SECURITY NETWORK CODING ARCHITECTURE AGAINST POLLUTION ATTACKS WITH BAND CODES

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INTRODUCTION

- Network coding is a technique which can be used to improve a network's throughput, efficiency and scalability.
- NC replaces the traditional store and forward mechanism of intermediate resources.
- Assign some task of authentication to intermediate resources and to nodes to identify the polluted packets and remove the pollution from the network

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- One or more malicious nodes attempt to cripple the communication by injecting bogus data in the network.
- Securing the communication, identifying and isolating the malicious nodes.
- Counts the number of times each neighbor has been involved in cases of polluted data reception and exchanges.
- NC enables the deployment of peer-to-peer architecture.

ADVANTAGES..

- It is totally distributed, no central authority is needed.
- It is lightweight
- It requires no cryptographic computations and enjoys the low decoding complexity of BC.
- It is suitable for real time communications to mobile devices.

DISADVANTAGES..

- Its performance depends only on BC coding parameters.
- limited bandwidth between the attacker and the receiver.
- High computational cost of these schemes makes them impractical for wireless systems.

ENHANCEMENT..

- Detecting pollution attack.
- Counting polluted packets and exchanging observation.
- Distributed identification and blacklisting.
- Monitoring the network.

THANKYOU....