



UMass WiMAX

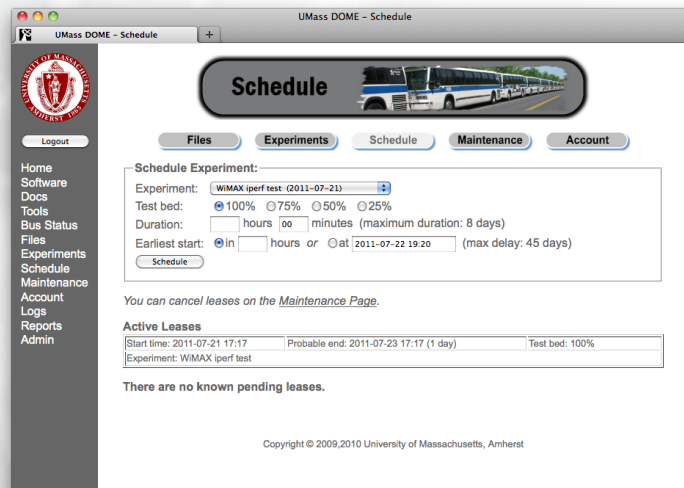
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GEC 11
July 27, 2011

- Base station
 - 17-story building
 - Omni-directional antenna
 - Sector antenna also installed
 - Default BS configuration
 - Cisco RVS4000 router NATs clients, provides access to Internet via UMass network
 - VLAN, Internet2 not connected



- Mobile clients on UMass Transit buses
 - 1.6 GHz Atom processor, 1GB memory “bricks”
 - Intel 6250 in a Bplus Technology USB adapter
 - Linux OS, Xen virtual machine
 - Duck antenna inside the bus
 - Plan to try high-performance omni-directional antennas
- Mobile network fully functional
 - Two buses, ready to add third
 - Integrated into DOME management
 - Experiments can be automatically deployed and scheduled on buses
 - Full access to WiMAX driver functionality



- Performance
 - Added a wired computer to the WiMAX subnet for testing
 - Get 5-7 Mb/s download fairly consistently from CS building (~ 1/4 mile)
 - Have seen 10 Mb/s
 - Upload tests are very unreliable: iperf hangs
 - Hangs appear to be due to consistent packet loss
 - See hangs/losses in other applications, e.g., ssh
 - Observed 1.6 Mb/s from CS building (though may have gone through a slow switch)
 - Throughput experiment submitted to buses but no results yet (packet loss, bug?)
- CINR, RSSI, power
 - Measured from buses over several days
 - Values from connections (not scans)

