README.parameters

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1 General options

The next tables shows the parameters of the encoder, decoder and metrics programs.

1.1 Encoder parameters

Parameter=Value	**Usage**
help	This help text
Global	
c—config	Configuration file name
configurationFolder	Folder where the configuration files are stored,use for cfg relative paths.
uncompressedDataFolder	Folder where the uncompress input data are stored, use for cfg relative paths.
uncompressedDataPath	Input pointcloud to encode. Multi-frame sequences may be represented by %04i
compressedStreamPath	Output(encoder)/Input(decoder) compressed bitstream
reconstructedDataPath	Output decoded pointcloud. Multi-frame sequences may be represented by %04i
startFrameNumber	First frame number in sequence to encode/decode
frameCount	Number of frames to encode
groupOfFramesSize	Random access period
colorTransform	The colour transform to be applied: 0: none 1: RGB to YCbCr (Rec.709)
colorSpaceConversionPath	Path to the HDRConvert. If unset, an internal color space conversion is used
colorSpaceConversionConfig	HDRConvert configuration file used for RGB444 to YUV420 conversion
inverseColorSpaceConversion Config	HDRConvert configuration file used for YUV420 to RGB444 conversion
videoEncoderPath	HM video encoder executable
videoEncoderAuxPath	HM video encoder executable

videoEncoderOccupancyMapPath	HM lossless video encoder executable for occupancy map
nbThread	Number of thread used for parallel processing
keepIntermediateFiles	Keep intermediate files: RGB, YUV and bin
Encoder	
nnNormalEstimation	Number of points used for normal estimation
gridBasedRefineSegmentation	Use grid-based approach for segmentation refinement
maxNNCountRefineSegmentation	Number of nearest neighbors used during segmentation refinement
iterationCountRefine Segmentation	Number of iterations performed during segmentation refinement
voxelDimensionRefine Segmentation	Voxel dimension for segmentation refinement (must be a power of 2)
searchRadiusRefineSegmentation	Search radius for segmentation refinement
occupancyResolution	Resolution of packing block(a block contain only one patch)
enablePatchSplitting	Enable patch splitting
maxPatchSize	Maximum patch size for segmentation
log2QuantizerSizeX	log2 of Quantization step for patch size X: 0. pixel precision 4.16 as before
log2QuantizerSizeY	log2 of Quantization step for patch size Y: 0. pixel precision 4.16 as before
minPointCountPerCCPatch Segmentation	Minimum number of points for a connected component to be retained as a patch
maxNNCountPatchSegmentation	Number of nearest neighbors used during connected components extraction
surfaceThickness	Surface thickness
depthQuantizationStep	minimum level for patches
maxAllowedDist2RawPoints Detection	Maximum distance for a point to be ignored during raw points detection
maxAllowedDist2RawPoints Selection	Maximum distance for a point to be ignored during raw points selection
lambdaRefineSegmentation	Controls the smoothness of the patch boundaries during segmentation refinement
minimumImageWidth	Minimum width of packed patch frame
minimumImageHeight	Minimum height of packed patch frame
maxCandidateCount	Maximum nuber of candidates in list L
occupancyPrecision	Occupancy map B0 precision
occupancyMapConfig	Occupancy map encoder config file
occupancyMapQP	QP for compression of occupancy map video
enhancedOccupancyMapCode	Use enhanced-delta-depth code
EOMFixBitCount	enhanced occupancy map fixed bit count
occupancyMapRefinement	Use occupancy map refinement
postprocessSmoothingFilterType	Exclude geometry smoothing from attribute transfer

flagGeometrySmoothing	Enable geometry smoothing
neighborCountSmoothing	Neighbor count smoothing
radius2Smoothing	Radius to smoothing
radius2BoundaryDetection	Radius to boundary detection
thresholdSmoothing	Threshold smoothing
patchExpansion	Use occupancy map refinement
gridSmoothing	Enable grid smoothing
gridSize	grid size for the smoothing
thresholdColorSmoothing	Threshold of color smoothing
cgridSize	grid size for the color smoothing
thresholdColorDifference	Threshold of color difference between cells
thresholdColorVariation	Threshold of color variation in cells
flagColorSmoothing	Enable color smoothing
thresholdColorPreSmoothing	Threshold of color pre-smoothing
thresholdColorPreSmoothing LocalEntropy	Threshold of color pre-smoothing local entropy
radius2ColorPreSmoothing	Redius of color pre-smoothing
neighborCountColorPreSmoothing	Neighbor count for color pre-smoothing
flagColorPreSmoothing	Enable color pre-smoothing
bestColorSearchRange	Best color search range
numNeighborsColorTransferFwd	Number of neighbors creating Fwd list
numNeighborsColorTransferBwd	Number of neighbors creating Bwd list
useDistWeightedAverageFwd	Distance weighted average for Fwd list
useDistWeightedAverageBwd	Distance weighted average for Bwd list
skipAvgIfIdenticalSourcePoint PresentFwd	Skip avgeraging if target is identical to a Fwd point
skipAvgIfIdenticalSourcePoint PresentBwd	Skip avgeraging if target is identical to a Bwd point
distOffsetFwd	Distance offset to avoid infinite weight
distOffsetBwd	Distance offset to avoid infinite weight
maxGeometryDist2Fwd	Maximum allowed distance for a Fwd point
maxGeometryDist2Bwd	Maximum allowed distance for a Bwd point
maxColorDist2Fwd	Maximum allowed pari-wise color distance for Fwd list
maxColorDist2Bwd	Maximum allowed pari-wise color distance for Bwd list
excludeColorOutlier	Exclude color outliers from the NN set
thresholdColorOutlierDist	Threshold of color distance to exclude outliers from the NN set
geometryQP	QP for compression of geometry video
attributeQP	QP for compression of attribute video
geometryConfig	HM configuration file for geometry compression
geometry0Config	HM configuration file for geometry D0 compression
geometry1Config	HM configuration file for geometry D1

	compression
attributeConfig	HM configuration file for attribute compression
attribute0Config	HM configuration file for attribute D0 compression
attribute1Config	HM configuration file for attribute D1 compression
rawPointsPatch	Enable raw points patch
noAttributes	Disable encoding of attributes
attributeVideo444	Use 444 format for attribute videos
useRawPointsSeparateVideo	Compress raw points with video codec
attributeRawSeparateVideoWidth	Width of the MP's attribute in separate video
geometryMPConfig	HM configuration file for raw points geometry compression
attributeMPConfig	HM configuration file for raw points attribute compression
absoluteD1	Absolute D1
absoluteT1	Absolute T1
multipleStreams	number of video(geometry and attribute) streams
qpT1	qp adjustment for T1 0, +3, -3...
qpD1	qp adjustment for D1 : 0, +3, -3...
constrainedPack	Temporally consistent patch packing
levelOfDetailX	levelOfDetail : X axis in 2D space (should be greater than 1)
levelOfDetailY	levelOfDetail : Y axis in 2D space (should be greater than 1)
groupDilation	Group Dilation
offsetLossyOM	Value to be assigned to non-zero occupancy map positions
thresholdLossyOM	Threshold for converting non-binary occupancy map to binary
prefilterLossyOM	Selects whether the occupany map is prefiltered before lossy compression (default=false)
patchColorSubsampling	Enable per patch color sub-sampling
maxNumRefAtalsList	maximum Number of Reference Patch list, default: 1
maxNumRefAtlasFrame	maximum Number of Reference Atlas Frame per list, default: 1
pointLocalReconstruction	Use point local reconstruction
mapCountMinus1	Numbers of layers (rename to maps?)
singleMapPixelInterleaving	Use single layer pixel interleaving
removeDuplicatePoints	Remove duplicate points(
surfaceSeparation	surface separation
highGradientSeparation	Separate high gradient points from a patch
minGradient	Minimun gradient for a point to be separated
minNumHighGradientPoints	Minimum number of connected high gradient

	points to be separated from a patch
packingStrategy	Patches packing strategy(0: anchor packing, 1(default): flexible packing, 2: tetris packing)
useEightOrientations	Allow either 2 orientations (0(default): NULL AND SWAP), or 8 orientation (1)
safeGuardDistance	Number of empty blocks that must exist between the patches (default=1)
attributeBGFill	Selects the background filling operation for attribute only (0: patch-edge extension, 1(default): smoothed push-pull algorithm), 2: harmonic background filling
lossyRawPointsPatch	Lossy raw points patch(0: no lossy raw points patch, 1: enable lossy raw points patch (default=0)
minNormSumOfInvDist4MPSelection	Minimum normalized sum of inverse distance for raw points selection: double value between 0.0 and 1.0 (default=0.35)
lossyRawPointPatchGeoQP	QP value for geometry in lossy raw points patch (default=4)
globalPatchAllocation	Global temporally consistent patch allocation.(0: anchor's packing method(default), 1: gpa algorithm, 2: gtp algorithm)
globalPackingStrategyGOF	Number of frames to pack globally (0:(entire GOF))
globalPackingStrategyReset	Remove the reference to the previous frame (0(default), 1)
globalPackingStrategyThreshold	matched patches area ratio threshold (decides if connections are valid or not, 0(default))
patchPrecedenceOrder	Order of patches
lowDelayEncoding	Low Delay encoding (0(default): do nothing, 1: does not allow overlap of patches bounding boxes for low delay encoding)
geometryPadding	Selects the background filling operation for geometry (0: anchor, 1(default): 3D geometry padding)
apply3dMotionCompensation	Use auxilliary information for 3d motion compensation.(0: conventional video coding, 1: 3D motion compensated)
geometry3dCoordinatesBitdepth	Bit depth of geomtery 3D coordinates
geometryNominal2dBitdepth	Bit depth of geometry 2D
nbPlrmMode	Number of PLR mode
patchSize	Size of Patch for PLR
enhancedProjectionPlaneUse	Enhanced Projection Plane(0: OFF, 1: ON)
minWeightEPP	Minimum value
additionalProjectionPlaneMode	additiona Projection Plane Mode 0:none

	1:Y-Axis 2:X-Axis 3:Z-Axis 4:All-Axis 5:apply to portion
partialAdditionalProjectionPlane	The value determines the partial point cloud. It's available with only additionalProjectionPlaneMode(5)
enablePointCloudPartitioning	
roiBoundingBoxMinX	
roiBoundingBoxMaxX	
roiBoundingBoxMinY	
roiBoundingBoxMaxY	
roiBoundingBoxMinZ	
roiBoundingBoxMaxZ	
numTilesHor	
tileHeightToWidthRatio	
numCutsAlong1stLongestAxis	
numCutsAlong2ndLongestAxis	
numCutsAlong3rdLongestAxis	
mortonOrderSortRawPoints	
pbfEnableFlag	enable patch block filtering
pbfFilterSize	pbfFilterSize
pbfPassesCount	pbfPassesCount
pbfLog2Threshold	pbfLog2Threshold
Metrics	
computeChecksum	Compute checksum
computeMetrics	Compute metrics
normalDataPath	Input pointcloud to encode. Multi-frame sequences may be represented by %04i
resolution	Specify the intrinsic resolution
dropdups	0(detect), 1(drop), 2(average) subsequent points with same coordinates
neighborsProc	0(undefined), 1(average), 2(weighted average), 3(min), 4(max) neighbors with same geometric distance

1.2 Decoder parameters

Parameter=Value	**Usage**
help	This help text
Global	
c,config	Configuration file name
compressedStreamPath	Input compressed bitstream
reconstructedDataPath	Output decoded pointcloud. Multi-frame

	sequences may be represented by %04i
startFrameNumber	Fist frame number in sequence to encode/decode
colorTransform	The colour transform to be applied: 0: none 1: RGB to YCbCr (Rec.709)
colorSpaceConversion Path	Path to the HDRConvert. If unset, an internal color space conversion is used
inverseColorSpaceConversion Config	HDRConvert configuration file used for YUV420 to RGB444 conversion
videoDecoderPath=	HM video decoder executable
videoDecoderOccupancyMap Path	HM lossless video decoder executable for occupancy map
nbThread	Number of thread used for parallel processing
keepIntermediateFiles	Keep intermediate files: RGB, YUV and bin
testLevelOfDetail Signaling	Disable patch sampling resolution scaling; use in conjunction with same parameter in encoder
patchColorSubsampling	Enable per-patch color up-sampling
Metrics	
computeChecksum=1	Compute checksum
computeMetrics=1	Compute metrics
uncompressedDataFolder	Folder where the uncompress input data are stored, use for cfg relative paths.
startFrameNumber	Fist frame number in sequence to encode/decode
frameCount	Number of frames to encode
groupOfFramesSize	Random access period
uncompressedDataPath	Input pointcloud to encode. Multi-frame sequences may be represented by %04i
reconstructedDataPath	Output decoded pointcloud. Multi-frame sequences may be represented by %04i
normalDataPath	Input pointcloud to encode. Multi-frame sequences may be represented by %04i
resolution	Specify the intrinsic resolution
dropdups	0(detect), 1(drop), 2(average) subsequent points with same coordinates
neighborsProc	0(undefined), 1(average), 2(weighted average), 3(min), 4(max) neighbors

	with same geometric distance
nbThread	Number of thread used for parallel processing
minimumImageHeight	Ignore parameter
flagColorPreSmoothing	Ignore parameter
surfaceSeparation	Ignore parameter
Conformance	
checkConformance	Check conformance
path	Root directory of conformance files and prefix: S26C03R03
level	Level indice
fps	Frame per second

1.3 Metrics parameters

Parameter=Value	**Usage**
help	This help text
computeChecksum	Compute checksum
computeMetrics	Compute metrics
startFrameNumber	Fist frame number in sequence to
	encode/decode
frameCount	Number of frames to encode
uncompressedDataPath	Input pointcloud to encode. Multi-frame
	sequences may be represented by %04i
reconstructedDataPath	Output decoded pointcloud. Multi-frame
	sequences may be represented by %04i
normalDataPath	Input pointcloud to encode. Multi-frame
	sequences may be represented by %04i
resolution	Specify the intrinsic resolution
dropdups	0(detect), 1(drop), 2(average) subsequent
	points with same coordinates
neighborsProc	0(undefined), 1(average), 2(weighted
	average), 3(min), 4(max) neighbors with
	same geometric distance
nbThread	Number of thread used for parallel
	processing
minimumImageHeight	Ignore parameter
flagColorPreSmoothing	Ignore parameter
surfaceSeparation	Ignore parameter