

Designing Wireless Networks to Support the Data Rate Requirements of Healthcare Systems

Abstract:

The proliferation of cellular networks is enabling the penetration of low-cost mobile devices and the development of pervasive, quality healthcare systems. Through mobile stations sensing devices performing monitoring functions can send patient information directly to physicians and other healthcare providers at remote hospitals and clinics — reducing the need to travel. However, current wireless systems are designed to support voice and small data transactions. To support the movement of large amounts of data in a timely fashion, we need a network design to match the growing needs of both healthcare and the general wireless applications sharing the same network. In this paper, we present a model of users and their data rate requirements that is suited to the demand-based network design.