

Research on implementing identity authentication methods to enhance security for network systems and applications.

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Abstract: This study proposes a method for deploying identity authentication to enhance security for network systems and applications. Addressing the increasing complexity of cyber threats and the limitations of traditional password-based mechanisms, the research focuses on designing a multi-factor authentication framework that integrates biometric verification, one-time passwords, and public key infrastructure. The proposed approach emphasizes a balance between robust security and user convenience, minimizing friction while ensuring strong identity assurance. Through experimental implementation and security analysis, the method demonstrates significant improvements in resistance to common attacks such as phishing, credential theft, and replay attacks. Additionally, the framework is evaluated for scalability and compatibility with existing network architectures and application layers. The findings indicate that the proposed deployment strategy not only strengthens access control but also reduces administrative overhead. This research contributes a practical, layered authentication solution that can be adapted to various organizational contexts, ultimately providing a foundation for more resilient and trustworthy network and application environments.

Keywords: Identity authentication, network security, system deployment, application security