# Software description

SHM software which is currently under development is implemented on top of the latest HM software version. It has the reference index framework configurable by macros and the main design is to not have any changes at a block level beyond the slice header, so, basically, it can be considered as a high-level syntax with the resampling filter. The main macro is SVC\_EXTENSION.

Configuration files are located in the software package at cfg directory. To run a test, three configuration files should be used: test configuration file, the one from the per-sequence-svc directory to specify the sequence parameters, and the layer configuration file layers.cfg.

Alternatively, the parameters specified in the configuration filed can be configured by the command line options.

The software can be executed by the following sample command line:

TAppEncoder.exe -c cfg/encoder\_randomaccess\_main.cfg -c cfg/per-sequence-svc/BasketballDrive-2x.cfg –c cfg/layers.cfg

TAppDecoder.exe -ls 2 -b BasketballDrive.bin

Where –ls 2 indicates that two layers are going to be decoded.

Configuration files have the following main settings for each layer:

InputFile0 : BasketballDrive\_1280x720\_50\_zerophase\_0.9pi.yuv

FrameRate0 : 50 # Frame Rate per second

SourceWidth0 : 1280 # Input frame width

SourceHeight0 : 720 # Input frame height

IntraPeriod0 : 48 # Period of I-Frame (-1 = only first)

QP0 : 22

InputFile1 : BasketballDrive\_1920x1080\_50.yuv

FrameRate1 : 50 # Frame Rate per second

SourceWidth1 : 1920 # Input frame width

SourceHeight1 : 1080 # Input frame height

IntraPeriod1 : 48 # Period of I-Frame (-1 = only first)

QP1 : 20

Alternatively, the parameters can be specified by the command line similar to HM but with the layer number at the end

IntraPeriod0 corresponds to –ip0

IntraPeriod1 corresponds to –ip1

QP0 corresponds to –qp0

QP1 corresponds to –qp1

-o0 yuv output for the first layer

-o1 yuv output for the second layer layer

-use-rap-b command can be used to switch between P and B slices for corresponding base layer I-slice.

## AVC base layer

In order to use already reconstructed base layer as an input, the following parameters have to be specified:

-ibl – reconstructed base layer YUV file

-wdt – decoder parameter, AVC base layer picture width

-hgt – decoder parameter, AVC base layer picture height

Example of the commands:

TAppEncoder.exe -c cfg/encoder\_randomaccess\_main.cfg -c cfg/per-sequence-svc-avcbase/BasketballDrive-1.5x.cfg –c cfg/layers\_avcbase.cfg -b BasketballDrive.bin -ibl BasketballDriveBL\_rec.yuv

TAppDecoder.exe -b BasketballDrive.bin -ls 2 -ibl BasketballDriveBL\_rec.yuv -wdt 1280 -hgt 720