



DESIGNING OF AN INCENTIVE APPROACH FOR CONFINING USER DYNAMIC FEATURES

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ABSTRACT:

Auction studies have been extensively utilized in network design. Application of auction in spectrum leasing is the major useful applications and moreover auction was been functional for scheming of incentive mechanism to inspire selfish nodes to convey data for others. None of them has applied the methods of auction towards cellular traffic offloading. For motivation of users to organize their delay tolerance intended for traffic offloading we put forward an incentive framework which is an auction based. Framework of incentive framework is on the basis of reverse auction basis scheme that contain important properties such as individual rationality as well as minute computational complexity motivate users to control their delay tolerance intended for traffic offloading. Our incentive framework on the basis of reverse auction scheme is confirmed to carry out a reasonable pricing.

Keywords: *Auction, Incentive framework, Reverse auction, Delay tolerance, Traffic offloading, Selfish nodes.*

1. INTRODUCTION:

The development of user population as well as their demands has increased more demanding for cellular networks. Much quantity of cellular data traffic was produced

by users, and goes over the cellular network range and, as a result will decrease the quality of network. Some works that were made in recent times focus on offloading of cellular traffic to other network forms [1].

These usually spotlight on increasing of cellular traffic quantity that is offloaded. As a result of user mobility, networks that are accessible for cellular traffic offloading will offer intermittent as well as opportunistic network connectivity towards users and so results in non-negligible delay of data downloading. In our work we mainly examine the trade-off among total traffic that is being offloaded and satisfaction of user, and put forward an incentive framework for the intention to motivate users to control their delay tolerance intended for traffic offloading. Users are offered by incentives; that is receiving of discount for service charge when they are eager to wait for more time for data downloading. At the delay time, cellular data traffic might be offloaded to other networks, and user is guaranteed to obtain left over data by means of cellular network during the ending of delay period [2][3]. The traditional works of offloading were not considered user satisfaction loss when more delay is made by traffic offloading. Our work will examine the trade-off among total traffic that is being offloaded as well as users' satisfaction. For reduction of incentive cost when specified the offloading target, users by means of maximum delay

tolerance as well as huge offloading capacity have to be prioritized for offloading of traffic. To motivate users to control their delay tolerance intended for traffic offloading we put forward an incentive framework which is an auction based. The proposed framework of incentive framework on the basis of reverse auction basis scheme contain important properties such as individual rationality as well as minute computational complexity motivate users to control their delay tolerance intended for traffic offloading.

2. METHODOLOGY:

The key challenge for scheming of the proposed incentive structure is to reduce incentive expenditure of cellular network operator that includes complete discount that is offered to mobile users. For attaining such intention, two main factors have to be considered such as delay tolerance as well as offloading capacity of the users. The users by means of additional delay tolerance as well as large offloading capacity have to be prioritized within cellular traffic offloading. By means of similar delay time, firstly users by means of higher delay tolerance need fewer discounts for compensating the loss of satisfaction. To capture the active features of

user delay acceptance we put forward an incentive framework on the basis of reverse auction basis scheme which is confirmed to perform a reasonable pricing. The proposed system contains important properties such as individual rationality as well as minute computational complexity motivate users to control their delay tolerance intended for traffic offloading. In our system, user's functions as sellers for sending bids, that comprises delay that they are keen to practice and reduction that they want to attain for this delay. Such reduction that is user requested is known as coupon and the network operator finally functions as buyer to buy delay acceptance from users [4]. Our framework encourages mobile users by means of more delay tolerance and outsized offloading capacity to offload traffic to intermittently associated networks. Secondly by means of similar delay time, users by means of well-built offloading capacity are capable to offload additional data traffic. The most advantageous auction outcome is assured by means of considering delay tolerance and offloading capacity of users to attain least amount of incentive expenditure, when specified an offloading target. Reverse auction is performed, that comprises of two most important steps such as allocation as

well as pricing. The winners of the auction process will set up deals with network operator for delay they wait in addition to coupon they create, and other users will download the data directly by means of cellular network at actual price [5]. Our work will examine the trade-off among total traffic that is being offloaded as well as users' satisfaction. For minimization of incentive cost when specified the offloading target, users by means of maximum delay tolerance as well as huge offloading capacity have to be prioritized for offloading of traffic.

3. AN OVERVIEW OF PROPOSED SYSTEM:

Offloading part of cellular traffic all the way through other networks forms is an assuring solution. While these networks can offer alternating connectivity towards mobile users, usage of them towards offloading of cellular traffic might outcome in a non-negligible delay. Most of the works have focused on improvisation of data access performance in delay tolerant networks. We inspect total traffic that is being offloaded and satisfaction of user, and put forward an incentive framework for the intention to motivate users to control their delay

tolerance intended for traffic offloading. The important idea of our proposed framework is to encourage mobile users by means of more delay tolerance and outsized offloading capacity to offload traffic to intermittently associated networks. Our framework of incentive framework on the basis of reverse auction basis scheme contain important properties such as individual rationality as well as minute computational complexity motivate users to control their delay tolerance intended for traffic offloading. To confine the active features of user delay acceptance our incentive framework on the basis of reverse auction basis scheme is confirmed to perform a reasonable pricing. The important demands for designing of the proposed incentive structure is to reduce incentive expenditure of cellular network operator that includes complete discount that is offered to mobile users. In the proposed reverse auction basis method, buyer is network operator who pays coupon in return for more user delay and sellers are users who sell their delay acceptance. User functions as seller for sending bids, that comprises delay that they are keen to practice and reduction that they want to attain for this delay. By similar delay time, users by means of well-built offloading

capacity are capable to offload additional data traffic [6]. Finally most advantageous auction outcome is assured by means of considering delay tolerance and offloading capacity of users to attain least amount of incentive expenditure, when specified an offloading target. In the proposed system as shown in fig1, initially network operator gathers bids to get bidder delay tolerance, and calculate their offloading capacity. On the basis of derived data, reverse auction is performed, that comprises of two most important steps such as allocation as well as pricing. At last the operator will return the outcome of auction towards bidders. During the process of allocation operator makes a decision regarding the winner bidders and the duration they need to wait. During the process of pricing, operator decides makes a decision regarding the amount to be paid for each winner. Network operator will return bidders by auction outcome including allocated delay as well as coupon value for each bidder. The winning bidders get hold of coupon, and get the data by the use of cellular network when their assured impediment is reached.

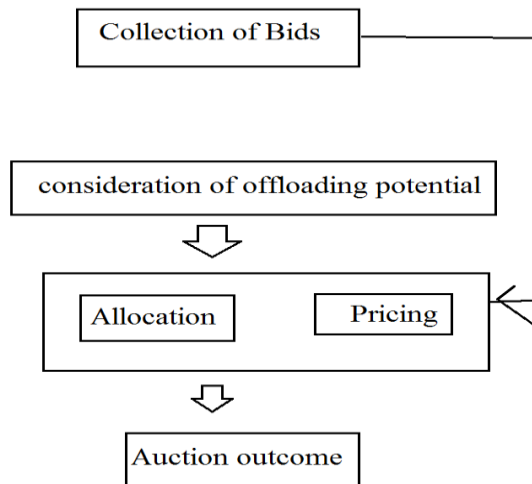


Fig1: Proposal of Win-Coupon

4. CONCLUSION:

For managing difficulty of cellular traffic overload, a number of studies put forward to make use of delay tolerant networks to carry out offloading. We examine trade-off among total traffic that is being offloaded and satisfaction of user, and put forward an incentive framework for the intention to motivate users to control their delay tolerance intended for traffic offloading. Important challenge for scheming projected incentive structure is to decrease incentive expenditure of cellular network operator that includes complete discount that is offered to mobile users. Our scheme of incentive framework on basis of reverse auction basis encloses individual rationality as well as minute computational complexity motivates users to control their delay tolerance

intended for traffic offloading. Important scheme of our framework is to support mobile users by means of more delay tolerance and oversized offloading capacity to offload traffic to intermittently associated networks. Incentive framework on basis of reverse auction basis scheme is confirmed to execute a reasonable pricing that comprises of two most important steps such as allocation as well as pricing.

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