

## Phone Number Spoofing Attack in VoLTE 4G

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**Abstract :** The number of service users of 4G VoLTE (voice over LTE) using LTE data networks is rapidly growing. VoLTE based on all-IP network enables clearer and higher-quality voice calls than 3G. It does, however, pose new challenges; a voice call through IP networks makes it vulnerable to security threats such as wiretapping and forged or falsified information. And in particular, stealing other users' phone numbers and forging or falsifying call request messages from outgoing voice calls within VoLTE result in considerable losses that include user billing and voice phishing to acquaintances. This paper focuses on the threats of caller phone number spoofing in the VoLTE and countermeasure technology as safety measures for mobile communication networks.

**Keywords :** LTE, 4G, VoLTE, phone number spoofing

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