

Social Norm Incentives for Network Coding in MANETs

ABSTRACT

Mobile devices like smart phones and tablets are becoming increasingly powerful and capable to function not only as clients, but also as peers in a fully fledged ad hoc network. For instance, at a sports arena a spectator may capture a scene on video from a vantage point and peer to- peer broadcast the video stream to other spectators with an obstructed view. Similarly, a mobile may propagate to neighbors in ad hoc mode a stream that it is downloading from the Internet via WiFi or 3G. The mobile devices, however, have energy constraints. Since forwarding other devices' packets provides no benefit to a mobile that is not an intended destination, rather, it consumes battery resources, a self-interested relay node chooses not to forward the packets. If every relay node drops others' packets, the video never gets delivered to friends several hops away.

EXISTING SYSTEM

In Existing System, The performance of mobile ad hoc network transmissions subject to disruption, loss, interference, and jamming can be significantly improved with the use of network coding (NC). However, NC requires extra work for forwarders, including additional bandwidth consumption due to transmitting overheads for redundant NC packets and additional processing due to generating the NC packets. Selfish forwarders may prefer to simply forward packets without coding them to avoid such overhead. This is especially true when network coding must be protected from pollution attacks, which involves additional, often processor intensive, pollution detection procedures. To drive selfish nodes to cooperate and encode the packets.

DIS ADVANTAGES

- Comparing with simply forwarding the packets, when network coding is applied with redundancy introduced to offset the wireless loss, the intermediate nodes need to transmit more packets, which results in more bandwidth and power consumptions.

PROPOSED SYSTEM

In Proposed System, we introduces social norm-based incentives. The social norm consists of a social strategy and a reputation system with reward and punishment connected with

node behavior. Packet coding and forwarding are modeled and formalized as a repeated NC forwarding game. The conditions for the sustainability (or compliance) of the social norm are identified, and a sustainable social norm that maximizes the social utility is designed via selecting the optimal design parameters, including the social strategy, reputation threshold, reputation update frequency, and the generation size of network coding. For this game, the impacts of packet loss rate and transmission patterns on performance are evaluated, and their impacts on the decision of selecting the optimal social norm are discussed. Finally, practical issues, including distributed reputation dissemination and the existence of altruistic and malicious users, are discussed.

ADVANTAGES

- It improves packet delivery rate and stream quality.
- It discards faulty packets.

SYSTEM REQUIREMENTS

H/W System Configuration:-

Processor	-	Pentium –III
RAM	-	256 MB (min)
Hard Disk	-	20 GB
Key Board	-	Standard Windows Keyboard
Mouse	-	Two or Three Button Mouse
Monitor	-	SVGA

S/W System Configuration:-

Operating System	:	Windows95/98/2000/XP
Application Server	:	Tomcat5.0/6.X
Front End	:	HTML, Jsp

Scripts : JavaScript.
Server side Script : Java Server Pages.
Database : MySQL 5.0
Database Connectivity : JDBC