

Secure Authentication Scheme Based on Numerical Series Cryptography for Internet of Things

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Abstract : The rapid advancement cellular networks and wireless networks have laid a solid basis for the Internet of Things. IoT has evolved into a unique standard that allows diverse physical devices to collaborate with one another. A service provider gives a variety of services that may be accessed via smart apps anywhere, at any time, and from any location over the Internet. Because of the public environment of mobile communication and the Internet, these services are highly vulnerable to a several malicious attacks, such as unauthorized disclosure by hostile attackers. As a result, the best option for overcoming these vulnerabilities is a strong authentication method. In this paper, a lightweight authentication scheme that is based on numerical series cryptography is proposed for the IoT environments. It allows mutual authentication between IoT devices Parametric study and formal proofs are utilized to illustrate that the pro-posed approach is resistant to a variety of security threats.

Keywords : internet of things, authentication, cryptography, security protocol

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