

A new mutual authentication and key agreement protocol in wireless body area network

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Abstract Due to the mobility and openness of wireless body area networks (WBANs), the security of WBAN has been questioned by people. The patient's physiological information in WBAN is sensitive and confidential, which requires full consideration of user anonymity, untraceability, and data privacy protection in key agreement. Aiming at the shortcomings of Li et al.'s protocol in terms of anonymity and session unlinkability, forward/backward confidentiality, etc., a new anonymous mutual authentication and key agreement protocol was proposed on the basis of the protocol. This scheme only uses XOR and the one-way hash operations, which not only reduces communication consumption but also ensures security, and realizes a truly lightweight anonymous mutual authentication and key agreement protocol.

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