Creating Virtual Hierarchy in Peer-to-Peer PKI to Simplify Certificate Path Discovery

Abstract

Peer-to-Peer Public Key Infrastructure (also called Mesh PKI) architecture is one of the most popular PKI trust models that is widely used in Mobile Ad-hoc networks (MANETs), but certificate path verification is very complex since there are multiple paths between users and the certification path is bidirectional. Unlike a Hierarchical PKI, in Mesh PKI, building a certificate path from a user's certificate to a trust point is nondeterministic. Certificate Path verification in Hierarchical PKI is simple and straightforward. In this paper, a novel method to establish a virtual hierarchy in Mesh PKI to simplify the certificate path discovery is proposed.

References

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