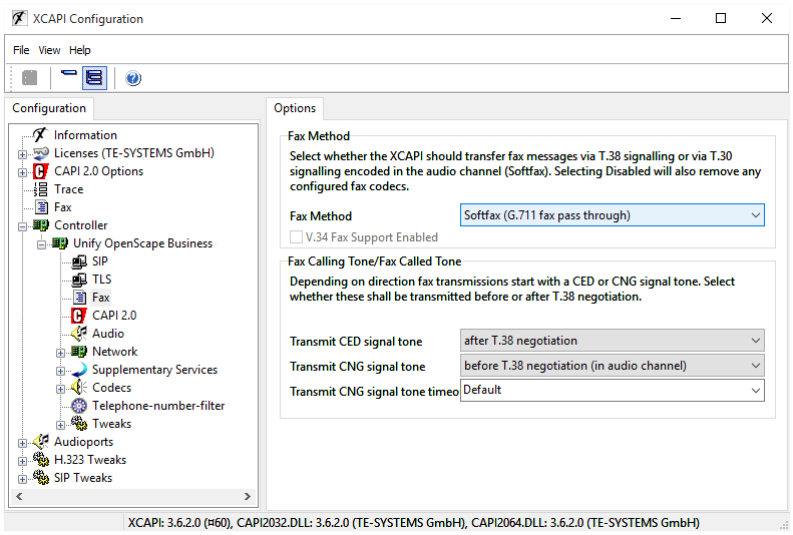
Simulated Call Transfer

The **Call Transfer** 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.

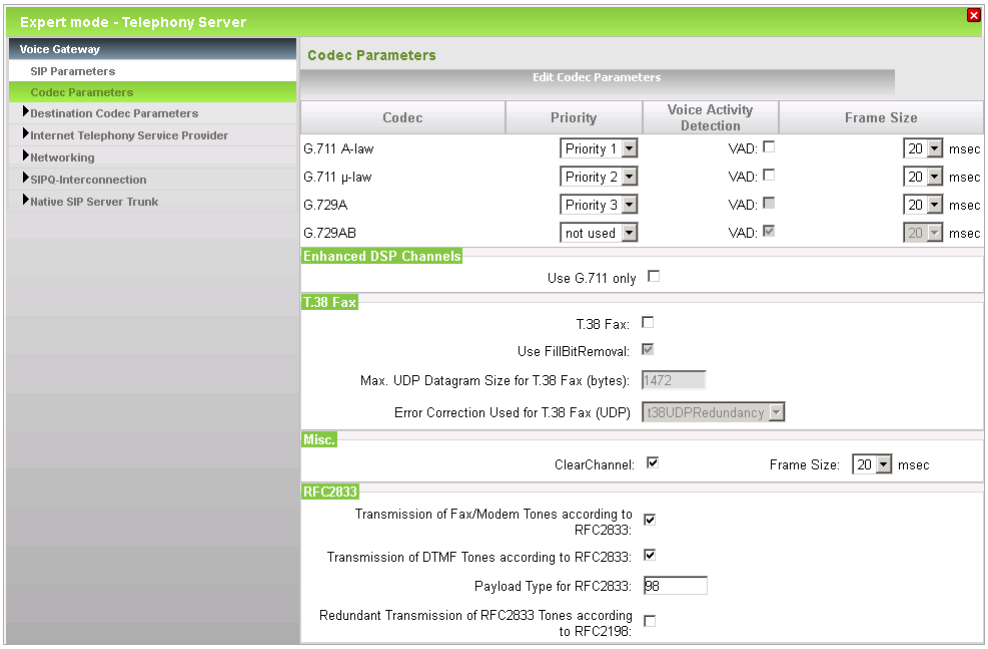


Softfax (G.711 fax pass through)

With the Softfax mode, the XCAPI simulates an analogue facsimile device by transmitting modulated fax-signals modem-like through the established G.711 audio channels.
For this please check the XCAPI controller configuration tab labeled **Fax** and ensure that **Softfax (G.711 fax pass through)** is selected as **Fax Method**.



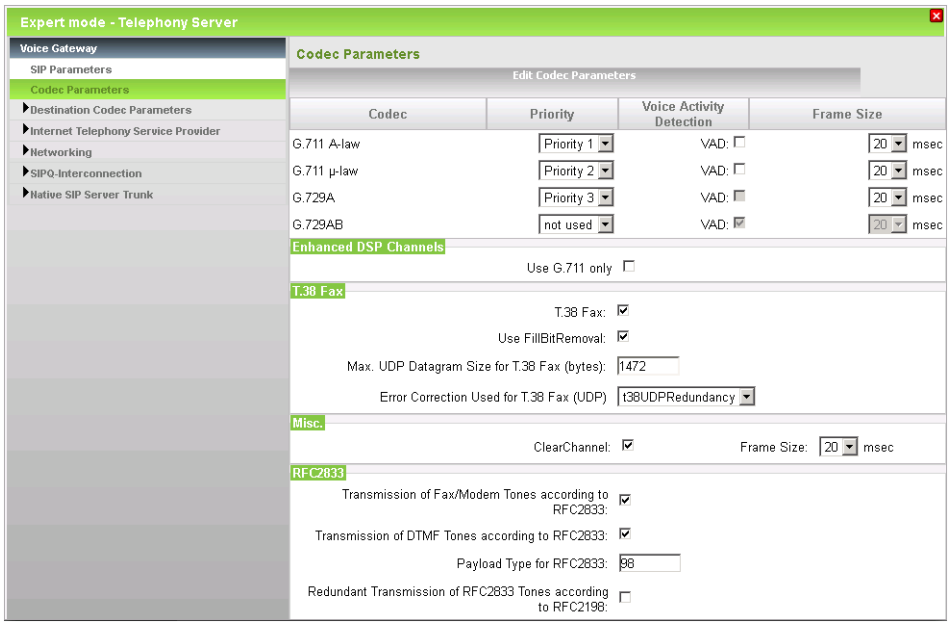
The **Codec Parameter** dialog should be set as shown below. For appropriate fax interworking the **T.38 Fax** flag must disabled, at least for the Unify OpenScape Business firmware R2.1.

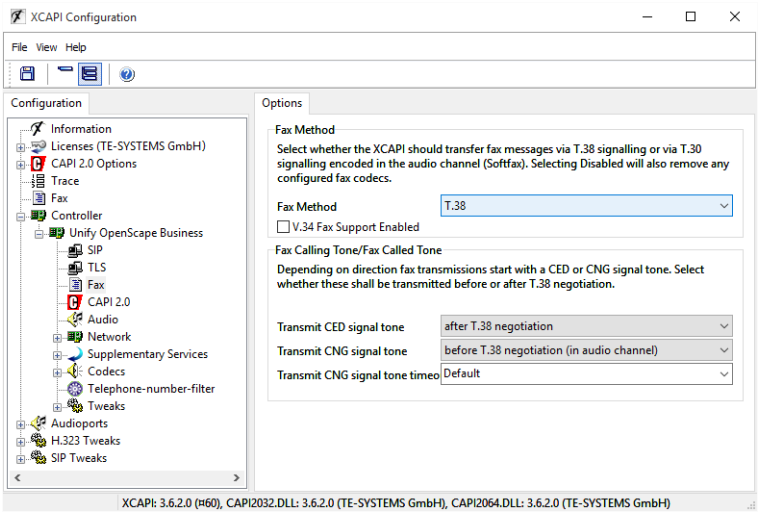


For Softfax please ensure that **T.38 Fax is disabled** for appropriate interworking. Further the option **Transmission of Fax/Modem Tones according to RFC2833** is enabled and **Redundant Transmission of RFC2833 Tones according to RFC2198** is disabled.

T.38

As shown next, the **T.38 Fax** flag must be set for the Unify OpenScape Business and selected as **Fax Method** for the XCAPI controller.

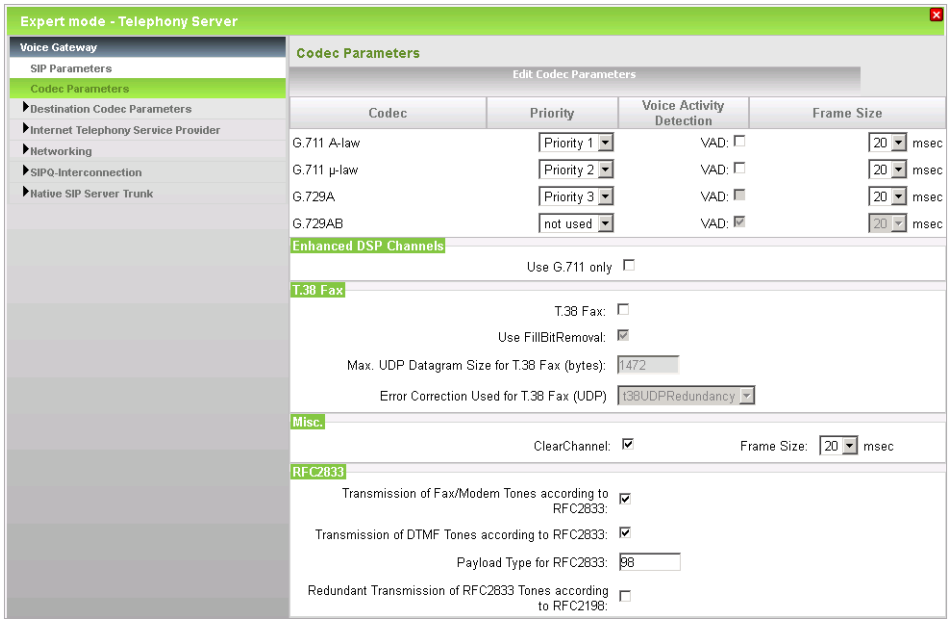




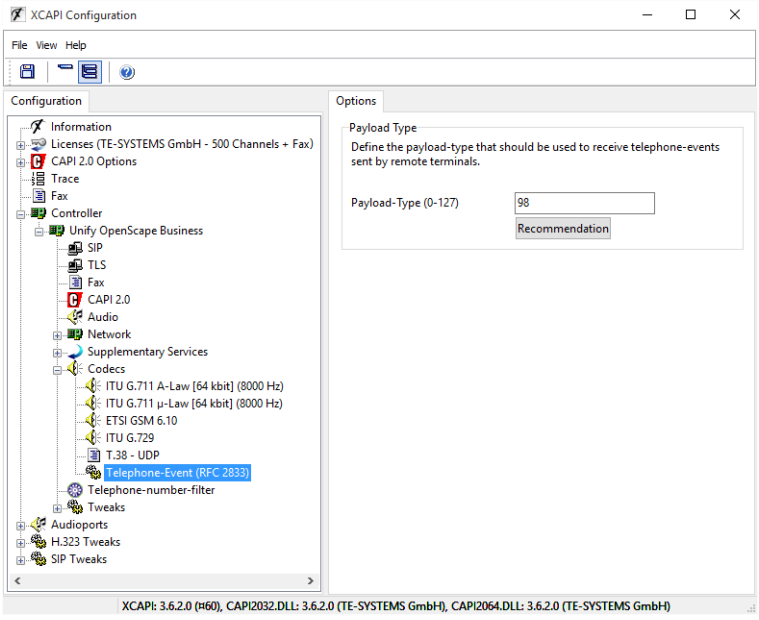
Please also check with the Unify OpenScape Business documentation for T.38 related limitations and recommendations for fax support.

DTMF

The Parameter **Transmission of DTMF Tones according to RFC2833** must be enabled.
The **Payload Type for RFC2833** value must be conform to the one of the XCAPI controller.
By default both should be set to value **98**.



Please review the according codec within the XCAPI controller configuration.



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