



TRX Krzysztof Kryński

Digital recorders KSRC series

**CTI INTEGRATION
TRX CALL RECORDERS
with CISCO Unified
Communications Manager
(SIP Trunk / JTAPI)**

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1: Description

1.1 Preface

The document provides information about CTI integration TRX call recorders with Cisco VoIP systems working under Cisco Unified Communications Manager (formerly Cisco CallManager) in version 6 or later.

CTI interface is entirely based on seamless software solution. Data flow between TRX recorder, Cisco Unified Communications Manager platform and any recorded station is carried out by existing IP network infrastructure. The solution allows for recording calls on third-generation Cisco IP phones, equipped with **Built In Bridge** (BIB) functionality.

These requirements are met by the following types of sets:

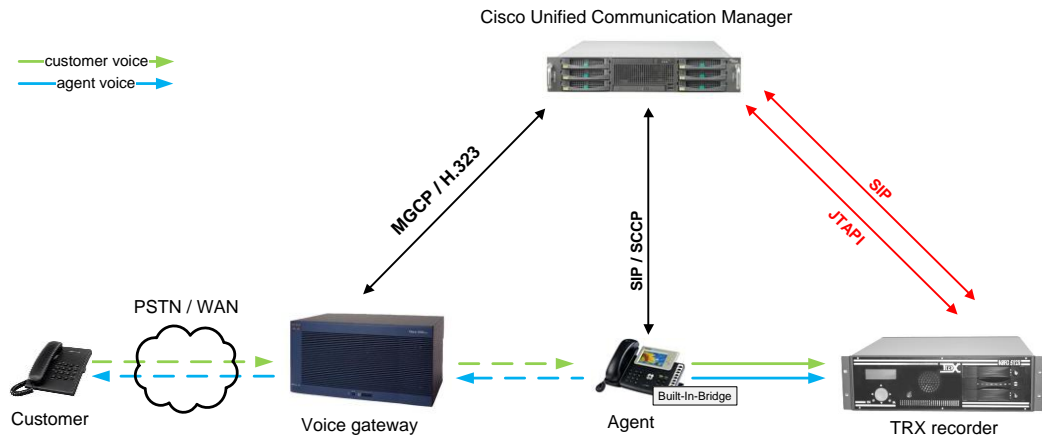
- 7906G,
- 7911G,
- 7921G (*with 08/2008 update*),
- 7925G,
- 7931G,
- 7941G/GE,
- 7942G,
- 7945G,
- 7961G/GE,
- 7962G,
- 7965G,
- 7970G,
- 7971G-GE,
- 7975G,
- IP Communicator 7.0.

Built In Bridge provides forking audio stream to TRX recorder, there is no need to configure network switches to ensure VoIP packets replication (**SPAN / Packet Mirroring**).

TRX recording solution handles the most popular voice coding algorithms: G.711, G.722 and G.729. SIP Trunk/JTAPI integration KSRC allows for recording encrypted calls (transmitted inside SRTP packets).

1.2 Description of the integration

The call recording process is supervised by Cisco Unified Communications Manager (CUCM). If a call is initiated or received on monitored Cisco terminal – the appropriate SIP information are sent to the recorder. Additional call-related messages shall be exchanged with the recorder using JTAPI protocol. A set of rules stored in recorder configuration (virtual channels) definitively determines whether the call will be saved on hard disk or not.



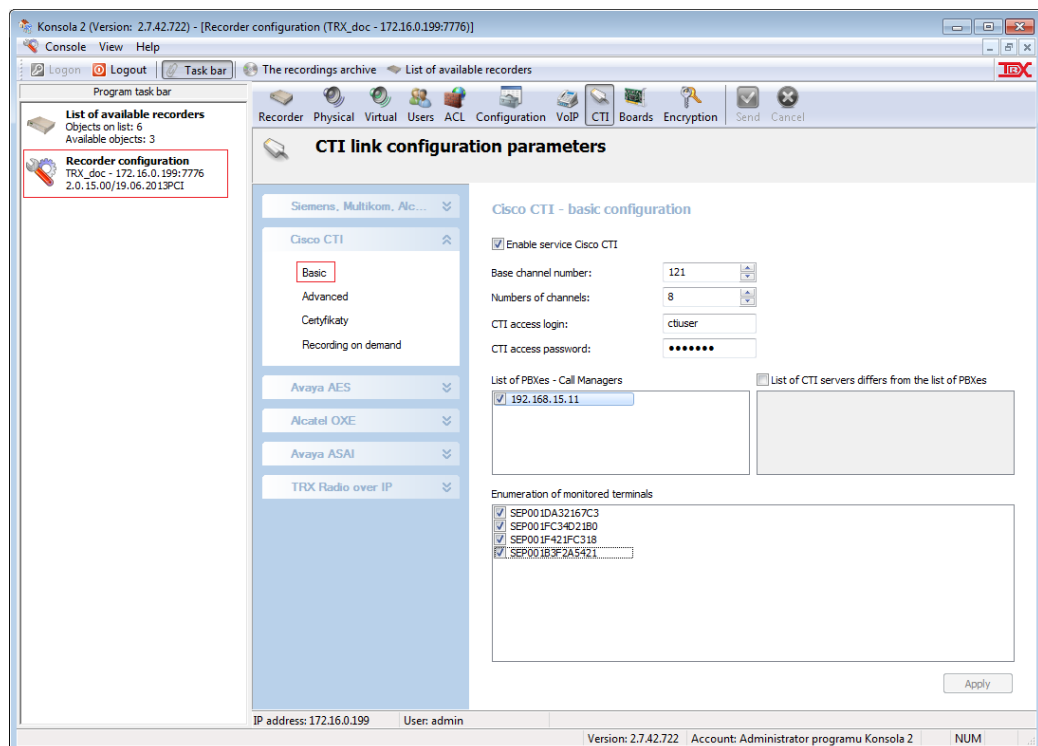
If on the monitored station was made or answered a call, the Cisco Unified Communications Manager sends two call setup messages to the recorder. The first call provides the caller RTP stream and the second call provides the callee RTP stream. CUCM, after receiving response from the recorder requires the IP station forks the audio stream (RTP or SRTP) and sends them to the recorder. The voice packets replication is performed based on *Built In Bridge* feature. Similarly as for SIP messages, two audio streams (one each for every side of the connection) are being sent to the recorder. TRX device receives the data and stores it on hard drive as a single two-way recording.

2: TRX recorder configuration

In order to prepare TRX recorder for working with Cisco Unified Communications Manager, you should configure the CTI connection, and define rules for virtual channels. All changes in recorders configuration are performed using the *Konsola 2* application.

2.1 SipTrunk link configuration

After you select a device in the list of available recorders, click on the *Configuration* button and then the *CTI* one.



Next you should configure the following parameters from the *Basic* group of *Cisco SipTrunk* section:

Enable service Cisco CTI

- activates the service for communication between TRX recorder and Cisco Unified Communications Manager.

Base channel number

- determines starting number for the pool of channels intended for recording Cisco IP sets.

Number of channels

- specifies the number of simultaneously recorded calls (physical channels for recording calls in Cisco CallManager) – the value is limited by the number of licenses purchased.

CTI access login / CTI access password

- authentication data for TRX recorder in Cisco system. Should be entered data for the user created in Cisco Unified Communications Manager.

List of PBXes – CallManagers

- includes IP addresses for hosts which the recorder can exchange SIP / JTAPI information - entering more than one address causes that operation of the system is possible after loss of connection between recorder and the primary server for Cisco Unified Communications Manager.

List of CTI servers differs from the list of PBXes

- the field should be set as active and contain IP address in case if the CTI service is running on different hosts (servers) than Cisco Unified Communications Manager service.

Enumeration of monitored terminals

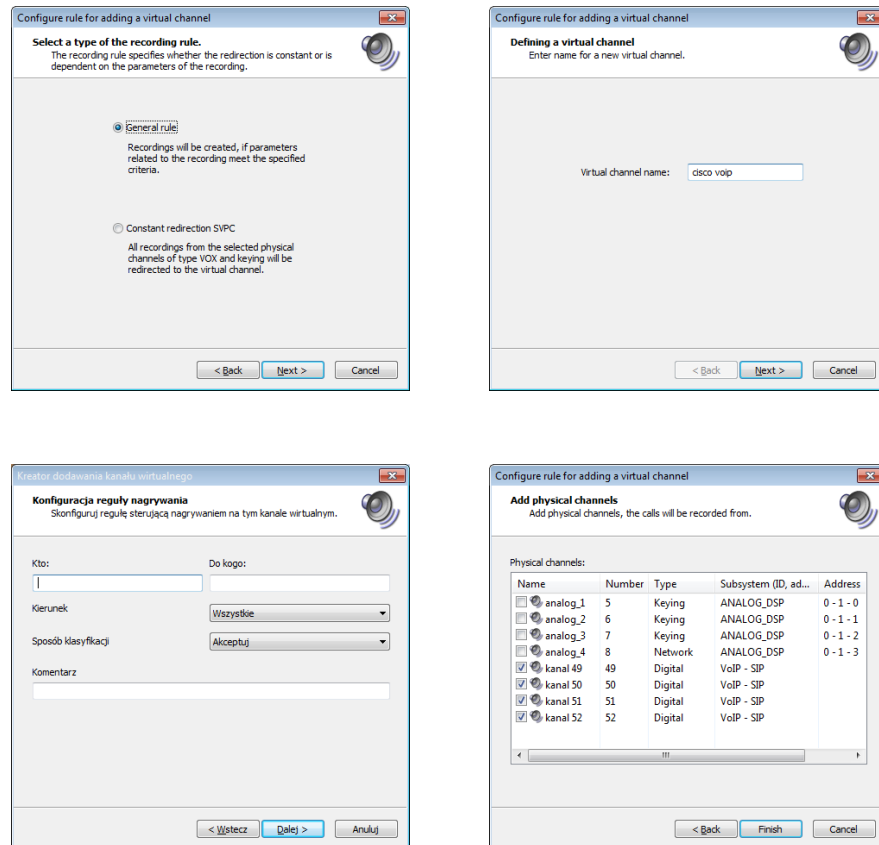
- list of physical addresses for VoIP station (according to Cisco format: „SEP” + MAC address) you want to monitor / recorded - field is optional, but recommended to turn off the monitor traffic for terminals that are not designed to record.

Settings from the Advanced menu should remain unchanged. Any modifications should be preceded by consultation with the service TRX. Once you have created the configuration, save (Apply button) and send to the registrar (the Send button).

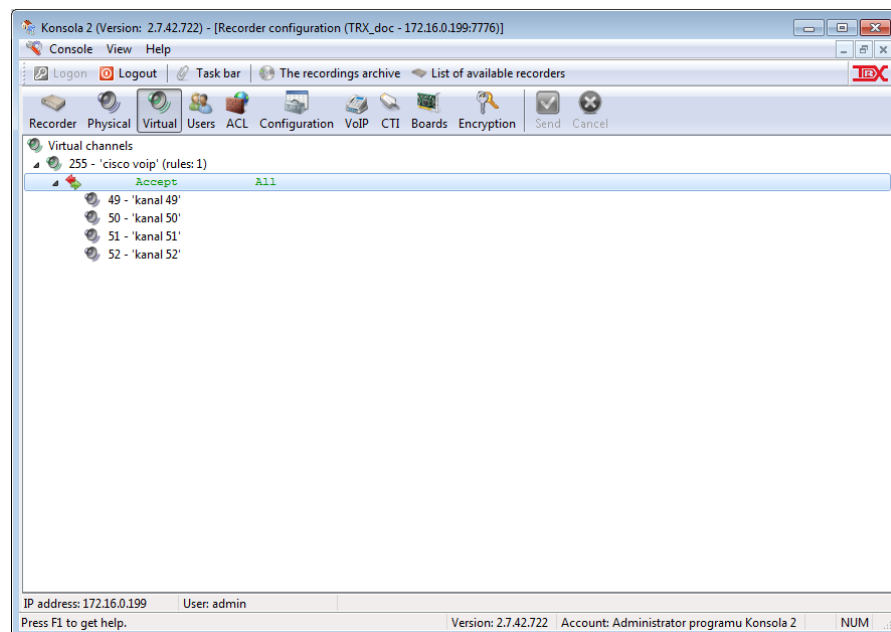
2.2 Virtual channels configuration

For VoIP channel of the recorder intended for recording Cisco devices you should create at least one virtual channel. If the recorder is to record all calls routed to the Cisco Unified Communications Manager, you must add one virtual channel that includes all VoIP channels.

For that purpose using the creator of adding virtual channels is most comfortable, available from the level context menu of the window Virtual.



After you create the configuration should be sent to the recorder (*Send* button).



The mechanism of virtual channels also allows you to selectively record a conversation with a recorder TRX. Look for the more advanced rule settings of virtual channels. Details of these settings are described in the User's Guide for the console 2 available at www.trx.com.pl.

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