

**Case Study 2**  
***AT&T Wireless Trial of Optimi Network Quality of  
Service Prediction and Optimization Solution***  
**Denver, Colorado (June 2003)**

**Background**

Needing to assure that changes could be made to its network in Colorado without negatively impacting operations, AT&T Wireless enlisted Optimi to conduct a trial that would allow it to accurately predict outcomes and optimize Quality of Service (QoS) during the anticipated periods of change.

**Challenge**

To demonstrate for AT&T that the performance of its Global System for Mobile Communications (GSM) network could be reliably and accurately predicted during periods of change. The information supplied in the test would need to be an accurate barometer that AT&T could use in determining how it would proceed with implementing those changes.

**Solution**

Optimi's comprehensive software solution allowed AT&T Wireless to simulate operations in a manner that accurately predicted what would transpire under conditions created by planned changes to the company's GSM network.

**Results**

Optimi helped solve a complex technology transition and proved conclusively that the changes could be effected without compromising network quality. The test demonstrated with a high-degree of accuracy that AT&T's GSM network was capable of managing significantly more traffic with equal or better performance.

The simulation further confirmed that AT&T could reduce the number of Broadcast Control Channels (BCCH) from 14 to 13 while maintaining high quality service and that it could use switch-based mobile measurements to perform Quality of Service prediction and optimization.

Highlights include:

- Reduced the cost and risk associated with altering the system.
- Weekly busy hour performance was 90 percent accurate for 95 percent of the sectors in the network. The predicted sectors accurately represented over 97 percent of the traffic carried by the network.
- Optimi's prediction and optimization solutions allowed AT&T Wireless to implement a plan that allowed its network to carry 15 percent more traffic with equal, and in many cases, better performance.
- Proved the feasibility of using switch-based mobile measurements to perform Quality of Service prediction and optimization. Doing so

eliminated the need for time-consuming and expensive drive test measurements.