A Novel Approach for Codeword Substitution using Encrypted H.264/AVC Video Streams for Data Hiding

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Abstract

Because of the privacy-preserving, data hiding is a new technique that had drawn attention. Access control and transaction tracking, data hiding techniques can be used to insert a private message and private image into a video bit stream for copyright protection. To an encrypted format, for security and privacy digital video need to be stored in the system and then processed. This will preserve the private information of data. video encryption, data insertion, and data extraction, in data hiding in encrypted of H.264/AVC video stream H.264/AVC it contain. to produce encrypted video. Using codeword substitution methods, cloud server or data hider may insert additional data in domain, in an encryption H.264/AVC video is encrypted with encryption key using the stream cipher. The data extraction process can be done in the encrypted domain or decrypted domain. The codeword of residue coefficients are encrypted, in an stream cipher codeword of intraprediction modes, the codeword of motion vector difference. Is restricted maintain the video file size in an encryption and data insertion. To hide or secure private message, images in video bit format, for protection, data hiding technique can be used.
So that edge quality information and number of bits of block can be hide, to maintain security and privacy bit streams processed in an encrypted format. Experimental result can maintain file size of video, degradation in video quality is quite small.

References

Index Terms

Computer Science  Databases

Keywords

Data hidden, encrypted domain, H.264/AVC, codeword substituting.