Measuring the Performance for wireless Communication Networks in Admission Control System

Sumit Saxena

Department of Computer Science Dev Bhoomi group of institutions Dehradoon

Abstract: In This paper we describe the wireless communication networks for measuring the performance of cellular wireless communication networks. And we study the problems of resource of measuring and performance of admission control system in channelized wireless communication networks. For identifying research issues systematically, we propose a research framework system which consists of two modules: optimization of performance for cellular wireless communication networks and network servicing modules. For an in-service communication network, performance optimization module manages audio resources to ensure communication quality of service and optimize system performance. For channelized wireless admission control system, the real-time issues of performance optimization are admission control, channel assignment, power control. The communication network servicing module is event-driven or a periodically resource augmentation plan, which alleviates the performance exceptions and optimizes long-term admission control system revenue by using corrective mechanisms consisting of resource augmentation, channel reassignment, cell rearrangement, and reforming issues.

[Sumit Saxena. Measuring the performance for wireless Communication Networks in Admission Control System. Academia Arena, 2012;4(1):6-8] (ISSN 1553-992X). <u>http://www.sciencepub.net</u>.

Keywords: Wireless Communication networks, cellular wireless networks, Information and Communication Technology (ICT).

Introduction:

The issues on efficient and fair resource allocation have been well studied in economics, where utility functions are used to quantify the benefit of usage of certain resources. Similarly, utility theory can be used in communication networks to evaluate the degree to which a network satisfies service requirements of users' applications, rather than in terms of system-centric quantities like throughput, outage probability, packet drop rate, power, etc. [1]. In wire line networks, utility and pricing mechanisms have been used for flow control [2], [3], congestion control [4], and routing [5]. Home broadband routers are remarkably complex devices that few ever take the time to truly understand. As long as the lights are blinking, and WebPages load, most people are inclined to leave them be. The few brave souls who venture into the firmware are often rewarded with a maze of menus betrav the true complexity of that these underappreciated appliances. Wireless channels, security modes, and even port forwarding can be frustrating concepts for those without a networking background, but are absolutely critical to understanding how to optimize your home network. In this guide we will teach you the finer points of security, as well as give you surefire ways to boost your router's wireless range and optimize performance. [6] Prior to the days of Windows XP SP2, machines plugged directly into the internet would often fall prey to these exploits, and would become infected simply because they were left on, and were connected to the internet. With the introduction of the firewall in SP2 the world literally changed. Windows now comes with this feature on by default, and drops unsolicited traffic coming into your connection. The Windows firewall isn't perfect, but it was still a huge improvement. Efficient resource utilization is a primary problem in cellular communications systems Resource issues includes determining with which users to establish connections and assigning transmit power levels to connected users subject to acceptable signal quality. In this paper we consider the problem of optimal admission control given a particular configuration of users of various classes in various regions determine whether or not to accept a new call request We assume we have available an algorithm that can determine for any distribution of users of various classes in various regions whether there is a feasible power assignment satisfying the signal to noise requirements for all users and if so provides a unique power assignment for the distribution Our goal is to formulate the problem as a Markov decision process and to provide a solution method that is general enough to be widely applicable and can be implemented in real time.

The Admission Control Problem:

In this section we develop a control system framework model for the admission control problem for a two or multi- dimensional system of cells with multiple user classes We first provide a general description of the system which we consider and then formulate the problem as a Markov decision process.

Background and Relate Work:

The need to increase data service revenue by cellular communication data network providers has created an opportunity for application developers to create a "value chain" connecting customers, mobile applications, and network providers. The performance of mobile commerce is also affected by high latency and security network considerations. High latency caused by naive protocol design results in long wait times, reducing an application's attractiveness in today's fast paced world. On the other hand, a communication protocol that is needlessly terse might deprive users of a richer experience, also reducing the attractiveness of the application.



Figure 1. Smart grid connectivity supported by WiMAX

Data Analysis:

To demonstrate admission control system data capabilities of providing insight into the performance of cellular data services as experienced by a particular device, we present the analysis of a small data set collected. We measured throughput values based on 10,000 byte packets. We found this value to be large enough to measure throughput bandwidth, but small enough such that it did not overflow mobile device memory. The 10,000 byte packet is representative of application sizes users download, but also allow developers to estimate the download time of streams while keeping the throughput test duration small. We prefer to measure throughput directly, by measuring bulk data transmission time, rather than estimating network performance using packet pair throughput estimation. We measured the data communication performance over two cellular net works as seen by application programs. The wireless networks are very useful for admission control system. It is provide the data for communicate to each other. The networks examined w ere a digital GSM-net work and an analogue NMT-net work. In the GSM measurements we used the asynchronous, non-transparent bearer service with a line speed of 9600 bps. NMT offers a plain physical-layer connection, where the line speed is set by modems. T o accomplish an application point of view to wireless net working w e used a standard TCP/IP protocol suite in our experiments.[7]

CONCLUSIONS:

We have discussed measuring the admission control system for wireless cellular communication networks, first-of-its-kind cellular а data communication network measurement platform. focusing on the needs of wireless application for developers, rather than network infrastructure optimization and provisioning. We have analyzed and measuring the sample data collected with our network tool, showing large variability in cellular data communication network characteristics.

References:

- 1. S. Shenker, "Fundamental design issues for the future internet," *IEEE J. Sel. Areas Commun.*, vol. 13, no. 7, pp. 1176–1188, Sep. 1995. 624 IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, VOL. 4, NO. 2, MARCH 2005.
- F. Kelly, "Charging and rate control for elastic traffic," *Eur. Trans. Telecommun.*, vol. 8, pp. 33–37, 1997.
- F. Kelly, A. Maulloo, and D. Tan, "Rate control in communication networks: Shadow prices, proportional fairness, and stability," *J. Oper. Res. Soc.*, vol. 49, pp. 237–252, 1998.
- 4. J. K. MacKie-Mason and H. R. Varian, "Pricing congestible network resources,"

12/11/2011

IEEE J. Sel. Areas Commun., vol. 13, no. 7, pp. 1141–1149, Sept. 1995.

- 5. E. Altman, T. Basar, T. Jimenez, and N. Shimkin, "Competitive routing in networks with polynomial cost," in *Proc. IEEE Conf. Computer Communications*, Mar. 2000, pp. 1586–1593.
- 6. http://www.maximumpc.com/article/features/ ultimate_router_guide_how_optimize_securit y_and_performance.
- http://www.cs.ucsb.edu/~ebelding/txt/broad nets07_m.
- 8. And more data from www.google.co.in it is very useful for researchers.