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AN EFFECTIVE PROPOSAL FOR SEVERE EXERTIONS CONCERNING TRAFFIC OVERLOAD

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ABSTRACT:

For handling several issues of cellular traffic overload, numerous efforts recommend utilization of delay tolerant networks to carry out offloading. The traditional studies of offloading have not measured satisfaction loss of users as soon as longer delay is made by traffic offloading. We suggest an auction-based incentive construction, for encouraging users to leverage delay tolerance in support of cellular traffic offloading. In our work we limelight on investigating trade-off among amount of traffic being offloaded and users' achievement, and suggest a novel incentive structure to motivate users to control their delay tolerance in support of traffic offloading. An effective incentive structure known as Win-Coupon was recommended on the basis of reverse auction, to motivate users to control their delay tolerance in support of traffic offloading that possess advantageous properties such as reliability, individual rationality, and low computational difficulty. Win-Coupon utilize a reverse auction based incentive method to motivate users to assist cellular traffic offloading, by considering user delay tolerance as well as offloading potential.

Keywords: Traffic overload, Offloading, Incentive, Win-Coupon, Reverse auction based incentive system.

1. INTRODUCTION:

The unpredictable expansion of user population and their demands have raised several challenges towards cellular networks. Several recent efforts which were made by researchers were focussed on offloading cellular traffic towards other

forms of networks and they usually spotlight on maximizing quantity of cellular traffic that can be offloaded [1]. In the majority of cases, because of user mobility, networks that are obtainable for cellular traffic offloading only offer intermittent as well as opportunistic network connectivity towards users, and traffic offloading consequently results in non negligible data downloading interruption. A number of researchers considered on selection of small part of key locations to understand capacity upgrade, and move traffic towards them by exploiting user delay tolerance. To deal with several troubles of cellular traffic overload, a number of studies suggest utilizing delay tolerant networks to perform offloading. Numerous research efforts have focused on improving performance of data access in delay tolerant networks. Public WiFi can moreover be exploited for cellular traffic offloading [2]. Altered from existing works, in our work we suggest an accurate representation to predict offloading of traffic by means of WiFi hotspots when a mobile user is keen to wait for convinced delay time. In our work we spotlight on investigating trade-off among amount of traffic being offloaded and users' fulfilment, and suggest a new incentive framework to motivate users to control their delay tolerance in support of traffic offloading. Users are provided with incentives that are receiving of discount for their service charge when they are willing to remain longer for data downloading. During delay, part of cellular data traffic might be opportunistically offloaded to former networks, and the user is guaranteed to accept remaining part of data by means of cellular network when delay period ends [3][4]. We recommend a novel incentive structure known as Win-Coupon, on the basis of reverse auction, to motivate users to control their delay tolerance in support of traffic offloading that possess advantageous properties such as reliability, individual rationality, and low computational difficulty.

2. AN OVERVIEW OF EXISTING WORK:

Huge amount of cellular data traffic has been produced by mobile users, which exceed ability of cellular network and, for this reason, get worse network quality. For addressing these challenges, most simple solution is to enhance capacity of cellular networks, which on the other hand is classy and ineffective. A new incentive framework to motivate users to control their delay

tolerance in support of traffic offloading was provided. To diminish incentive cost specified an offloading target; users by high delay tolerance and huge offloading potential have to be prioritized in support of traffic offloading. To efficiently capture dynamic features of users' delay tolerance, our incentive structure is on basis of reverse auction to allow users proactively convey their delay tolerance by means of submitting bids. The most important challenge of scheming of this incentive framework is to diminish incentive cost of cellular network operator, which comprises total discount provided towards mobile users, subject to a normal quantity of traffic being offloaded [5]. To attain this goal, two significant factors have to be considered, specifically delay tolerance as well as offloading potential of users. The users by high delay tolerance and huge offloading potential have to be prioritized in cellular traffic offloading. First, with similar period of delay, users with superior delay tolerance necessitate fewer discounts to balance their satisfaction loss. To efficiently capture active characteristics of users' delay tolerance, we offer a novel incentive structure known, on the basis of reverse auction, to motivate users which is established to perform a justified pricing. In our mechanism, the users perform as sellers to send bids. Second, with similar period of interruption, users with outsized offloading potential are competent to offload additional data traffic.

3. PROVISION OF AN OVERVIEW OF PROPOSED APPROACH:

All traditional offloading studies have not measured satisfaction loss of users as soon as longer delay is made by traffic offloading. To encourage users to leverage their delay tolerance in support of cellular traffic offloading, we recommend an auction-based incentive construction. Auction has been extensively used in network plan. We highlight on investigating trade-off among amount of traffic being offloaded and users' fulfilment, and suggest a new incentive framework to motivate users to control their delay tolerance in support of traffic offloading. We provide an outline of the Win-Coupon structure as shown in fig1. By considering user delay tolerance as well as offloading potential, Win-Coupon employs a reverse auction based incentive method to motivate users to assist cellular traffic offloading. The network operator performs as buyer, who put forward coupons to users

in return for them to wait for some time and opportunistically offload traffic. When users request information, they are motivated towards forwarding bids along with their request messages in the direction of network operator. Each bid comprise information of how long user is prepared to wait and how much coupon he wants to get hold of as a return for extra interruption. Network operator concludes user delay tolerance. User offloading potential has to be considered when deciding auction result. Based on collected historical system parameters, for instance users' data access as well as mobility patterns, their expected value is predicted by performing network modelling, and subsequently based on information, user offloading potential is predicted. The optimal auction effect is to reduce network operator's incentive cost subject towards a specified offloading target consistent with bidders' delay tolerance as well as offloading potential. The auction holds two most important steps such as allocation and pricing. In allocation stage, network operator decides which bidders are winners and how long they have to to wait. In pricing stage, network operator makes a decision of paying meant for each winner. The network operator returns bidders with auction outcome that comprise allocated delay and value of coupon for every bidder [6]. The winning bidders get hold of coupon, and are certain to obtain data by means of cellular network when their promised delay is attained.

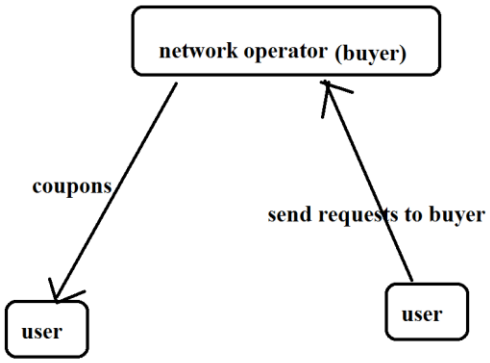

Fig.1: important view of Win-Coupon

4. CONCUSION:

Several research efforts spotlighted on improving performance of data access in delay tolerant networks. Several efforts in literature considered on selection of small part of key locations to understand capacity upgrade, and move traffic towards them by exploiting user delay tolerance. Different from existing works, we put forward an accurate representation to predict offloading of traffic by means of WiFi hotspots when a mobile user is keen to wait for convinced delay time. Most of the traditional

offloading studies have not measured satisfaction loss of users as soon as longer delay is made by traffic offloading. To promote users to influence their delay tolerance in support of cellular traffic offloading, we recommend an auction-based incentive construction. To capture active characteristics of users' delay tolerance, effectively we recommend a novel incentive structure known, on the basis of reverse auction, to motivate users which is established to perform a justified pricing. In our mechanism, the users perform as sellers to send bids. We propose a new incentive structure known as Win-Coupon, on the basis of reverse auction, to motivate users to control their delay tolerance in support of traffic offloading that possess advantageous properties such as reliability, individual rationality, and low computational difficulty. By means of considering user delay tolerance as well as offloading potential, the projected structure of Win-Coupon employs a reverse auction based incentive method to motivate users to assist cellular traffic offloading.

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