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(57) Abstract :

The IPsec-Based Remote Network Management Methodology facilitates secure and efficient management of remote network devices. By leveraging the IPsec protocol suite, the methodology establishes encrypted tunnels between management stations and network devices, ensuring the confidentiality, integrity, and authenticity of management communication. The process encompasses initiating tunnel establishment, negotiating security parameters, and enabling end-to-end encrypted communication. Moreover, it incorporates authentication mechanisms, either through digital certificates or pre-shared keys, ensuring verified access. The methodology is versatile, accommodating various network architectures and standard management protocols, with an integrated approach for dynamic key management to maintain encryption robustness. This invention provides enhanced security and operational efficiency for remote network management scenarios.

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