Abstract

Although air traffic is continuously increasing on a global scale, the next generation of management in this field is successfully handling this expansion and improving the safety of billions of future passengers. In this paper, Automatic Dependent Surveillance-Broadcast (ADS-B) was examined, which is a primary system, unlike traditional radar. This technology allows aircraft to automatically broadcast their intentions and location; however, it faces certain threats from which it requires some manner of protection. This paper discussed some techniques to encrypt and protect ADS-B messages. Staged Identity-Based Encryption (SIBE) was the most suitable means of solving the issues, providing, as it does, a sufficient level of security for ADS-B messages. In addition, the technique has attractive characteristics, such as confidentiality, efficiency, and a high enough degree of flexibility for effective key management and frequent encryption. This last attribute distinguishes the approach and renders it more popular than its peers.

References


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Index Terms

Computer Science
Security
Keywords

ADS-B, identity-based encryption, Staged Identity-Based Encryption (SIBE), encryption technique