

**Case Study 1**  
***AT&T Wireless Trial of Optimi Nokia Switch***  
**Seattle, Washington (Sept. 2003)**

**Background**

Optimi and AT&T Wireless collaborated on a project in Seattle, Washington to demonstrate the capabilities of Optimi's industry leading solution that enables mobile carriers to more accurately monitor and preserve consistent network operations. Specifically, Optimi was employed to predict and optimize AT&T Wireless' Quality of Service (QoS) based on an Interference Matrix that used Nokia switch data to create noise and signal interference.

**Challenge**

Optimi was charged with assisting AT&T Wireless in predicting how its Global System for Mobile Communications (GSM) network would perform in advance of forthcoming technical changes. AT&T planned to remove 5MHz of spectrum it had in use at the time to accommodate a Universal Mobile Telecommunications System (UMTS) channel. The company further planned to reduce the number of Broadcast Control Channels (BCCH) from 21 to 15 based on the Interference Matrix.

The primary challenge was to execute these changes with little or no impact to network service.

**Solution**

Optimi's prediction, simulation and optimization software solved a complex technology transition and proved conclusively that the changes could be effected without compromising network quality.

**Results**

Optimi's solution meant that by successfully predicting network performance, AT&T would realize lower costs with less risk to its network than would otherwise be associated with such extensive system changes.

- The trial proved that Optimi's solution would allow engineers to generate, evaluate and implement new frequency plans that consistently improved the capacity, spectral efficiency and performance of the network.
- It allowed AT&T to remove 5MHz of the currently used spectrum for a UMTS channel while maintaining system quality.
- The trial confirmed an ability to reduce the number of BCCH channels from 21 to 15 while maintaining quality in the GSM and General Packet Radio Service (GPRS) network. Once the Optimi solution was proven, AT&T's engineering

team had the confidence to move forward with its plan to implement aggressive network changes.