Device Network SDK Programming Manual

NET_DVR_COMPRESSION_INFO_V30

Structure of stream compression parameters.

```
struct{
  BYTE     byStreamType;
  BYTE     byResolution;
  BYTE     byBitrateType;
  BYTE     byPicQuality;
  DWORD    dwVideoBitrate;
  DWORD    dwVideoFrameRate;
  WORD     wIntervalFrameI;
  BYTE     byIntervalBPFrame;
  BYTE     byres1;
  BYTE     byVideoEncType;
  BYTE     byAudioEncType;
  BYTE     byVideoEncComplexity;
  BYTE     byEnableSvc;
  BYTE     byFormatType;
  BYTE     byAudioBitRate;
  BYTE     bySteamSmooth;
  BYTE     byAudioSamplingRate;
  BYTE     bySmartCodec;
  BYTE     byres;
  WORD     wAverageVideoBitrate;
}NET_DVR_COMPRESSION_INFO_V30, *LPNET_DVR_COMPRESSION_INFO_V30;
```

Members

byStreamType

Stream type: 0- video stream, 1- video & audio stream, 0xfe- auto(same as the source)
For event compression parameter(struEventRecordPara), the highest bit of byStreamType (byStreamType & 0x80) means whether to enable event compression parameter or not, which is, when configuring struEventRecordPara:
byStreamType&0x80 == 0 means disable event compression parameters;
(byStreamType&0x80 == 1)&&(byStreamType&0x7f == 0) means enable event compression parameters and set stream type to video stream;
(byStreamType&0x80 == 1)&&(byStreamType&0x7f == 1) means enable event compression parameters and set stream type to video & audio stream;
byStreamType==0xfe means enable enable event compression parameters and set stream type to be same with the source.

byResolution

Resolution: CIF(528*384/528*320), 1-CIF(352*288/352*240), 2-QCIF(176*144/176*120), 3-4CIF (704*576/704*480) or D1(720*576/720*486), 4-2CIF(704*288/704*240), 6-QVGA(320*240), 7-QQVGA (160*120), 12-384*288, 13-576*576, 16-VGA(640*480), 17-UXGA(1600*1200), 18-SVGA(800*600), 19-HD720P(1280*720), 20-XVGA(1280*960), 21-HD900P(1600*900), 22-1360*1024, 23-1536*1536, 24-1920*1920, 27-1920*1080p, 28-2560*1920, 29-1600*304, 30-2048*1536, 31-2448*2048, 32-2448*1200, 33-2448*800, 34-XGA(1024*768), 35-SXGA(1280*1024), 36-WD1(960*576/960*480), 37-1080i(1920*1080), 38-WXGA(1440*900), 39-HD_F(1920*1080/1280*720), 40-HD_H (1920*540/1280*360), 41-HD_Q(960*540/630*360), 42-2336*1744, 43-1920*1456, 44-2592*2048, 45-3296*2472, 46-1376*768, 47-1366*768, 48-1360*768, 49-WSXGA+, 50-720*720, 51-1280*1280, 52-2048*768, 53-2048*2048, 54-2560*2048, 55-3072*2048, 56-2304*1296, 57-WXGA(1280*800), 58-1600*600, 59-1600*900, 60-2752*2208, 61-384*288, 62-4000*3000, 63-4096*2160, 64-3840*2160, 65-4000*2250, 66-3072*1728, 67-2592*1944, 68-2464*1520, 69-1280*1920, 70-2560*1440, 71-1024*1024, 72-160*128, 73-324*240, 74-324*256, 75-336*256, 76-640*512, 77-2720*2048, 78-384*256, 79-384*216, 80-320*256, 81-320*180, 82-320*192, 83-512*384, 84-325*256, 85-256*192, 86- 640*360, 87-1776x1340, 88-1936x1092, 89-2080x784, 90-2144x604, 91-1920*1200, 92-4064*3040, 93-3040*3040, 94-3072*2304, 95-3072*1152, 96-2560*2560, 97-2688*1536, 98-2688*1520, 99-3072*3072, 100-3392*2008, 101-4000*3080, 102-960*720, 103-1024*1536, 104-704*1056, 105-352*528, 106-2048*1530, 107-2560*1600, 108-2800*2100, 109-4088*4088, 110-4000*3072, 111-960*1080(1080p Lite), 112-640*720(half 720p), 113-640*960, 114-320*480, 115-3840*2400, 116-3840*1680, 117-2560*1120, 118-704*320, 119-1200*1920, 120-480*768, 121-768*480, 122-320*512, 123-512*320, 124-4096*1800, 125-1280*560, 126-2400*3840, 127-480*272, 128-512*272, 129-2592*2592, 130-1792*2880, 131-1600*2560, 132-2720*1192, 133-3MP(1920*1536/2048*1536), 134-5MP(2560*1944), 137-4096*1200, 138-3840*1080, 139-2720*800, 140-512*232, 141-704*200, 142-512*152, 143-2048*896, 144-2048*600, 145-1280*376, 150-8208*3072, 151-4096*1536, 152-6912*2800, 153-3456*1400, 154-480*720, 155-800*450, 156-480*270, 157-2560*1536, 160-3264*2448, 161-288*320, 162-144*176, 163-480*640, 164-240*320, 165-120*160, 166-576*720, 167-720*1280, 168-576*960, 169-2944*1656, 170-432*240, 171-2160*3840, 172-1080*1920, 173-7008*1080, 174-3504*540, 175-1752*270, 176-876*135, 177-4096*1440, 178-4096*1080, 179-1536*864, 180-180*240, 181-360*480, 182-540*720, 183-720*960, 184-960*1280, 185-1080*1440,

186-3200*1800, 187-1752*272, 188-872*136, 189-1280*1440, 0xff-Auto (use current stream resolution)

byBitrateType
Bitrate type: 0- variable bit, 1- fixed bitrate

byPicQuality
Image quality: 0- best, 1- better, 2- good, 3- normal, 4-worse, 5-bad, 0xfe-Auto

dwVideoBitrate
Video bit rate: 0-Reserved, 1-16K (Reserved), 2-32K, 3-48k, 4-64K, 5-80K, 6-96K, 7-128K, 8-160k, 9-192K, 10-224K, 11-256K, 12-320K, 13-384K, 14-448K, 15-512K, 16-640K, 17-768K, 18-896K, 19-1024K, 20-1280K, 21-1536K, 22-1792K, 23-2048K, 24-3072K, 25-4096K, 26-8192K, 27-16384K, 0xfffffffe-Auto
Highest bit (31st bit)==1: Custom stream, bits from 0 to 30th indicate the stream value, the minimum value is 16K

dwVideoFrameRate
Video frame rate: 0-all, 1-1/16, 2-1/8, 3-1/4, 4-1/2, 5-1, 6-2, 7-4, 8-6, 9-8, 10-10, 11-12, 12-16, 13-20, 14-15, 15-18, 16 - 22, 17-25, 18-30, 19-35, 20-40, 21-45, 22-50, 23-55, 24-60, 25-3, 26-5, 27-7, 28-9, 29-100, 30-120, 31-24, 32-48, 33-8.3, 0xfffffffe-Auto

wIntervalFrameI
Interval of frame I, 0xfffe- auto (same with source), 0xffff-invalid

byIntervalBPFrame
Frame format: 0- BBP, 1- BP, 2- single P frame, 0xff- invalid

byres1
Reserved, please set to 0

byVideoEncType
Video encoding format: 0- private 264, 1- standard h264, 2- standard mpeg4, 7- M-JPEG, 8- MPEG2, 9- SVAC, 10- standard h265, 0xfe- auto (same with source),0xff- invalid

byAudioEncType
Audio encoding format: 0- G722, 1- G711_U, 2- G711_A, 5- MP2L2, 6- G726, 7- AAC, 8-PCM, 0xfe-auto, 0xff- invalid

byVideoEncComplexity
Video compression complexity: 0- low, 1- middle, 2- high,0xfe-auto(same as the source)

byEnableSvc
Enable SVC function: 0- disable, 1- enable.SVC: Scalable Video Coding, can be encoded by level

byFormatType
Format type:1-exposed stream, 2-RTP, 3-PS, 4-TS, 5-private, 6-FLV, 7-ASF, 8-3GP, 0xff-invalid

byAudioBitRate
Bit rate of audio: 0- default, 1- 8Kbps, 2- 16Kbps, 3- 32Kbps, 4- 64Kbps, 5- 128Kbps, 6- 192Kbps, 7- 40Kbps, 8- 48Kbps, 9- 56Kbps, 10- 80Kbps, 11- 96Kbps, 12- 112Kbps, 13- 144Kbps, 14- 160Kbps
IPC V5.1.0: 4- 64Kbps, support3, 4, 5

bySteamSmooth
[1,100], the smooth level of stream: 1-clear, 100-smooth

byAudioSamplingRate
Audio sampling rate: 0- default, 1- 16kHZ, 2- 32kHZ, 3- 48kHZ, 4- 44.1kHZ, 5- 8kHZ

bySmartCodec
Whether to enable high performance encoding (enable high performance means Smart 264 when byVideoEncType=1; and Smart 265 when byVideoEncType=10): 0- disable, 1- enable. After the function is enabled, when video encoding type (byVideoEncType) is 1 in VBR mode, the upper limti of bitrate (dwVideoBitrate) and average bitrate (wAverageVideoBitrate) are configurable; when in CBR, the upper limti of bitrate (dwVideoBitrate) is configurable while average bitrate (wAverageVideoBitrate) is invalid

byres
Reserved, please set to 0

wAverageVideoBitrate
Average video bitrate (valid when SmartCodec is enabled): 0-0K, 1-16K, 2-32K, 3-48k, 4-64K, 5-80K, 6-96K, 7-128K, 8-160k, 9-192K, 10-224K, 11-256K, 12-320K, 13-384K, 14-448K, 15-512K, 16-640K, 17-768K, 18-896K, 19-1024K, 20-1280K, 21-1536K, 22-1792K, 23-2048K, 24-2560K, 25-3072K, 26-4096K, 27-5120K, 28-6144K, 29-7168K, 30-8192K. Set highest (15th) bit as 1 to mean custom stream, 0 to 14 means stream value

Remarks

- Video resolution frame rate, audio & video encoding format, encapsulation type are not necessarily all supported, whether they are supported by device can be determined though device capability set, corresponding to all device encoding capability set (AudioVideoCompressInfo), API: **NET_DVR_GetDeviceAbility**, capability set type: DEVICE_ENCODE_ALL_ABILITY_V20.
- Modification of device video encoding type will take effect after restart.

- The Average Bitrate field is used to control the storage of videos. There will be a recommended value when used, and varies under different Bitrate Upper Limit of different devices. The recommended value can be obtained through capability set, corresponding to camera parameter dynamic capability set (**CameraParaDynamicAbility**), API:**NET_DVR_GetDeviceAbility**, capability set type: DEVICE_ABILITY_INFO, node: <vbrAverageCap>.
- After Smart 264 or Smart 265 is enabled, some of the functions are currently unavailable, such as ROI, SVC, smooth main/sub-stream, high frame rate, resolution 2048*1536, vehicle detection, mixed vehicle detection, violation evidence collection, heat map.

See Also

NET_DVR_COMPRESSIONCFG_V30 **NET_DVR_MULTI_STREAM_COMPRESSIONCFG**
