Efficient and Timely Mutual Authentication Scheme for RFID Systems

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Abstract : The Radio Frequency Identification (RFID) technology has a diverse base of applications, but it is also prone to security threats. There are different types of security attacks that limit the range of the RFID applications. For example, deploying the RFID networks in insecure environments could make the RFID system vulnerable to many types of attacks such as spoofing attack, location traceability attack, physical attack and many more. Therefore, security is often an important requirement for RFID systems. In this paper, RFID mutual authentication protocol is implemented based on mobile agent technology and timestamp, which are used to provide strong authentication and integrity assurances to both the RFID readers and their corresponding RFID tags. The integration of mobile agent technology and timestamp provides promising results towards achieving this goal and towards reducing the security threats in RFID systems.