Abstract

Security has always been a great concern for the networks and telecommunication operators and customers. For wireless systems, security support is even more important to protect the users as well as the network. Since wireless medium is available to all, the attackers can easily access the network and the network becomes more vulnerable for the user and the network service provider. An analysis on WiMAX security reveals the existence of mainly two kinds of
vulnerabilities namely man-in-the-middle vulnerabilities and the DoS vulnerabilities. Almost all the DoS vulnerabilities in Mobile WiMAX standard are due to unauthenticated or unencrypted management messages. A possible solution to the DoS vulnerability is to authenticate as many management messages as possible. A technique using visual cryptography is being proposed here for this purpose. Visual cryptography basically involves secret sharing with images. The idea of visual cryptography is being extended to visual authentication and identification. The idea is to use a simple (2, 2) visual secret sharing scheme creating two shares of the secret. Both parties share a secret in the form of an image. The proposed method is used for the authentication in management frames. This method is compared with the conventional method for authentication and finally the merits and demerits of the proposed method are analyzed.

Reference

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Index Terms

Computer Science Wireless
Key words

Cryptography  DoS attacks  Visual
Digital Signature