Abstract

Problems faced in modern communications are not only just related to security but also concerned with the communication speed and content size. Now day's networks demand exchange of information with more security and reduction in both data storage and the time for data transmission. This can be realized by adopting an integrated approach using compression and encryption techniques, such a system is termed as crypto-compression system. Encryption is a coding technique that provides security whereas data compression is also a coding technique, whose purpose is to reduce both the data storage size and ultimately the time for data transmission. In this paper, an algorithm has been proposed which uses the compression and data encryption techniques. Firstly, data size is reduced through various compression techniques in order to increase the data transfer rate. Then the compressed data is encrypted to raise its security. Thus, technique proposed in this paper is useful in reducing data size, raising data transfer rate and providing security during communication. In this proposed system, encoded string is created from an input string of symbols and characters based on entropy encoding technique like arithmetic coding that can be used to achieve high level of compression in the present network topologies for exchange of data with more security and compression.
References

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Index Terms

Computer Science  Security

Keywords

Arithmetic coding  one-time pads  stream cipher cryptography  entropy encoding crypto-compression system
Crypto-Compression System: An Integrated Approach using Stream Cipher Cryptography and Entropy Encoding