## ABSTRACT

Nowadays technology advances very rapidly, one of which is communication technology. Communication itself is a major requirement for interacting with fellow human beings. Various communication technologies have now been implemented, one of which is a cellular communications technology, which has features such as voice, short message, and multimedia message. MMS (Multmedia Message Service) is one of the features of the multimedia message. MMS is a development of SMS (Short Message Service) capable of sending messages in form of images, sounds, text, and video.

Delivery of multimedia messages using MMS as a central gateway. Messages sent by customers can be known by the central contents and therefore the confidentiality of messages that customers expect to be not met. To be able to meet the confidentiality requirements of the customer's message, the authors make the MMS application data security system. Data security systems in these applications using cryptographic techniques that use a particular secret key.

Cryptography techniques have different data encryption algorithm, in this research the author uses the Blowfish algorithm. This algorithm is implemented on MMS encryption applications based on J2ME. Tests will be conducted at MMS encryption application is seen from time encryption and decryption process messages. Also the memory usage for message encryption, and decryption of messages were also measured. Then for security analysis using the method of Avalanche Effect.

From the experimental results, the Blowfish algorithm can be implemented on the simulator JWTK and Nokia 2700, but on the Nokia 2700 messages sent via MMS Caballa application is experiencing bottlenecks in the transmission process. In testing of memory and processing time obtained this algorithm can be implemented properly, and on security testing Avalanche Effect yield reached 56.25% in CFB mode and at maximum 448-bit key length.

Key Word : MMS, Cryptography, Blowfish, J2ME, Encryption, Decryption