

# CASE STUDIES



## US Army, Directorate of Information Mgt. - WiMAX



**Client:** US Army, Directorate of Information Mgt.

**Project type:** WiMAX

12/27/04 - 1/3/05

Fort Carson, CO

### Requirements

- 3rd Armored Cavalry Regiment requires high-speed ethernet connectivity throughout Ft. Carson to interconnect 12 fixed locations and 2 mobile locations to DOIM legacy “backbone”.
- Distances ranging from 4 to 20 miles.
- Connection used solely within confines of Ft. Carson.

### Challenges

- Required to use existing tower structures on Cheyenne Mountain and other base locations.
- Severe wind on Cheyenne Mountain and connectivity for ever changing mobile locations.
- Movement in existing tower causes loss of signal with fixed-point communications.

### Solution

- Designed configuration utilizing 802.16 technology. Installed with 11 point-to-point and 2 point-to-multipoint locations.
- Utilized 7 2ft. 6.2 degree parabolic antennae, 5 2ft. 4.5 degree flat-panel antennae, and 1 60 degree antennae all operating at 5.8 Ghz. 5 of these antennae were installed on a horizontal mount on an existing tower on Cheyenne Mt, and 8 were installed at down-range locations, six of which were fixed locations and two were mobile.

### Results/Outcome

- The focal point of these 5 antennae connected to the 11 fixed and 2 mobile locations at speeds ranging from 36-54 Mbps.
- Connection is still active and Ft. Carson is currently considering additional uses for this technology.