

**CableMatrix Technologies, Inc.**  
Application for experimental radio frequency

**Background**

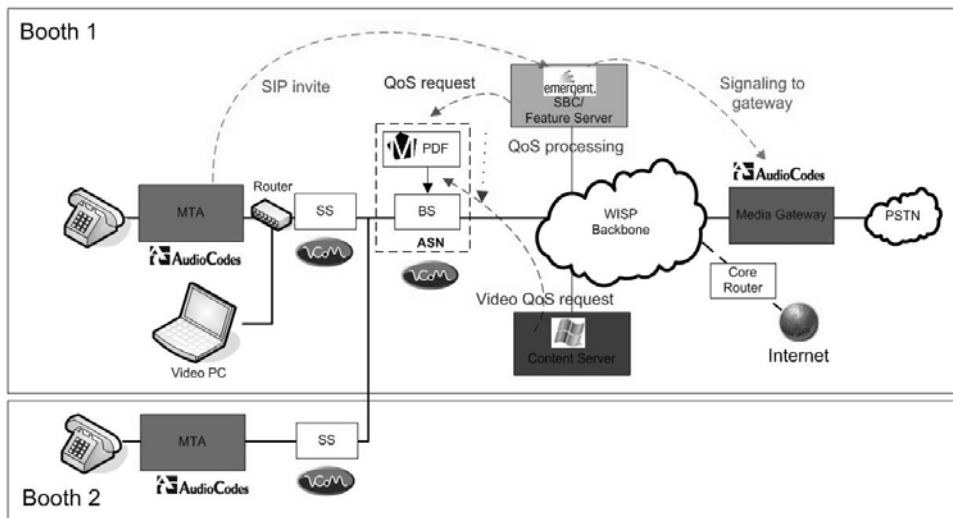
The promise of broadband services, no matter where a subscriber is located and regardless of the current capabilities of the incumbent Internet service provider, is being met by wireless broadband. One wireless technology that stands in front of the pack is WiMAX.

What this means for the subscriber is nearly flawless delivery of IP data. For the WISP, it means the ability to offer high-quality, revenue-generating services such as voice over IP, streaming video, gaming, and commercial services. The manner in which QoS can be dynamically allocated in WiMAX networks, thereby providing a template for reference applications that can be deployed by WISPs, is discussed below.

**Demonstration (Question A)**

CableMatrix and VCom will be demonstrating Toll quality voice over IP services over fixed wireless broadband (WiMAX). The demonstration will be performed in combination with the SCTE Cable-Tec trade show located in Denver on June 20-23, 2005. 3.65 GHz operation is currently acceptable outside the US, however, we are demonstrating this technical capability in front of an international audience and in preparation for subsequent US-compliant capability.

Figure 1 shows the set-up for the demonstration.



**Figure 1 WiMAX IP voice demonstration**

As shown in the schematic, the VCom base station (BS) and subscriber station (SS) are responsible for radio transport. We estimate that both transceivers will be within 500 feet of each other and the power will be turned down accordingly. The radio transport will be responsible for carrying IP voice calls between the two booths at the trade show. The calls will be maintained on the network, herein described as the WISP backbone.

### Description of Equipment

The relevant equipment are the VCom WiMAX fixed broadband wireless base station and subscriber station, models OBR3500 and OSR3500, respectively. The data sheets are included in the attachments with the application. Both transceivers are responsible for bi-directional wireless communication and carrying the IP voice calls.

The other equipment is primarily responsible for managing the network and signaling and setting-up the IP voice phone calls.

### **Objectives (Question B)**

We intend to create and demonstrate an IP voice service that can be deployed by a wireless Internet service provider. The objective is to show how WiMAX supports quality of service in support of premium applications such as IP voice. We will further demonstrate this point by adding other bandwidth-intensive applications such as video on demand and bulk file transfers.

The technical objective is to gain qualitative verification of clear, uninterrupted phone calls over the radio network.

### **Objectives (Question C)**

This experimental demonstration is intended to show the performance of broadband wireless and how new revenue-generating services can be deployed over WiMAX networks. Demonstration of this premium delivery service is novel over a WiMAX compatible system and is likely to spur new interest in both the radio network and associated applications and services that can be readily deployed.