

Dynamic Key Establishment Using NFC Technology

ID: 2012-062

Executive Statement:

A novel method for secure key establishment between devices using Near-Field Communication to enhance security and ease of use.

Technology Overview:

This technology introduces a dynamic method for establishing a secret key between two devices via Near-Field Communication (NFC), leveraging an NFC Dynamic Tag readable and writable by both a microprocessor and NFC devices. It is designed to significantly improve security by ensuring that attackers must be in immediate proximity to the devices during the key exchange, thereby simplifying and securing wireless network joining and device pairing processes.

Key Advantages:

- Enhanced security by requiring close physical proximity for key establishment
- Elimination of pre-installed keys, reducing user errors and hardware costs
- User-friendly for a wide range of applications, including home, workplace, and military
- Cost-effective solution compared to existing technologies

Problems Addressed:

- Security vulnerabilities associated with traditional key establishment methods
- User errors during device pairing and network joining
- High hardware costs due to the necessity of pre-installed keys

Market Applications:

- Secure wireless network access for home and office environments
- Device pairing for consumer electronics
- Enhanced security protocols for military communication devices
- Any application requiring secure, localized communication between devices