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METHOD OF VERIFICATION OF CODEC OF VECTOR PROCESSION INTO THE SYSTEM OF THE COMPRESSION OF BASIC FRAMES OF VIDEOSTREAM IN THE INFORMATION COMMUNICATIONS

The stages of the development of the method of formation of the compact presentation of segmented images on the basis of the detection of the vector of two-component procession for linearized transformants are stated.

The dependances for bit rates in different cases are compared. The modes for which the delivery of the video stream in real time is achieved, are defined.

Keywords: *videoinformation service, encoding of the vector of procession.*

In modern conditions the development of the market of videoinformative-meadow are gaining popularity of IP video delivery technologies-use of wireless technology [1]. Here you want to tackle the issues related to the excess of an intensity of a video stream on the network bandwidth. Therefore, to reduce the bito-speed compression technology stream. One of the key components for the development of these technologies is to boost compression keyframes with a given level of distortion for the reconstruction of the entire group with the specified visual perception [2–4]. This requires the developing of the approaches based on an encoding of the transformed images with the identification of two vectors of tuples. One of the effective approaches here is a tuple of two-component vector coding technology based on aggregated positional Cody [5; 6]. The purpose of the paper is to establish the verification of this codec in an integrated system, FAS-transformed images.

Consider the features of integration developed the code submission of a truncated two-component vector of tuples lineariziro-en transformanty in standard JPEG compression on the platform. With one hand, you should consider the following features of forming of a compressed representation of the

truncated vector. Truncated vector is formed by removing the first tuple contains the value of the DC-low frequency components and the latest convoy, which includes the length of the last chain component of zero, i.e.; number of two-tuples is change-size, the value of which is not known in advance, and depends on the contents of the segment the image and loss of quality in the process of quantization component transformant. This is the next trend: dependence; code and the value of length) pattern generation of truncated vector DC depends on: statistical, structural properties of segments the image correction settings, re the transformant during quantization; 4) encoding two tuples are whether human patterns of structural-combinatory nature that seems to specifically identify the fragment, i.e. the processing was adapted to the structural properties of the linearized rays. The code value is based on lexicography positional numbers. In this case: to calculate where values do not need to carry out a preliminary evaluation of probabilistic and statistical characteristics of transformant and use tables of statistical codes; code words do not make use of the principle of prefixnosti, which is typical for non-uniform statistical codes; a distinctive service information for the co-best view frustum is a two-component system DK vector reason emerging for lengths of chains of zero component and significant component.

On the other hand, in the process of this integration, you must take into requirements for the compression of images, namely to reduce the bit rate of the compressed video stream in the us-the world economy limited the complexity of processing and correction-frequency components. This requires the following: 1) the limited mode compression factor values quality loss; 2) avoid using the additional overhead; 3) an exception to the significant increase of the number of operations required to execute the integration conditions where a submission of a truncated vector flow compression system PDK; 4) sustainability code combinations, compactly represented by the stream of video frames, to errors in the communication channel. Schema integration code represent a truncated two-component vector of tuples in the JPEG compression technology provided in

The first stage. The transfer Блок формирования кадра (буфер) is error-free without loss of information. In this case, as the format of color representation used mode of high quality videoscen. This involves the use of format 4: 2: 2-the horizontal dimensions of the matrices U and V is half the size of the matrix Y, and vertical sizes are identical. The GDS is heterogeneous and macroblock structure will consist of eight blocks, including: four blocks of brightness and chromaticity unit four (two blocks of U and V) in the following order: Y1; Y2; Y3; Y4; U1; V1; U2; V2.

The second phase involves the translation of the space-time view of segments in the spectral frequency. For this, there is a discrete cosine transform image segments. The third stage is to conduct TRANS-formant component adjustment according to the factor of quality loss. The fourth step is to get the base linearizing-based transformant with the subsequent allocation of the century-general of two-tuples. Encoding of low frequency components on DC is the 5th stage of processing. low-frequency component is treated separately from the rest of the transformant component. The processing is carried out, taking into account the minor change coherence between adjacent segments of the image. Now let's consider a block of phases related to the integration of the two-component vector of the truncated codec to tuples. This block is the key to encode the transformed segments in the spectral frequency by eliminating psychovisual, structures and statistical excesses. To exclude cases where the code is redundant, and the length of the vector of the truncated DK pattern generation exceeds the length of the word, to impose restrictions on the maximum length of the codograms, which can form several patterns, including one or more of the patterns specified length and variable-length. Here is the number of patterns that are formed for the truncated vector. This principle of construction of patterns will be referred to as the formation of irregular patterns used with restriction on the maximum value of the uncertainty of the last chain component of zero length LT and variable-length vector of two-tuples.

The principle of code creation provides for the use of the service information for the decoding process definition of patterns and the length uneven pattern generation. Here the necessary information is the number of COR-payment plan. Consider the process of calculating the code component for the selected variable number of two-tuples. The encoding process of rough positional numbers take into account the principle of two-tier processing. On the first level of coding clipped vectors DK includes the biadic codes for certain dual- payment plan. After which a distribution of the number of codes of biadic numbers (of two-tuples) to generate code components and formation of related patterns. In this case, if the step to replacing the inequality (1) the current value for code component is determined by the following formula (2). Here is the value of the code part, paid for tuples; the value of the code element with the addition of biadic code number.

$$E(A)_{v_{\Psi}} = E(A)_{\alpha-1} = \sum_{\gamma=2}^{\alpha-1} E(\Theta_{\gamma}^{(2)}) W(A^{(\gamma)}). \quad (3)$$

If the inequality (1) is not met, the process of selection the RA number of tuples and calculate the code component is considered complete. The number of tuples for code will be equal, and the corresponding value is defined as: (3) for $\psi = \Psi$. If the inequality, the number of failed tuples and value of the code make the future is determined by the formula (3). For the case when both of the following rule: is the first element of the values. So here is the new codogram.

Encoding, the specified expressions (1) to (3), provides information and without code redundancy formation to best make up for truncated vectors in two-level DK-processing and construction of combined patterns.

As a result of the recurrent processing is consistency of codes in the build mode, the patterns used on board the principle of combined with a restriction on the maximum value of, i.e.. Here is the code for the first part of the amplifier, with the length equal. Length code constructs a compressed representation segment is defined in the following ratio (4) where is the length of the pattern generation of the compressed information submission of a truncated two-component vector of

tuples; length of code containing information on the number of tuples formed for the linearized transformant; the number of bits per view basis and component of the tuple. Number of bit representation of the value of the factor quality loss; the length of the statistical code low-frequency DC-component; brief presentation of the matrix of marks.

Accordingly, the length of the data part of the code constructs a compressed representation of the truncated two-component-vector of tuples is defined as bit. Score a bit rate for the developed method of compression and compression based on JPEG technology. Average scores are used on one base frame flow of saturated images jacks such as: HD quality improvements with a resolution of 1280×720 or SD quality with a spatial resolution of 640×480 .

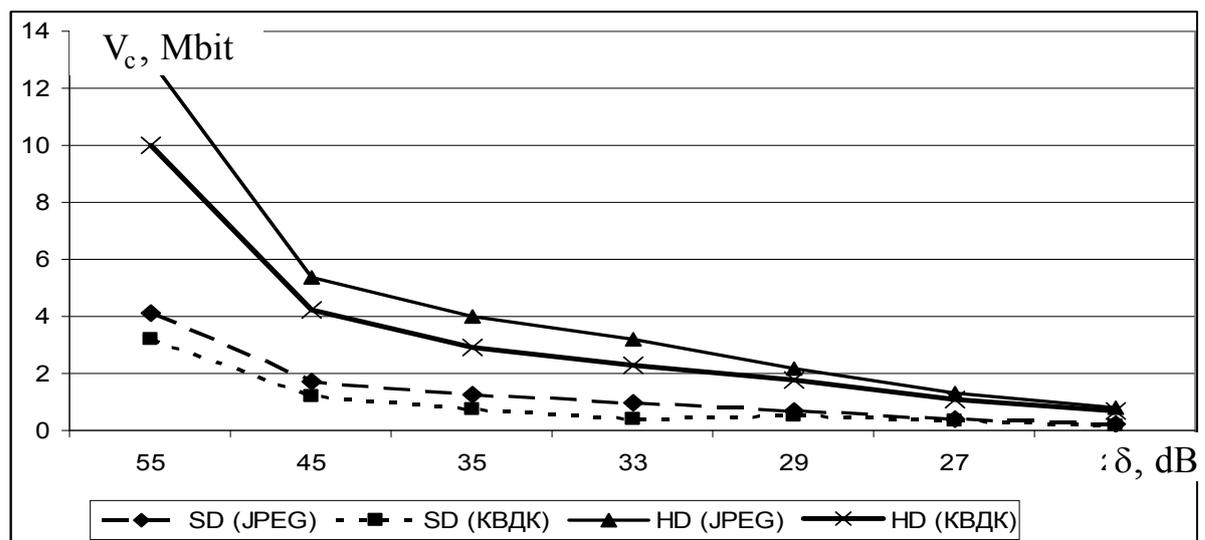


Fig. 1. Diagrams of the relation of bit rate of V_c frame

CONCLUSIONS

Presented in Fig. 1 comparative analysis of bit rate in the case of processing of basic frames flow of saturated images draws to conclusion that the developed method is a win for the from 25 to 55 Db on average 18% for high-value (55 Db), and 23% for medium levels (33 Db). For a bottom-level (25 Db) is the alignment of the compressed streams bitrates for comparable technologies. A method for forming a compact presentation of SEG- images based on the

identification of two-tuples for linearizing transformants. In the circumstances, to the number of two-tuples where is a variable previously unknown value and derived in general from segment of the image and loss of quality in the process of quantization component transformant; code value and the length of the pattern generation for a truncated two-component vector of tuples depends on statistical-research, structural properties of segments of the image and of the correction of the transformant quantization component.

In the case of a telecommunications network with bandwidth efficiency at the level of 10 Mbit is allowed by using the KVDK method of the waste-transfer in real time video stream HD quality with high quality (55 DB), and for bandwidth-adaptive capacity at the level of 2 Mbps with sufficient quality (33 DB). In the case of a telecommunications network with a bandwidth of 2 Mbps is allowed by using the KVDK method of the waste-transfer in real time quality SD video with good quality visual perception (50–45 DB), and the bandwidth of 512 Kbps with sufficient quality (33 DB).

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