

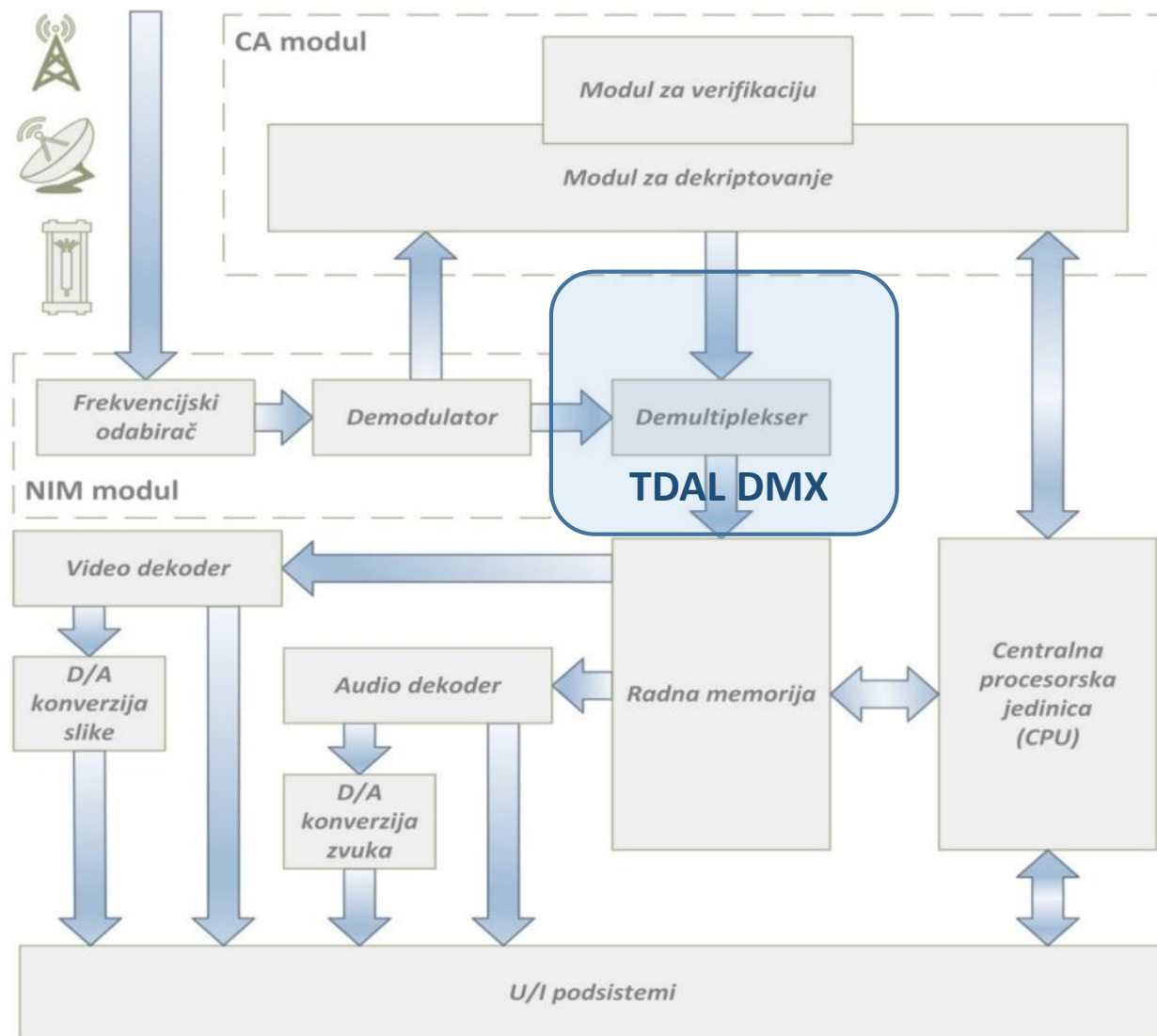


Breathe ideas.

DTV Basic

Day 3 - Demultiplexer

Demultiplexer module



Demultiplexer module

- DMX module is responsible for control of demultiplexer to separate audio and video components, PES packages and filtering SI sections
- DMX module can work with multiple logical instances of demultiplexers depending on number of physical components (one physical component represents one logical abstraction)
- DMX module allows allocation and release of channels, which are used to provide data based on the channel type:
 - video stream
 - audio stream
 - PCR stream
 - section stream
 - others
- Every channel instance has a unique identifier.

Demultiplexer module

- DMX module supports using filters to extract data from the transmission stream.
- Two filtering modes are supported:
 - Positive mode
 - Negative mode
- If physical demultiplexer does not support filtering modes, the DMX module must implement the missing modes on the software layer.
- The following information is used to set the filter:
 - Filter: Values to be checked
 - Mask: A bit mask that matches the bits of interest
 - Mode: Positive or negative, applied to the mask - bit 1 or 0

Demultiplexer module

- *Positive filtering example (TableId and ExtensionId)*

```

Filter:      0x42    0x00    0x02    0x00    0x00
0x00 0x00 0x00
Mask:       0xFF    0xFF    0xFF    0x00    0x00    0x00
0x00 0x00
Mode:      0xFF 0xFF 0xFF 0x00 0x00 0x00 0x00 0x00

```

Results: It will be separated all tables with TableId=0x42 and ExtensionId=0x0002

- *Negative filtering based on the table version number*

```

Filter:      0x42    0x00    0x02    0x02    0x00
0x00 0x00 0x00
Mask:       0xFF    0xFF    0xFF    0x3E    0x00    0x00
0x00 0x00
Mode:      0xFF 0xFF 0xFF 0xC1 0x00 0x00 0x00 0x00

```

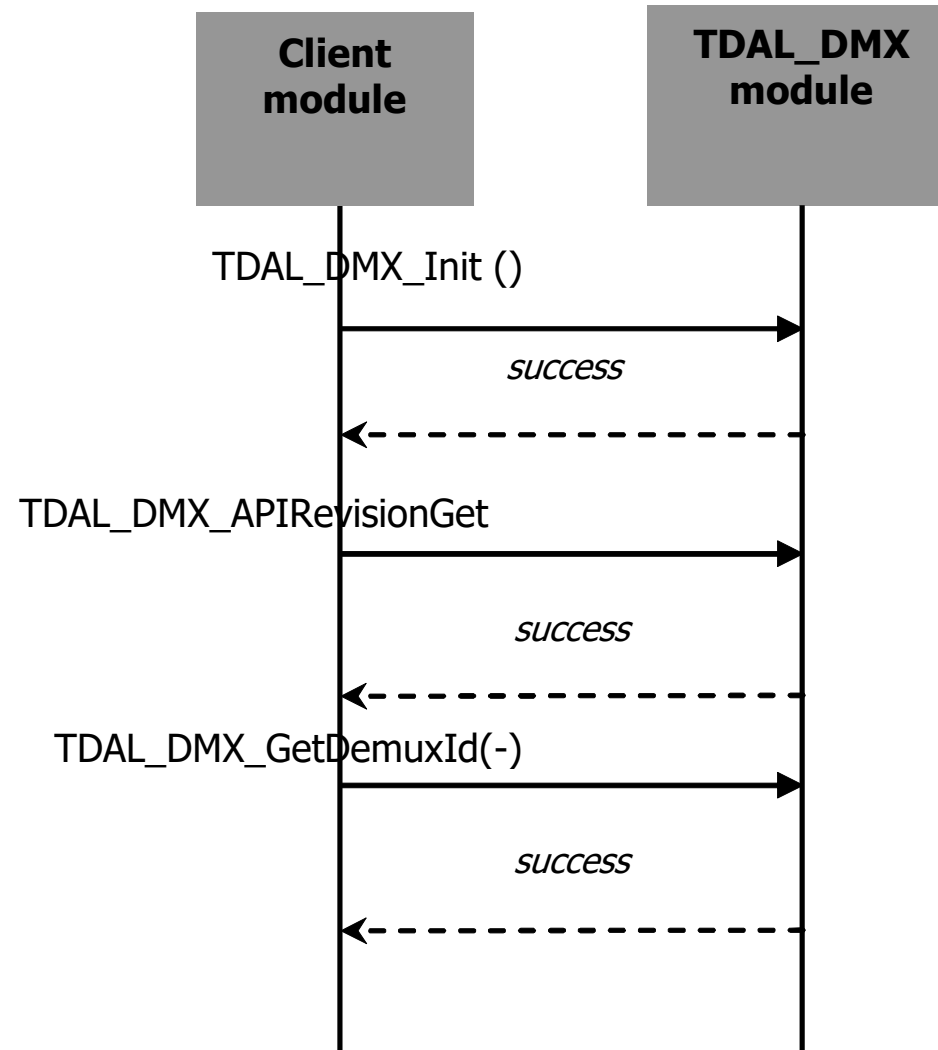
DAL DMX - API

Function name	Opis Description
TDAL_DMX_Init TDAL_DMX_Terminate	Initialization / deinitialization of TDAL DMX module.
TDAL_DMX_Allocate_Channel TDAL_DMX_Free_Channel	Allocation and release of channel on a demux instance.
TDAL_DMX_Register_Channel_Callback	Register callback which will be called when metdata arrives.
TDAL_DMX_Set_Channel_PID	Set PID value on the filter.
TDAL_DMX_Control_Channel	Start/Stop filtering on the channel.
TDAL_DMX_Free_Buffer	Free buffer with data.
TDAL_DMX_StreamHandleGet	Get reference on the audio/video channel.

TDAL DMX – Filter API

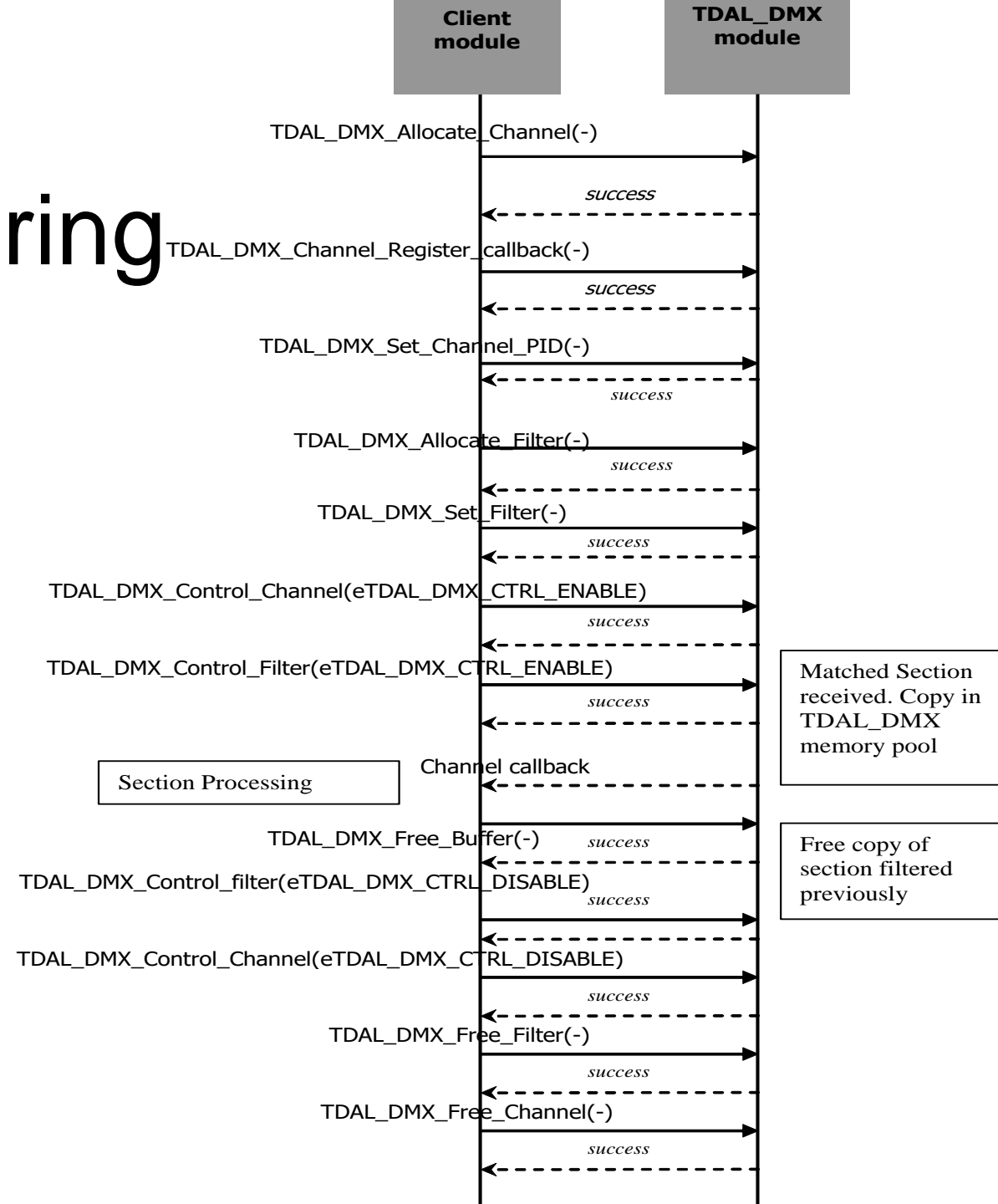
Function name	Description
TDAL_DMX_AllocateFilter	Allocate filter on the channel.
TDAL_DMX_FreeFilter	Release filter.
TDAL_DMX_SetFilter	Set filter for section filtering.
TDAL_DMX_ControlFilter	Start/Stop filtering.

TDAL DMX – Init

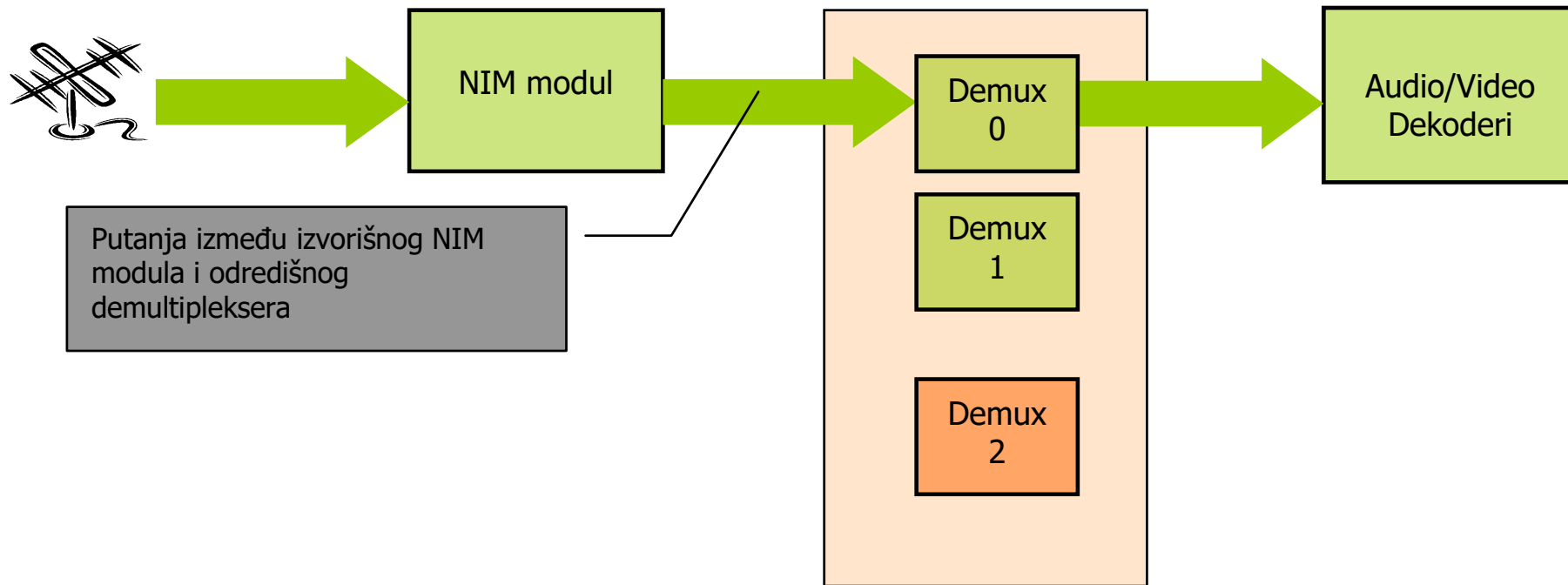


TDAL DMX

Section filtering



Basic use case - playback



NIT

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Contact us

Institute for information technologies NIT

Radnicka 30a, 21000 Novi Sad, Serbia

info@nit-institute.com

www.nit-institute.com

+381 64 01 64 724